



台灣精神醫學會

Taiwanese Society of Psychiatry

52

週年年會暨學術研討會

關注老人之精神健康
生活照顧及社會網絡

Focusing on Mental Health,
Life Care and Social Network in the Elderly

論文摘要集



- ◎主辦單位：台灣精神醫學會
- ◎協辦單位：國防醫學院
三軍總醫院精神醫學部
- ◎時間：102年11月2日至11月3日
- ◎時間：國防醫學院
(台北市內湖區民權東路
六段161號)

台灣精神醫學會

第二十六屆學術暨節目委員會

主任委員：周煌智

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祕書：黃 詰、曾婉君、彭莉芳

歡迎詞

歡迎大家來到國防醫學院參與一年一度的精神醫學學術盛會。精神健康（Mental health）早已經是一個重要的公共衛生議題，在今年七月政府同時整合了醫療與社會福利部門而成立了衛生福利部，其中攸關全民精神健康重任的專責單位——『心理及口腔健康司』也終於成立！在台灣，早已邁入高齡化的社會同時，越來越多的老年議題備受關注！世界衛生組織也強調精神健康對整體健康及幸福感是基本要素，並且應該包含老年族群，因此，這也是今年會採用『關注老人之精神健康、生活照顧及社會網路』作為大會主題的原因。

本會在禮來公司的贊助下，成立 DSM-5 中文化任務小組，由胡海國教授擔任主席，各次專科學術團體的先進紛紛踴躍參與名詞的翻譯工作，煌智在此表示衷心的感謝，隨著今年美國精神醫學會出版 DSM-5，任務小組也更積極的進行專有名詞定稿的工作，由於合記圖書公司取得台灣的 DSM-5 中文化書籍的代理權，因此，本會經過與對方多次的協商後，合記公司委由本會協助 DSM-5 desk reference 的翻譯工作，預計在明年一月底完成，希望可以在明年六月底前可以問世，因此，也在這裡先進行預告，敬請拭目以待！

最後特別要提醒全體會員，由於政府對於醫師與廠商互動的越來越注意，同時廠商的自律行為也越來越趨嚴格，中華民國開發性製藥研究協會所制訂的 2012 IRPMA 市場行銷規範，也將規範修改的更為嚴格，因此，煩請各位會員瞭解，並遵守規範，以免違反規定，造成不必要的困擾。

理事長 周煌智 敬上

中華民國 102 年 10 月

學術節目介紹

台灣精神醫學會之會員先進們：

台灣精神醫學會已越過半個世紀，今年承蒙三總黃三原主任鼎力相助，我們將在台灣的台北內湖國防醫學院見面，這將是個專業與友誼交流的機會，相信會員同道們應能在此次年會中得到豐富的學術饗宴（2013年11月2-3日）。此次會員之論文投稿全數以英文摘要投稿，壁報內容鼓勵英文方式呈現，標題及作者以中英文方式並列，一併排版於電子書中。會員們投稿踴躍，共有237篇投稿，通過210篇。

本次年會之主題為「關注老人之精神健康生活照顧及社會網絡」，邀請三位知名國際學者發表專題演講，包括：現任日本精神神經學會理事長 Masatoshi Takeda 教授為本會會員帶來 r-Secretase action and surrogate markers in pathological amyloid processing: New understanding in Alzheimer's disease；來自英國的 Rex Haigh 醫師演講“Personality disorder treatment: past, present and future；及來自北京大學黃悅勤（Yue-Qin Huang）教授演講”Epidemiological study of mental disorder in mainland China。相信這些難得的講座將有助各位更宏觀的來審視各位的職涯。同步於當天，台灣與東南亞各國心理衛生及精神醫學的交流活動亦在該處舉行，也歡迎先進們與會。

這次年會可選擇之節目在同一時段最多有7場之活動，諸如：22場專題討論、5場工作坊（分別在第一天上午及第二天上午）、2場教育性演講、倫理品質法規專題討論、2場午餐（廠商贊助）之教育演講以及一場與開業有約等。尤其此次為年會，學術節目小組特別針對DSM-5安排一系列之專題討論（共4場）。為響應環保，本次年會將不印論文摘要，於今年10月下旬學會會將檔案放在本會網站，會員可自行下載，年會現場亦有QR code供會員下載。再者因受限IRPMA規範，廠商攤位活動及贈品可能較趨保守，請會員能體諒與配合。（今年中華民國開發性製藥研究協會（IRPMA）會來年會現場抽查他們的藥廠會員行銷行為）

此次申請學會各類學術獎之會員非常踴躍，經公平公正及公開之評審，有三名會員獲得「保羅楊森博士紀念精神分裂病研究論文獎」，分別為亞東吳其忻、北榮白雅美及台大謝明憲醫師；二名會員獲得「葛蘭素史克憂鬱症與焦慮症研究論文獎」，分別為松德郭千哲及中醫大蘇冠賓醫師；二名會員獲得「禮來雙相（極）疾患研究論文獎」，分別為北榮周元華及成大李聖玉醫師，「林宗義教授論文獎」為高醫顏正芳醫師；「蔡錫錦醫師紀念獎助金」及「台灣精神醫學會學術成就獎」則無人申請。

學會將在第一天會議後在維多麗亞酒店3樓天璽廳舉行晚宴，歡迎同道們參加此盛宴，期待大家滿載而歸。

學術節目小組召集人  敬上

中華民國102年10月

大會節目表

Nov. 2, 2013 國防醫學院
(大會報到時間：08:30~15:30)



08:30	報到開始	
09:00-10:30 倫理品質法規 專題討論，以 同一課程有上 滿至少 80 分 鐘以上者才核 予學分	<p>專題 討論</p> <p>DSM-5 工作坊</p> <p>工作坊</p>	<ol style="list-style-type: none"> 1. (倫品法) 老年期的性、倫理及法律問題 ▪ 地點：第 30 教室 ▪ 主持人：賴德仁/黃正平 2. 台灣地區嚴重精神病患代謝異常相關研究： 從基因學到臨床處置 ▪ 地點：第 31 教室 ▪ 主持人：白雅美/盧孟良 3. 渴求 ▪ 地點：第 32 教室 ▪ 主持人：周勵志/邱南英 4. 精神醫學教育 ▪ 地點：第 34 教室 ▪ 主持人：張君威/劉嘉逸 5. 生醫影像研討會 ▪ 地點：第 35 教室 ▪ 主持人：陳映雪/高淑芬 <p>情緒、焦慮及飲食障礙症 ▪ 地點：第 33 教室 ▪ 主持人：胡海國/林朝誠</p> <p>巴林團體 ▪ 地點：院部會議室 ▪ 主持人：陳冠宇/楊明敏</p>
10:30-10:50	Break	
10:50-12:20 倫理品質法規 專題討論，以 同一課程有上 滿至少 80 分 鐘以上者才核 予學分	<p>專題 討論</p> <p>DSM-5 工作坊</p>	<ol style="list-style-type: none"> 1. (倫品法) 人體試驗委員會在臨床試驗之角色 ▪ 地點：第 30 教室 ▪ 主持人：陳正宗 2. 台灣成癮治療系統與觀念的改變： 從政策、經濟與治療作討論 ▪ 地點：第 31 教室 ▪ 主持人：陸汝斌/黃三原 3. 老年人之社會心理治療 ▪ 地點：第 32 教室 ▪ 主持人：張達人/王浩威 4. 電痙攣治療之台灣臨床經驗 ▪ 地點：第 34 教室 ▪ 主持人：李文貴/黃條來 5. 精神疾病之神經化學物質 ▪ 地點：第 35 教室 ▪ 主持人：周元華 6. 台灣全民健保精神健康服務研究 ▪ 地點：院部會議室 ▪ 主持人：簡以嘉 <p>解離症、成癮障礙症及人格障礙症 ▪ 地點：第 33 教室 ▪ 主持人：胡海國/周立修</p>
12:30-13:30	午餐 (請先至服務處兌換午餐券再至三軍總醫院 B1 美食街餐廳用餐。)	

12:30-13:30	教育性 演講	<ol style="list-style-type: none"> 1. Göran Hajak, MD, PhD (GER), MBA: Recovering emotions and functioning in depressive patients with agomelatine ▪ 地點：第 30 教室 ▪ 主持人：劉嘉逸/黃三原 2. 侯育銘醫師： Aripiprazole for the augmentation of antidepressant therapy : An observational, outpatients study in inadequate responders diagnosed with major depressive disorder 郭約瑟醫師： Treatment Strategies for Major Depressive Disorder ▪ 地點：第 33 教室 ▪ 主持人：賴德仁/方俊凱/葉宇記/邱南英
13:40-14:20	專題 演講	<ol style="list-style-type: none"> 1. Masatoshi Takeda, MD, PhD. : γ-Secretase Action and Surrogate Markers in Pathological Amyloid Processing: New Understanding in Alzheimer's Disease ▪ 地點：致德堂 ▪ 主持人：周煌智
14:20-15:00		<ol style="list-style-type: none"> 2. Dr Rex Haigh : Personality Disorder Treatment: Past, Present and Future ▪ 地點：致德堂 ▪ 主持人：張達人
15:00-15:40		<ol style="list-style-type: none"> 3. Yueqin Huang, M.D., M.P.H., PhD. : Epidemiological Study of Mental Disorders in Mainland China ▪ 地點：致德堂 ▪ 主持人：陳正宗
15:40-16:00	Break	
16:00-17:30	會員大會 ▪ 地點：致德堂 ▪ 主持人：周煌智	
18:00-20:30	晚宴（維多麗亞酒店 3 樓天璽廳）	

Nov. 3, 2013 國防醫學院

（大會報到時間：08:00~14:00）

（選舉報到時間：08:00~10:00）

08:00	報到開始	
08:30-09:20	【醫學倫理品質法規課程】 吳建昌：司法精神醫學：倫理與法律議題 ▪ 地點：致德堂 ▪ 主持人：魏福全	
09:30-11:00	倫理品質法規 專題討論，以 同一課程有上 滿至少 80 分鐘 以上者才核予 學分（以刷到 刷退為主）	<ol style="list-style-type: none"> 1. 精神分裂症的基因、神經生理及神經影像研究： 從發病前期到慢性期 ▪ 地點：第 30 教室 ▪ 主持人：胡海國/林信男 2. （倫品法）自殺防治之法律與政策 ▪ 地點：第 31 教室 ▪ 主持人：李明濱/宋維村 3. （倫品法）綜合醫院、精神科專科醫院、及廠商在目前精神科臨床 試驗之觀點 ▪ 地點：第 32 教室 ▪ 主持人：陳正宗/楊延光

	<p>專題討論</p> <p>DSM-5 工作坊</p>	<p>4. (倫品法) 精神科醫院提升病人安全與醫療品質之成效 ■ 地點：第 34 教室 ■ 主持人：陳俊鶯/孫效儒</p> <p>5. 長期照護與精神復健之遇合：談多元之評估、服務及保險給付 ■ 地點：第 35 教室 ■ 主持人：林知遠/葉玲玲</p> <p>6. 2013 神經科學與心理治療專題討論會一：理論與實務 ■ 地點：院部會議室 ■ 主持人：周勵志</p> <p>神經發展障礙症、侵擾症、認知障礙症及思覺失調症 ■ 地點：第 33 教室 ■ 主持人：胡海國/歐陽文貞</p>
10:30-13:30	選舉領票投票 ■ 地點：致德堂	
11:00-12:00	壁報討論時間/優良壁報決選 ■ 地點：壁報展示區 Break	
12:00-13:20	<p>【醫學倫理品質法規課程】</p> <p>丘彥南、劉燦宏：新制身心障礙鑑定之沿革、進程、填表說明暨共識探討 ■ 地點：第 30 教室 ■ 主持人：黃敏偉</p>	
12:00-13:30	午餐（請先至服務處兌換午餐券再至三軍總醫院 B1 美食街餐廳用餐）	
13:30-15:00 倫理品質法規 專題討論，以 同一課程有上 滿至少 80 分 鐘以上者才核 予學分（以刷 到刷退為主）	<p>專題討論</p> <p>DSM-5 工作坊</p> <p>與開業 醫有約</p>	<p>1. 一般醫學狀況與憂鬱症 ■ 地點：第 30 教室 ■ 主持人：林博彥/蘇冠賓</p> <p>2. 重大精神病與安非他命依賴者提早病亡的危險因素 ■ 地點：第 31 教室 ■ 主持人：蔡尚穎/郭千哲</p> <p>3. (倫品法) 從司法精神醫學觀點論智能障礙與性犯罪 ■ 地點：第 32 教室 ■ 主持人：楊添圍/林滄耀</p> <p>4. NMDA 調控於精神疾患診斷與治療之角色 ■ 地點：第 34 教室 ■ 主持人：藍先元</p> <p>5. 2013 神經科學與心理治療專題討論會二：基礎研究 ■ 地點：院部會議室 ■ 主持人：周勵志</p> <p>DSM-5 的睡醒障礙症、性功能障礙、性別不安、性偏好症、身體症狀及 相關障礙症 ■ 地點：第 33 教室 ■ 主持人：胡海國/邱南英</p> <p>尋找新藍海（黃雅芬、林耿立） ■ 地點：第 35 教室 ■ 主持人：邱瑞祥/陳炯鳴</p>
13:40	選舉結果開票 ■ 地點：致德堂	
15:00-15:20	Break	
15:20-15:30	優良壁報頒獎 地點：致德堂	
15:30-16:30	<p>【醫學倫理品質法規課程】</p> <p>歐陽文貞、周勵志、丘彥南： 提升精神醫療服務品質：應用新診斷系統 DSM-5 於研究及臨床實務中的倫理思維 Upgrading Quality of Psychiatric Service: Ethical Consideration on Applying New Diagnostic System DSM-5 in Research and Clinical Practice ■ 地點：致德堂 ■ 主持人：胡海國</p>	
16:30	大會閉幕	

目錄

一、專題演講

日期	時間	致德堂	演講者	頁碼
11月02日	13:40-14:20	致德堂		
		γ -Secretase Action and Surrogate Markers in Pathological Amyloid Processing: New Understanding in Alzheimer's Disease	Masatoshi Takeda, M.D., Ph.D.	1
11月02日	14:20-15:00	致德堂		
		Personality Disorder Treatment: Past, Present and Future	Dr Rex Haigh	3
11月02日	15:00-15:40	致德堂		
		Epidemiological Study of Mental Disorders in Mainland China	HUANG, Yueqin, MD, MPH, PhD	5

二、專題討論

S01	老年期的性、倫理及法律問題			
		／11月02日 09:00-10:30	第30教室	
S01-1	老年期的性議題	趙建剛		7
S01-2	老年期照護常見的倫理議題	蔡甫昌		7
S01-3	老年期之倫理與法律議題：能力與照顧	吳文正		8
S02	台灣地區嚴重精神病患代謝異常相關研究：從基因學到臨床處置			
		／11月02日 09:00-10:30	第31教室	
S02-1	精神分裂症患者代謝異常之藥物基因學研究	黃名琪		9
S02-2	重度憂鬱症患者接受六週抗憂鬱藥物治療後胰島素之變化	陳柏熹		10
S02-3	併用 aripiprazole 在新陳代謝方面之影響：比較以 olanzapine 治療之患者與以其他非典型抗精神病劑治療之患者	陳志根		11
S02-4	使用 metformin 對服用 clozapine 精神分裂症患者代謝指標的影響及停藥後的體重變化	陳俊興		12
S03	渴求			
		／11月02日 09:00-10:30	第32教室	
S03-1	海洛因渴求的臨床和實驗室評估模式	顏正芳		13
S03-2	渴求食物：精神醫療所見之狂食症與肥胖	顏永杰		14
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一、專題演講

K01

γ -Secretase Action and Surrogate Markers in Pathological Amyloid Processing: New Understanding in Alzheimer's Disease

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Clinical experiences of acetylcholinesterase inhibitors (donepezil, galantamine, rivastigmine) and NMDA receptor inhibitor (memantine) have now demonstrated limited clinical usefulness to patients with Alzheimer's disease. Although all those medications have been approved by the US Food and Drug Administration for treating patients with Alzheimer's disease, clinical findings show the cognitive decline below the baseline after one-year continuous uses of these symptomatic drugs. Disease-modifying drugs for Alzheimer's disease to slow down or suppress the pathological process of the disease is highly expected.

The development of disease-modifying drugs, however, has not been successful despite of the continuing and intensive endeavor in the past 20 years. Many compounds, including γ -secretase inhibitors (GSIs), and γ -secretase modulators (GSMs), failed to produce good results in clinical trials. Considering the good and sufficient data of GSIs and GSMs from animals studies, it is so disappointing to know that none of those compounds developed as GSIs and GSMs show sufficient improvement of the cognitive functions with the patients in clinical trials. It is a huge waste of time and labor to face the negative results of clinical trials of GSIs and GSMs so far after long-lasting endeavor to develop disease-modifying drugs. The data from our laboratory indicate that the mode of action of GSIs and GSMs are far more complex than simple suppressing production of A β 42, from the precursor of β -amyloid protein (APP). We have shown some data which indicates most of GSMs are actually stimulating γ -secretase activity by holding A β 42 close enough to be processed into A β 38, resulting in the lower ratio of A β 42 to A β 40.

Outcomes of clinical trials of immunotherapy for Alzheimer's disease were also released last summer with disappointing results. Considering these situations, pessimism exists in

concerning the development of disease-modifying drugs under the present system of the clinical trial. New styles of clinical trials of disease-modifying drug for Alzheimer's disease are proposed in this lecture. The reduction of the conversion rate from mild cognitive impairment (MCI) to dementia could be used as the primary outcome of the clinical trials. Establishing biomarkers for early detecting possible patients is necessary for this new style of clinical trials. Our laboratory data of APLP1 and APLP2 peptides are also to be presented as the surrogate marker for reflecting pathological γ -secretase activity.

K02

Personality Disorder Treatment: Past, Present and Future

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After several years of increasing recognition that personality disorders were a significant clinical problem for which specialist treatment was not available, and the majority of clinical staff were not well-trained to identify and manage it, the British government called for a policy report that would help to improve the situation. They published ‘Personality Disorder: No Longer a Diagnosis of Exclusion’ in 2003.

Between 2004 and 2011, they ran a programme to improve services for the treatment of personality disorder. Three important principles were:

- Services must not reject those with difficult and complex psychosocial problems
- Service users must be involved in planning and delivery
- Work should be across all relevant agencies, not only health.

They established a national training programme for staff of all disciplines, funded the development of 11 new ‘innovation centres’, and aimed to influence national policy across different government departments.

The training programme, delivered by Nottingham University’s ‘Institute of Mental Health’ offers basic, Bachelors and Masters level courses. The basic level continues to be delivered, and now has trained more than 20,000 staff in basic skills for dealing with Personality Disorder.

These innovation centres used various therapeutic approaches, including Mentalisation, Dialectical Behaviour Therapy and Therapeutic Communities — although the specific therapy offered was less important than more general factors, which will be discussed. The Thames Valley Model, which was used in the largest of the innovation centres, will be used to explain this.

Other national policy directives, such as NICE guidelines in 2009 and new policy for

prison mental health in 2011, have also been important for progress in the field.

Since the programme finished in 2011, many other developments in the PD field have been started. In an effort to see what the future may hold for personality disorder treatment, several of these will be described.

K03

Epidemiological Study of Mental Disorders in Mainland China

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Objective: To describe the epidemiology of mental disorders in Mainland China, and to explore risk factors of mental disorders.

Method: Data collection was based on published papers in Chinese Journals. Systematic review and evaluation to the literature were made.

Result: The criteria of *ICD-10* and *DSM-IV* are applied in both clinical practice and research in China all the time. Using *ICD-9* and *DSM-III*, the early large scale epidemiological studies on mental disorders in Mainland China were carried out in 1982 and 1993. In the 1982 survey, the overall point prevalence and the lifetime prevalence of all mental disorders from 12 study areas were 1.05% and 1.27%, respectively. In the 1993 survey, the point prevalence and lifetime prevalence of all mental disorders from seven areas were 1.12% and 1.35%, respectively.

In recent 10 years, *CIDI* and *SCID* have been utilized in epidemiological studies in China and obtained different prevalence rates of mental disorders using different methodologies in different regions, including Shandong, Shenzhen, Jiangxi, Guangzhou, Kunming, and so on. In 2002, the World Mental Health Survey was conducted in urban Beijing and Shanghai using *CIDI*. The 12-month prevalence estimate of any disorder was 7.0% without psychotic disorders in the sample of 2,633 in Beijing and 2,568 in Shanghai. The latest survey was a cross-sectional study in 2469 residents aged 16 and over in Beijing. The 30-day, 12-month, and lifetime prevalence rates of mood disorder were 0.87%, 3.40% and 6.55%. Those of anxiety disorder were 3.08%, 3.90%, and 6.37%. Those of substance use disorder were 0.37%, 1.92% and 5.58%.

Conclusion: Because of various methodological differences, the findings of the above-noted studies cannot readily be compared to those of recent epidemiological studies conducted in Western communities. The variability in the prevalence estimates of non-psychotic disorders, in comparison, argues that cultural factors that differ across cultures play a more important role in these disorders. Because of differences of diagnostic criteria and

instruments, the study results cannot be compared directly. These findings above can be interpreted in several ways. First, because both the DSM and ICD diagnostic systems were developed by American and European psychiatrists based on Western cultures, the diagnostic categories in these systems might not be valid cross-culturally. Second, the evolving nature of diagnosis and classification of mental disorders makes it difficult to compare results across different surveys carried out using different methodologies and diagnostic criteria. Third, genuine differences exist in the cross-national distribution of mental disorders relating to genetic and environmental etiological factors.

Key words: Mental disorder; Epidemiology; Prevalence, CIDI, SCID

二、專題討論

S01-1

Sexuality in Late Life

老年期的性議題

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Sexuality life is major issue, naturally make that people like. Maslow regards it as one of mankind's basic physiological demands. Even if entered the old age, the sex is still the important factor in the quality of the life. As age increases, the sexual satisfaction and sex function thereupon decline. Sexual health is important to an individual's self-identity and general well-being. Normal physiological changes such as decreased vaginal secretions and flattening of the vaginal epithelium in women, and delayed or decreased erections in men also affect the sexuality of the older patient. In fact so-called broad define sexual behavior includes touching, caressing, fantasy, masturbation, physical closeness and intimate. The effect of the ageing process on sexuality and sexual function depends upon the mental and physical health status of an individual. Sexual problems are frequent among old people especial loss of sexual libido in over 75 years-old people, but these problems are infrequently discussed with physicians. We also think that maintaining sexual behavior in its many forms should be encouraged to promote health and wellbeing in old people.

S01-2

Common Ethical Issues in the Elderly Care

老年期照護常見的倫理議題

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In this speech the author will address the common ethical issues encountered in the elderly health care. Autonomy and competence in medical decision-making have been central ethical consideration. While the mentality of the elderly often decreased with age progression, the common ethical problems in late life are constantly relevant to the “decision capacity”, “surrogate decision making”, and “end of life care issues”. The author will explore these ethical issues in late life. Ethical problems in dementia patient care will also be discussed.

S01-3

Ethical and Legal Issues in Late Life: Competence and Care

老年期之倫理與法律議題：能力與照顧

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The aged people are one group of vulnerable population, even more so if they are suffering from dementia, delirium, depression, or other mental disorders or physical diseases along with their disability deteriorating day by day. Their mental capacity with legal competence becomes one dubious and questionable issue whenever they manage their own affairs, business, property, even their own bodies, such as operation, medication, etc. The method to assess their mental capacity clinically as well as legal competence judicially becomes a core task to explore and discuss. In the meantime, how to protect these potentially incapacitated persons and develop alternate mechanism to preserve their autonomy and welfare becomes another contingent task. In this presentation, capacity/competence assessment, covert medication, psychiatric advance directive (PAD), adult guardianship/conservatorship under the legal system, especially the civil system in Taiwan will be ethically and legally introduced, both concisely in general and comprehensively in specific topic.

SO2-1

The Pharmacogenetic Aspects of Metabolic Abnormality in Schizophrenia Patients Treating With Antipsychotics 精神分裂症患者代謝異常之藥物基因學研究

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Background: Schizophrenia patients are at an enhanced risk of metabolic syndrome (MetS) under antipsychotic treatment. Different antipsychotics have distinct propensities to induce metabolic problems. However, patients treated with these agents have marked inter-individual variation in the liability to metabolic adversities, suggesting an underlying genetic contribution. **Methods:** We examined the associations between metabolic features and common functional polymorphisms implicated in the control of body weight and various aspects of energy and lipid metabolism, such as the leptin gene (LEP), insulin-induced gene (INSIG2), fat mass and obesity associated gene (FTO) and melanocortin 4 receptor (MC4R) in patients with schizophrenia. **Results:** Our data showed that INSIG2, MC4R, and LEP variants were associated with metabolic disturbances. There was a dose-response effect for the associated markers in some metabolic traits such as body mass index (BMI), waist circumference (WC), and MetS. We also found significantly statistical interactions between antipsychotic type and FTO variants in metabolic features, with a more prominent genetic effect of FTO in clozapine/olanzapine users. It suggests that the effect on metabolic susceptibility may be modified by antipsychotic treatment. **Conclusions:** Use of the above information clinically may help to identify common genetic factors associated with metabolic consequences and provide opportunities for personalized medicine in the predictive assessment of metabolic risk as well as indicating underlying physiological mechanisms.

S02-2**The Change of Insulin Levels After Six Weeks Antidepressant Use in Drug-Naive Major Depressive Patients****重度憂鬱症病患接受六週抗憂鬱藥物治療後胰島素之變化**Po-See Chen¹, Hui-Hua Chang², Mei-Hung Chi¹, Yen-Kuang Yang¹, Ru-Band Lu¹陳柏熹¹、張惠華²、紀美宏¹、楊延光¹、陸汝斌¹¹ Department of Psychiatry, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan² Institute of Clinical Pharmacy and Pharmaceutical Sciences, College of Medicine, National Cheng Kung University, Tainan, Taiwan¹ 國立成功大學醫學院精神學科暨附設醫院精神部² 國立成功大學醫學院臨床藥學與藥物科技研究所

Background: A reciprocal relationship between diabetes risk and depression has been reported. There are few studies investigating glucose-insulin homeostasis before and after short-term antidepressant treatment in drug-naive major depressive disorder (MDD) patients. **Methods:** This study included 104 healthy controls and 50 drug-naive MDD patients diagnosed according to the DSM-IV criteria. These MDD patients were randomly assigned to receive fluoxetine or venlafaxine for six weeks. Depressive symptoms, body mass index, fasting plasma levels of glucose and insulin were measured. **Results:** Compared to the healthy controls, the fasting plasma insulin and the homeostasis model of assessment for pancreatic β -cell secretory function (HOMA- β) was significantly lower in the MDD patients before antidepressant treatment ($7.7 \pm 4.8 \mu\text{IU/mL}$ vs. $5.1 \pm 4.2 \mu\text{IU/mL}$, $p=0.006$; $114.2 \pm 72.3\%$ vs. $74.8 \pm 52.0\%$, $p=0.005$, respectively). However, these indices were not correlated with depression severity. After 6 weeks of fluoxetine or venlafaxine treatment, the level of HOMA- β borderline significantly increased ($108.1 \pm 75.5\%$, $p=0.059$). **Conclusions:** Antidepressants might affect insulin secretion independently of the therapeutic effects on MDD. Further studies are needed to investigate the long-term effects of antidepressants on insulin regulation in MDD patients.

S02-3

Adjunctive Effects of Aripiprazole on Metabolic Profiles: Comparison of Patients Treated with Olanzapine to Patients Treated with Other Atypical Antipsychotic Drugs

併用 aripiprazole 在新陳代謝方面之影響：比較以 olanzapine 治療之患者與以其他非典型抗精神病劑治療之患者

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Background: Metabolic abnormalities are serious adverse effects of atypical antipsychotic treatment. This study aims to determine the effects of adjunctive aripiprazole on metabolic profiles among patients receiving treatment with atypical antipsychotics, and to examine whether these effects are different from that of pre-existing atypical antipsychotics.

Methods: In the 8-week open-label trial, aripiprazole was added to patients who were receiving treatment with atypical antipsychotics and had experienced weight gain or dyslipidemia. The dosage of pre-existing atypical antipsychotics was fixed, while the dosage of aripiprazole ranged from 5 to 20 mg/day during the study period. Metabolic profiles, including body weight, body mass index (BMI), plasma levels of fasting glucose, triglycerides, total cholesterol, high-density lipoprotein-cholesterol, low-density lipoprotein-cholesterol, and adiponectin, were measured at baseline and week 8. **Results:** 43 subjects (16 males and 27 females, mean age: 37.8±10.8 years) completed the study. The pre-existing antipsychotics were olanzapine (n=12), risperidone (n=19), quetiapine (n=6) and amisulpiride (n=6). The mean dosage of adjunctive aripiprazole was 9.9±3.2 mg/day. After the aripiprazole-augmented regimen for 8 weeks, patients treated with olanzapine had significant decreases in body weight, BMI and triglyceride levels, and had significant increases in adiponectin levels. For patients treated with other atypical antipsychotics, none of the metabolic parameters significantly changed after administering aripiprazole.

S02-4**Effects of Adjunctive Metformin on Metabolic Traits in Nondiabetic Clozapine-Treated Patients With Schizophrenia and the Effect of Metformin Discontinuation on Body Weight****使用 metformin 對服用 clozapine 精神分裂症患者代謝指標的影響及停藥後的體重變化**Chun-Hsin Chen^{1,2}陳俊興^{1,2}¹ Department of Psychiatry, School of Medicine, Taipei Medical University, Taipei, Taiwan² Department of Psychiatry, Taipei Medical University-Wan Fang Hospital, Taipei, Taiwan¹ 台北醫學大學醫學系精神學科 ² 台北醫學大學-萬芳醫院精神科

Objective: Many studies have shown that metformin can decrease body weight and improve metabolic abnormalities in patients with schizophrenia. Whether or not the beneficial effects can be sustained after discontinuation of metformin needs to be evaluated. We conducted a 24-week randomized, double-blind, placebo-controlled study to evaluate the effect of metformin on metabolic features in clozapine-treated patients with schizophrenia and followed their body weight after stopping the intervention for at least 24 weeks. **Method:** The study was conducted between September 2008 and July 2011. We recruited patients with DSM-IV diagnosis of schizophrenia or schizoaffective disorder who had been taking clozapine for more than 3 months, were overweight or obese, or fulfilled at least 1 criteria of metabolic syndrome. Eligible patients were randomized to receive metformin 1,500 mg/d or placebo. We followed metabolic features at baseline and at weeks 2, 4, 8, 16, and 24 and rechecked body weight when the patients stopped the trial after at least 24 weeks. **Results:** A total of 55 subjects (28 in the metformin and 27 in the placebo group) were enrolled. There were no significant differences in all baseline characteristics between the 2 groups, except that patients in the metformin group had higher fasting plasma glucose levels ($P = .03$). After the 24-week intervention, body weight ($P < .0001$), body mass index ($P < .0001$), fasting plasma glucose ($P < .0001$), high-density lipoprotein cholesterol ($P = .03$), insulin level ($P = .01$), and homeostasis model assessment index ($P = .02$) had significant changes in the metformin group. At the end of the intervention, 8 patients (28.57%) lost more than 7% of their body weight in the metformin group. Mean body weight returned to baseline after patients stopped

the intervention in the metformin group. **Conclusions:** Metformin can significantly reduce body weight and reverse metabolic abnormalities in clozapine-treated patients with schizophrenia and preexisting metabolic abnormalities. However, the beneficial effects of metformin on body weight disappeared after discontinuing this medication.

S03-1

Clinical and Laboratory Assessment of Craving for Heroin Use

海洛因渴求的臨床和實驗室評估模式

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Research has found that craving for heroin use is one of formidable obstacles to recovery and contribute to the persistence and relapse of heroin use for many individuals with heroin dependence. Reliable and valid measures of craving might predict the likelihood of relapse following treatment and evaluate the effects of treatment interventions. One commonly employed way of assessing craving is applying self-reported craving questionnaires. The single-item Likert-type rating or visual analogue scale (VAS) for assessing craving has many advantages, including ease of administration and scoring, suitability for frequent and repeated measurements, and apparent sensitivity to rapid changes in the psychological state being assessed. However, they have been criticized for failing to reflect the presumably multi-dimensional nature of craving. The Desire for Drugs Questionnaire (DDQ) and Obsessive-Compulsive Drug Use Scale (OCDUS) are two frequently used multi-item self-reported instruments for measuring the level of craving for heroin. Psychophysiological measures of craving for heroin are another method to assess craving. Rosenberg (2009) indicated that there are several rationales for assessing the psychophysiological responses of craving: (1) awareness craving could itself elicit psychophysiological arousal; (2) conditioned stimuli previously associated with drug withdrawal or drug consumption could elicit both subjective

craving and psychophysiological arousal simultaneously; (3) psychophysiological responses could serve as conditioned stimuli that elicit craving; (4) self-awareness of changes in physiological arousal could be interpreted by the drug user as subjective craving. The neurobiological mechanism of cue-induced craving has been investigated with functional magnetic resonance imaging (fMRI) to show associated brain activation. These results have suggested that the anterior cingulate, orbital frontal lobe, basolateral amygdale, nucleus accumbens, and dorsal striatum are the key areas for the drug-induced craving response. References Franken, I. H. A. (2003). Drug craving and addiction: Integrating psychological and neuropsychopharmacological approaches. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 27, 563-579. Heinz, A., Beck, A., Grusser, S. M., Grace, A. A., & Wrase, J. (2009). Identifying the neural circuitry of alcohol craving and relapse vulnerability. *Addiction Biology*, 14, 108-118. Rosenberg, H. (2009). Clinical and laboratory assessment of the subjective experience of drug craving. *Clinical Psychology Review*, 29(6), 519-534.

S03-2

Craving for Food: Binge Eating Disorder and Obesity in Psychiatric Practice

渴求食物：精神醫療所見之狂食症與肥胖

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Obesity is becoming an important issue for health promotion. The WHO estimated that around 1.5 billion adults were overweight (BMI \geq 25 kg/m²) and about 500 million people were obese (BMI \geq 30 kg/m²) in 2008. Different obesity treatments including diet control, behavior modification, pharmacotherapy, intra-gastric balloon and bariatric surgery have been used with obesity of different severities. Psychological factors may influence the effect of obesity treatment, no matter whether surgical or non-surgical. Obese people seeking treatment had more psychopathologies, such as anxiety, depression, eating pattern problems, and lower levels of self-esteem and quality of life than normal-weight controls. Bariatric surgery is

effective in weight loss and improvement of physical comorbidity in patients with morbid obesity. Before bariatric surgery, a complete pre-operation survey by a multidisciplinary team, including psychological evaluation, is suggested by the NIH consensus. A substantial proportion of patients receiving bariatric surgery has psychiatric disorders, including anxiety disorder and mood disorder, throughout their life or even just before surgery. The role of psychological factors in the outcome of bariatric surgery seems inconsistent. Some studies have found people with psychiatric disorders have less bodyweight loss, but others find no relationship or even more bodyweight loss. An emphasis on psychological impact in the postoperative follow-up and detection of possible psychological needs or need of support throughout the treatment course are important. We recruited all patients that visited the obesity treatment center of E-Da Hospital from January 2007 to December 2010. Psychiatric diagnosis revealed that 42% of the patients had at least one psychiatric disorder. The 10 most prevalent psychiatric disorders were dysthymic disorder (20.5%), general anxiety disorder (17.2%), binge eating disorder (7.6%), major depressive disorder (7.2%), adjustment disorder (2.5%), sleep disorder (2.5%), bulimia nervosa (1.3%), bipolar disorder (1.2%), organic mental disorder (1.1%), and other mood disorders (1.1%). Mood disorders (27.1%), anxiety disorders (18.2) and eating disorders (8.6%) were the most prevalent categories of psychiatric disorders. Females had more mood disorders and eating disorders than males. The surgical group had more binge-eating disorder, adjustment disorder, and sleep disorders than the non-surgical group. Reference Flegal KM et al: Prevalence and trends in obesity among US adults, 1999-2008. JAMA 2010, 303:235-241. Lin HY et al.: Psychiatric disorders of patients seeking obesity treatment. BMC Psychiatry 2013, 13:1. Kalarchian MA et al: Psychiatric disorders among bariatric surgery candidates: relationship to obesity and functional health status. Am J Psychiatry 2007, 164:328-334.

S03-3

Alcohol Craving – Clinical Assessment and Its Application

酒精渴求之臨床評估及其應用

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Craving means an uncontrollable desire to use a substance, a desire which, if not satisfied, provokes physical and psychological suffering. Craving for alcohol is common among alcohol-dependent people. Craving assessment can play important roles in alcohol research as well as in treating alcoholism. Most clinical observations on alcohol craving have been carried out on alcohol-dependent patients during abstinence, and those have overcome the withdrawal syndrome. There were several methods to assess alcohol craving, including self-report instruments, psychophysiological and behavioral measures. Although these measurements had some limitations, such as psychometric and timeframe issues, they still provided better understanding of the dynamic and multidimensional nature of craving than clinical observation.

S04-1

One-Minute Preceptor: Application in Clinical Psychiatric Education

一分鐘教學法在臨床精神醫學教育的應用

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There are many challenges of clinical psychiatric education, including time constraints, work demands, multiple levels of learners, patient related difficulties and often unpredictable and difficult to prepare. So the psychiatrists in teaching hospital need many strategies to address these challenges, but only a few have been evaluated as effective(1). One-Minute

Preceptor (OMP) model is one of teaching strategies which has been studied and shown to improve educational processes and outcomes. OMP, also called a five “micro-skills” model, was introduced by Neher J et al. in 1992 (2). The first step “getting a commitment” is requiring learner to summarize the information obtained from the patient. The second step “probing for supporting evidence” is helping the teacher to understand the learner’s fund of knowledge and clinical reasoning. The third step “teaching general rules” is giving a “talk” to learner about application of general psychiatric principles to individual cases. The fourth and fifth steps “reinforcing what was done right” and “correcting mistakes” are providing feedback to the learner with case-specific and behavior-focused contents.

SO4-2

Development of Education Committee in Limited Resources Teaching Hospital: the Experience of Tsyr Huey Mental Hospital

資源有限醫院之醫學教育委員會的發展與執行：慈惠醫院經驗

Ching-Kuan Wu, Chuan-Hui Chen, Yu-Han Chiang

吳景寬、陳娟慧、蔣語涵

Tsyr Huey Mental Hospital Jen-Ais Home

私立高雄仁愛之家附設慈惠醫院

Ministration of Education Executive Yuan, Taiwan began teaching hospital accreditation in 1978 and Department of Health Executive Yuan took it over in 1989. Till now, hospital accreditation has been performed more than 30 years in Taiwan. Tsyr-Huey mental hospital was established in 1990 and passed the teaching hospital accreditation quickly in the next year. The hospital was the only private teaching mental hospital in Taiwan at the time. 1999, Taiwan Join Commission of Hospital Accreditation (TJCHA) was established and TJCHA invited many experts to revise the evaluation system of hospital accreditation which is more comprehensive and new system began to use experimentally in 2002. Under the new evaluation system of hospital accreditation, there are many challenges for teaching hospitals, including administration loading like reorganizing education committee, more paper work..., more men-power, more comprehensive teaching program for staffs and students, certified teaching training... and soon. It is a hard job for the limited resources hospital. There are more than 500 students (major part is nursing student) who have practice in our hospital per year.

Although our resources are limited, Tsyr-Huey mental hospital has passed the teaching hospital since 2005. We want to share our experiences in development of Education Committee to all audience.

S04-3

Collaborative Training Program for Psychiatric Residents: Ideal and Practice

精神科住院醫師聯訓課程：理想與實務

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The Department of Psychiatry of National Taiwan University Hospital has a history of training psychiatric residents long before the specialty training and board-certifying examination era. Many contemporary active Taiwanese psychiatrists had served at this unit for a few months to years during their residency. In recent two decades, to meet the requirements and regulations designated by different systems and individual hospitals at different stages, as well as to incorporate the growing differentiations in modern psychiatry, our training programs have evolved accordingly. Our department is no longer playing the role as the mainstream teaching “center” which can provide a wide variety of educational programs alone. Instead we are transforming to be a core, which tries to collaborate with hospitals which have individual strengths and demands in certain subspecialties. Ideally, hospitals can provide mutual support to each other and offer residents a comprehensive coverage of training through this approach. Practically we face many challenges while running such a collaborative training program in real world. We still need to modify it to accommodate ongoing changes, which seem never to get stabilized in the near future. Lessons learned from reviewing the evolution of psychiatric resident training program in this hospital will be presented. The audience is encouraged to reflect their personal experiences and to share their thoughts from different perspectives.

S05-1

Dysfunction of Prefrontal-related Circuits in Major Psychiatric Disorders Revealed by Resting State fMRI

以靜息態磁共振造影探討重大精神疾病之前額葉迴路異常

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Recent developments in resting state functional connectivity MRI (fcMRI) suggest that the brain is organized into several large-scale networks and dysconnections (increase or decrease) of these networks play an important role in the pathogenesis of various neuropsychiatric disorders. Our lab aims to delineate the network signatures of schizophrenic disorder, bipolar disorder and major depressive disorder by fcMRI. Functional connectivity of prefrontal-related circuits in four cognitive-related networks: the default mode network, the salience network, left and right executive control networks were derived by seed-based functional connectivity analysis. The region of interest (ROI) s included medial prefrontal cortex (mPFC), dorsal anterior cingulate (dACC), left dorsolateral prefrontal cortex (dlPFCs) and right dlPFC. The FC difference between patients and the healthy controls were performed by random-effect analysis. Compared with healthy controls, the participants with schizophrenia are associated with cortico-striatal disconnection within the salience network, and also an increase of FC between dACC and primary sensorimotor cortex. The participants with bipolar disorder are characterized by an increase of FC between right dlPFC and bilateral amygdale/insula. The participants with major depressive disorder are characterized by an increase of FC between left dlPFC and bilateral insula. The result indicated that these three psychiatric disorders may involve distinct prefrontal-related circuits and the interaction between these prefrontal regions and limbic regions/primary sensorimotor regions are the key FC abnormalities.

S05-2**Altered Long-Range and Short-Range Functional Connectivity in Schizophrenia with Concurrent Auditory Hallucination During fMRI Scanning****以靜息態磁共振造影探討精神分裂症聽幻覺發生時之功能性連結變化**

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Background: Auditory hallucination, which is defined as auditory perception in the absence of external stimuli, is prominent among the core symptoms of schizophrenia. However, the neural correlates of these brief, yet often involuntary experiences are not well understood. We hypothesized that the occurrence of auditory hallucination may be related to altered functional brain activity in patients with schizophrenia. **Methods:** A total of 75 schizophrenia patient (35 male, 40 female, aged 43.6 ± 9.2 years) and 75 age and gender matched healthy volunteers (32 male, 43 female, aged 43.8 ± 10.3 years) were recruited. Each subject underwent resting-state fMRI scanning and received a post-experiment questionnaire to assess the occurrence of auditory hallucination during the fMRI scanning. We applied the functional connectivity density mapping to assess long-range and short range functional connectivity in the study cohort. **Results:** Among schizophrenic patients, 25 patients reported concurrent auditory hallucination during fMRI experiment. Comparing to those patients without concurrent auditory hallucination, patients with hallucinations had increased short-range functional connectivity in medial superior frontal cortex (brodmann area 9; p-corrected = 0.013), and increased long-range functional connectivity in right parahippocampal cortex (p-corrected < 0.001) and left parahippocampal cortex (p-corrected = 0.037). **Conclusions:** Increased long-range and short-range functional connectivity in parahippocampal and dorsal prefrontal regions were found in schizophrenic patients with concurrent auditory hallucination during fMRI scanning. These findings provide a direct insight into pathophysiology of auditory hallucination in schizophrenia.

S05-3

The Role of fMRI in Evaluating the Mechanism of Internet Gaming Disorder

以功能性磁振造影探討網路遊戲成癮之機轉

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Internet gaming disorder is defined by the DSM5 in 2013. However, there is no neurobiological evidence was mentioned in it. The functional magnetic resonance imaging is one of the most used tools to demonstrate the neurobiological mechanism of addiction. The cue induced paradigm, Go-Nogo task, and rewarding task have been utilized to evaluate substance use disorder and develop the neurobiological model of substance use disorder. In the recent years, fMRI is also used to evaluate the mechanism of Internet game disorder. The cue induced paradigm demonstrate that anterior cingulate, DLPFC, caudate, and nucleus accumbens activates for online gaming picture among subjects with IGD. The further event related designed cue-induced paradigm study among subjects with IGD, remission, and controls demonstrated that bilateral dorsolateral prefrontal cortex (DLPFC), precuneus, left parahippocampus, posterior cingulate and right anterior cingulate were activated in response to gaming cues in the IGD group and their activation was stronger in the IGD group than those in the control group. Besides, the IGD group had stronger activation over right DLPFC and left parahippocampus than did the remission group. The two areas would be candidate markers for current addiction to online gaming. The last study for subject comorbid with internet gaming disorder and nicotine dependence revealed that anterior cingulate, and parahippocampus activates higher for both cue-induced gaming urge and smoking craving among the comorbid group in comparison to the control group. The conjunction analysis demonstrates that bilateral parahippocampal gyrus activates to a greater degree for both gaming urge and smoking craving among the comorbid group in comparison to the control group. Accordingly, the study demonstrates that both IGA and nicotine dependence share similar mechanisms of cue-induced reactivity over the fronto-limbic network, particularly for the parahippocampus. The newly developed technique such as resting fMRI study could be utilized to evaluate the neurobiological mechanism and treatment response of IGD.

S05-4**MRI Connectivity Studies in Autism and Attention-Deficit /
Hyperactivity Disorder****自閉症與注意力不足過動症之大腦功能性連結研究**Hsiang-Yuan Lin¹, Susan Shur-Fen Gau¹, Wen-Yih Tseng²林祥源¹、高淑芬¹、曾文毅²¹ Department of Psychiatry, National Taiwan University Hospital² Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine¹ 臺灣大學醫學院附設醫院精神醫學部 ² 臺灣大學醫學院光電生物醫學研究中心

Autism and attention-deficit/hyperactivity disorder (ADHD) are both intractable childhood-onset neurodevelopmental disorders. Neuroimaging studies of both disorders have increasingly converged on abnormalities in connectivity among brain regions, rather than local functional or structural abnormalities. Recent years have witnessed an upsurge in the usage of resting-state functional magnetic resonance imaging (rsfMRI) and diffusion imaging to examine functional and structural connectivity. Both imaging modalities could sidestep challenge of designing tasks suitable to probe wide-range of behavioral and cognitive features of the pathological conditions. Here, we present the studies using rsfMRI and diffusion spectrum imaging (DSI) to investigate the neurophysiologic mechanisms underlying autism and ADHD. Seed-based correlations of rsfMRI demonstrated hyperconnectivity between right temporal parietal junction and fusiform gyrus within the social network in autism. Aberrant frontoparietal control network as measured by rsfMRI provides a potential integration of the disconnection model with the executive dysfunction models for ADHD. Atomoxetine modulating inhibitory related intrinsic functional connectivity in adults with ADHD is also presented. Using DSI, microstructural integrity of the cingulum bundle and frontostriatal tracts has been exhibited a crucial role in accounting for intra-individual variability of behavioral performance in ADHD. Our work converges to support a dysconnectivity model for both autism and ADHD and help advance knowledge of neurobiology of these two neurodevelopmental disorders.

SO6-1

Introduction: the Role of IRB and Clinical Trial

人體試驗委員會在臨床試驗之角色——引言

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Medical research is very important in our lives on a daily basis. As a result, advances are made in all branches of medicine, including mental health care. In the last six decades, medicine has made giant strides in finding effective treatment for psychiatric disease, particularly the introduction of an acceptable scientific approach, i.e. the clinical trial. The question of whether or not it is ethical for persons with severe mental illness, eg. schizophrenia to be subjects in the drug studies in which they would not receive any drug. The argument about ethics in mental illness research has been fueled by development of better therapeutic drugs which were approved for use through clinical trials that typically included comparison of the drug to placebo. Historically, there have been many cases in many parts of the world where individuals have been unjustifiably wronged through participation in research. In some cases, subjects were physically injured by procedures or intervention or they were not informed consent or they were weak members of society and convenient to use. The purpose of the IRB is to protect the rights and welfare of human subjects in research. All parties in the research including the sponsor and the investigator have the duty to protect the subjects but the IRB is the only party whose sole priority is the protection of the subjects. We cannot deny there exists threats and challenges in clinical trials esp. funded by pharmaceutical companies. The emerging role of the subject groups and strict request of the law and IRB make increasing the cost and time to conduct the clinical trials. In these presentation, the speakers will discuss and share the experience the concept and role of clinical trial and IRB.

S06-2**The Expectation of Clinical Trial Principal Investigator (PI) Towards Institutional Review Boards (IRB)****臨床試驗主持人對人體試驗委員會的期待**

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The psychiatric clinical trials are growing number for a period in Taiwan. Investigators essentials of ICH GCP guidelines as below: investigator's qualifications and agreements, adequate resources, medical care of trial subjects, communication with IRB, and compliance with protocol. The roles of IRB are: safeguard the rights, safety, and confidentiality, and well being of all trial subjects. Review a proposed clinical trial within a reasonable time and document its views in writing, clearly identifying the trial, the documents reviewed and the drafts. Consider the qualifications or the investigator for the proposed trial. Conduct continuing review of each ongoing trial at intervals appropriate to the degree of risk to human subjects, but at least once within a reasonable time period. Audit the clinical trial-to assure that research using human subjects and/or materials derived is conducted according to conditions approved by IRB and related authorities, to assure that data are appropriated managed so that any aspect of the study can be reviewed in a timely manner, to assure that the PIs and related personnel conducting research are well trained and aware of the policies and procedures, and to assure subjects safety and accuracy of the data, identify problem area and take corrective and appropriate action when necessary. The mission of IRB is to protect participants of clinical trial. As a PI, I hope the relationship of IRB and PI as friend, partner, educator, and editor. The IRB should brief the administrative work, follow the related regulations and procedures, establish communication channel with research team, guard the ethical issue, and reinforce professional training.

SO6-3

Challenges of Institution Review Board in Psychiatric Centers in Taiwan 台灣精神專科醫院研究機構審查會 (IRB) 的挑戰

Wen-Chen Ouyang, Wen-Guang Lee, Chen-Pang Wang, Kun-Chia Chang, Ya-Fen Hsu,
Chun-Hung Lee, Shih-Ching Yen, Tso-Jen Wang

歐陽文貞、李文光、王禎邦、張耿嘉、許雅芬、李俊宏、顏世卿、王作仁

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Clinical trial and related biological/medical technique is one of the most important processes for developing biomedical industry in Taiwan; meanwhile, idea of human research protection has also been promoted for decades. And The Legislative Yuan in Taiwan had approved “Human Research Protection Act” (人體研究法) and had immediately enacted the law in Dec., 2011. This paper discloses the challenges of institutional review board (IRB) in psychiatric centers in Taiwan. First, the business of psychiatric center has imbalance between cost and revenue due to unreasonable payment of National Health Insurance in Taiwan. Second, the incomes of IRB from each cases reviewed cannot afford the total expenses. Third, the expert of profession in psychiatric center is not diverse. Forth, the policy of central IRB for clinical trial in Taiwan in 2013 will threaten the operation of IRB in psychiatric center. Fifth, the reviewers of IRB in psychiatric center are not full-time duty for reviewing. The strategies including the federation of Psychiatry-center IRBs for clinical trial of antipsychotic or anti-mania drugs, combined training about operation and regulation of IRB, and uniformed ISO processes & application forms will be outlined and discussed.

SO6-4

Quality Improvement and Preparation of Accreditation of Institutional Review Board—Experience Sharing of a Psychiatric Teaching Hospital 精神科專科教學醫院人體試驗委員會的品質與認證

Li-Shiu Chou, Su-Huei Wang, Shao-Ting Fen, Ming-Chao Chen, Cheng-Chung Chen

周立修、王淑慧、方筱婷、陳明招、陳正宗

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Protection of human subjects has become a profession, both on an individual level and on an institutional level. Although protection of human subjects has been a key-stone of clinical research of more than 60 years, thoughts of accreditation have only recently reached maturely. In this article, we will present the establishment, development and evolution of institutional review board (IRB) of Kai-Suan Psychiatric Hospital, the first and only one psychiatric hospital among 23 recognized institutions of FER/CAP (Forum for Ethical Review Committees in Asia and the Western Pacific) in Taiwan. Two main issues of our presentation are quality improvement and how to prepare official and international accreditation programs. We try to compare the similarities and differences between accreditation of Department of Health and FER/CAP and share the experiences of preparation of both site visit accreditation programs. The costs and benefits of accreditation will be also evaluated and discussed. By developing a set of performance standards and making these available to IRBs and human subject protection programs, the intent of accreditation is to help IRBs and human subject protection program do what they do better. In addition, the site visit will provide an outside source of new ideas for improvement and referral to other resources. Reference: 1.<http://www.fercap-sidcer.org/index.php> 2.Bankert EA and Amdur RJ: Institutional review board management and function. Jones and Bartlett Publishers, 2nd Ed, 2006 3.Dunn CM and Chadwick GL: Protecting study volunteers in research. CenterWatch, 3rd Ed, 2004.

So7-1

Overview of the EU/US Drug Addiction Strategy from Current to Future

歐美藥物成癮防治策略之概要：從現今到未來十年

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Main objectives of treating and rehabilitating patients with heroin dependence include reducing abuse on illicit drugs, reducing the morbidity and mortality caused by the abuse of heroin, reducing infectious diseases (Such as HIV and hepatitis... etc.), improving physical and psychological health, reducing criminal behaviors, and increase the workforce and social functioning (WHO, 2004). Although many countries have an overall strategy or policy on how

to manage opioid substitution treatment, the actual methods used and outcomes of treatment may not be adequately captured. Therefore, how to organize a global prevention on illicit drug abuse is very important in the word. A new EU drug strategy 2013-2020, agreed upon by 27 European Union member states, and provides the political framework and priorities to act on the five major issues, 1) Delivering a measurable reduction in drug demand, drug dependence, drug related health risks and harms; 2) disruption of the illicit drug market; 3) encourage greater coordination and convergence of drug policy across Europe; 4) strengthening cooperation in the word; 5) understanding all aspect of drug phenomenon and the impact of interventions in order to provide evidence based policies and actions. With regards to the treatment of the affected individual, the strategy departs from the past emphasis on the “substance” and focuses on the “person”. And current strategy, calling for the development and delivery of integrated, personalized responses with a view to recovery and rehabilitation in family, social and economic life. By the late 1980s, scientific advisers concluded that HIV is high risks associated with injecting drug use, and several countries approaches to drugs needed to change. In response, successive UK governments funded the expansion of a treatment system, they widespread provision of needle and syringe programs (NSPs) and opioid substitution treatment (OST). Their found that harm reduction was successful, reducing both crime and drug related deaths, as well as blood-borne viruses such as HIV and Hepatitis.

SO7-2

The Assembling and Controversies of Taiwan's Harm Reduction Policy: a Sociological Analysis

台灣減害政策的組裝與爭議：一個社會學式的分析

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Background: Harm reduction did not become the policy of choice until statistics showed in 2004 that the population of injection drug users (IDUs) had increased drastically among newfound HIV-positive cases. It was implemented as a pilot program in 2005 and expanded into a nationwide policy the next year. The policy claimed great success in

controlling HIV transmission in 2009 and was showcased as a public health triumph of Taiwan. Considering the suppressive strategies of drug control in the post-World War II period, the ways in which harm reduction policy was made possible and assembled, along with the controversies it brought about, constitute an urgent inquiry that may very likely illuminate Taiwan's policy culture. Therefore this study endeavors to understand the policy assemblage from a sociological perspective by tracing its developmental trajectory. **Methods:** The study applied archival research, in-depth interviews and field observation as its data sources. The collected data were carefully coded, categorized and interpreted. The analysis was inspired by grounded theory, especially its postmodern and constructivist version, situational analysis. **Results:** What was involved in the policy making is theorized as the office, an assemblage of human and non-human actors making associations through various forms of guanxi. Within this assemblage, cooperation without consensus was a common feature. Despite frequent incoordination and controversies, this policy assemblage seemed to successfully build up citizen addicts that somehow contributed to the desired goals. However, how the drug users were transformed within the assemblage by means of education remained unclear. **Conclusions:** A sociological approach to Taiwan's harm reduction policy is both feasible and necessary. It offers a situated and timely critique by depicting a bigger picture of how this policy is made, negotiated and transformed within a specific time and space.

S07-3

Cost and Cost-Effectiveness in Treatment of Substance Abuse in Taiwan: Identifying the Need and the Gap

物質成癮治療成本與成效：需求與斷層

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Abstract: The treatment service of substance abuse in Taiwan has been hindered by

immature funding mechanisms, insufficient training for professionals, and need for cost-effectiveness analysis. This symposium will focus on the update of addiction service provision profile in recent 10 years in Taiwan. Public data from the Ministry of Justice, the government research database, Health People 2020-White paper, and service data from psychiatric hospital were used to review the progress of clinical service development in Taiwan. The main resource allocation of personnel training and service provision lies on opioid and psychostimulant. The government funding focus on outpatient service especially methadone maintenance therapy, when compared with therapeutic community and rehab center run by the Ministry of Justice. In analysis of research funding on treatment program and outcome, treatment retention, recidivism, psychosocial functioning, and HIV endemic control are main outcome indicators. The analysis of addiction treatment outcome should include the severity of poly-substance abuse, infectious disease, psychiatric co-morbidity, quality of life, and psychosocial functioning. The analysis of cost in service provision should consider the training of professionals including addiction specialists, therapists, and case managers. The team-up of service provision change with resource allocation and service need by government, and therefore the related studies are needed for further cost-effectiveness and subsequent practical guide for resource allocation of the substance abuse treatment service in Taiwan.

SO7-4

Health Care Utilization and Medical Costs for Substance Use Disorders in Taiwan: Using Taiwan National Health Insurance Research Database

台灣物質成癮之醫療使用：使用健保資料庫之分析

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Substance use disorders (SUDs) has often been characterized as a chronic relapsing condition. SUDs are a persistent and long-term affliction with severe consequences, particularly with premature mortality and high morbidity. The estimated costs of alcohol and drugs to health care providers have ranged considerably about from \$10.7 billion per year. There are estimate 250,000 SUBs in Taiwan. The national health insurance covered 99.5 %

population in Taiwan. However, the treatment expenses of SUDs on Taiwan were not covered by the laws. There were 1769 drug-abuse (ICD-9: 304) patients identified in 2000-2010 from inpatient claims and ambulatory care claims. We used the medical records to analyze the incidence and medical utilization pattern across drug-abuse patients. We calculated the mean of the medical costs and mean number of medical utilizations each patient annually. To investigate the medical utilization among drug-abuse patients, we gathered the information for first-time primary utilization and primary utilizations of inpatient admissions and outpatient clinics from 2000 to 2010 based on ICD-9-CM codes. We also classified the health problems which a patient had after his/her first been diagnosed as a drug abuser by biological systems: neoplasm, endocrine, mental disease, nervous and sensory system, circulation system, respiratory system, digestive system, urology and reproductive system, skeleton and muscle system and connective tissue, Lesion and intoxication. The mean number of utilization for each drug-abuse patients per year was about 30 times. The mean cost for admission was about US 4000 per year and for OPD about US 1000 per year. The most frequent for admission was mental disease and followed by respiratory system and digestive system. It was clear that SUDs also made severe physical consequence and cost much of the Taiwan society. We need further considerate about the insurance policy about early treatment and prevention on SUDs.

So7-5

Novel Treatment concept of Dextromethorphan and Menantinein in Patient with Heroin Dependence

海洛英成癮患者之新治療概念：dextromethorphan 及 menantinein

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The over activation of inflammatory cytokine and dysfunction of the neurotrophic system might be related to the development of opioid dependence (physiological, psychological, or both). Whether the inflammatory or neurotrophic factors or both are related to the chronic opioid use was evaluated. In addition, whether the low dose of

dextromethorphan or memantine could be benefit to opioid-dependent patient by its anti-inflammation and neurotrophic effects was studied. This was a double-blind, randomly stratified clinical trial, we evaluated whether inflammation is related to the progression of opioid dependence. Whether add-on dextromethorphan (60-120 mg/day) or memantine (5 mg/day) attenuated inflammation and the combined use of opioids in heroin-dependent patients undergoing methadone maintenance treatment was also investigated. All participants were recruited from National Cheng Kung University Hospital. Their plasma cytokine and BDNF levels were measured to evaluate the effect of add-on dextromethorphan or memantine. Plasma cytokine levels were significantly higher and transforming growth factor (TGF)- β 1 and brain-derived neurotrophic factor (BDNF) were significantly lower in long-term heroin-dependent patients than in healthy controls. After the 12-week of methadone -maintenance-therapy only, the requirement of patients' methadone dose significantly increased. Patients treated with methadone plus low-dose of dextromethorphan or memantine significantly attenuated the methadone tolerance and plasma cytokines. Moreover, plasma TGF- β 1 and BDNF expression were potentiated by low dose of memantine. We therefore conclude that dextromethorphan or memantine could be a feasible adjuvant therapeutic for attenuating inflammation, neurotrophic effect, inhibiting methadone tolerance and combined opioid use in heroin-dependent patients. Key words: cytokines, dextromethorphan, methadone maintenance therapy, opioid, plasma.

So8-1

An Overview on Psychotherapy for Elderly Patients

老年病人之心理治療概說

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Facing more and more elder patients, certain characteristics such as high rates of medical illness, frailty, cognitive impairment, and health resource needs deserve special consideration¹. However, psychotherapies with older people have been slow to develop, both theoretically and operationally². This is due to a number of reasons, particularly ageism, which

has been a great hindrance to development of expertise and services in this area. Negative stereotypes about the treatability of older people and a lack of psychotherapy theory that can speak to later life still have a pervasive negative effect on expectations and expertise. For example, although depression in old age is common and also dangerous, psychotherapy is almost never offered to the elderly³. Never the less, single-case studies and some controlled trials show effectiveness – at least to the age of 75. Psychotherapists working with older individuals best serve these patients when they are aware of the person's previously and currently expressed values, have knowledge of the cultural, ethnic and religious values of the groups they commonly encounter, are aware of their own assumptions about the moral bases of medical decision making, have the skills to assess the capacity of individuals with impaired cognition to participate in decision making or have readily available individuals with such skill, and approach situations in which dilemmas and disagreements occur with caution, thoughtfulness, and care for all those involved. Common themes and issues in geriatric psychotherapy are⁴: I. Restoration of a Positive Self-Concept and Self-Esteem in the Elderly Patient. II. Dealing with Loss. III. Dealing with Aging, Illness, and Possible Dependence. IV. Dealing with Death and Dying. V. Transference and Countertransference. In a recently published article from patient's perspective on the benefits of psychotherapy⁵, 22 Participants had few expectations about treatment and they found support, the problem-solving therapy process, and focus on interpersonal relationships to be the most helpful processes in treatment.

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So8-2

The Current Theories of Psychotherapy for the Elderly and Their Application: a Review

老年心理治療之理論及其應用

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From the time Sigmund Freud (1856-1921) has invented the term “psychoanalysis”, it is more than 100 years that psychotherapy has developed. However there are still so many clinical challenges left for the followers. Freud didn't pay much attention to any issues about the elders. Carl Jung (1885-1961) might be the first one that his concepts of transformation and individualization are applicable for this field. Ego psychologist, Erik Erikson(1902-94) has suggested the psychosocial development model of personality which includes the elder as the eighth one, also last one of all stages. Existential Psychotherapy has developed since 1950s. Its theory and practice has focused on the extreme situation for the human which surely including the ageing. During the recent wave of postmodern psychotherapy, narrative therapy has also applied a lot to the elders. In this presentation, I'll try to illustrate some cases to discuss the application of these theories.

So8-3

Interpersonal Psychotherapy for Outpatients with Geriatric Depression

門診老人憂鬱病患之人際心理治療

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Background: Interpersonal psychotherapy (IPT) is an empirically-validated intervention for treating late-life depression. **Methods:** IPT can be utilized by primary care physicians with or without antidepressant medications with good evidences. Recent

researches also reveal involving caregivers to help with geriatric depression with cognitive declined patients as major therapeutic component as modified IPT. IPT for elders is studied for main problems areas. **Results:** IPT focused on 4 areas as interpersonal conflict, role transitions, grief and interpersonal sensitivity. Main areas varied in different population. Vignettes are show in the presentan. **Conclusions:** Thus IPT is an effective treatment for late-life depression and greater use by physicians and mental health professionals should be encouraged.

So8-4

Group Psychotherapies in the Geriatric Daycare of a Psychiatric Center in Central Taiwan

某中台灣精神專科醫院老年日間病房之團體心理治療

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Introduction: There various group therapies were continually provided in the geriatric daycare of a psychiatric center. The main diagnosis of the patients who participated in groups was Alzheimer's dementia. Their CDR (Clinical Dementia Rating) was between 1 and 2 and most of them were no locomotion disability. The group therapies aimed to minimize the impairment of their cognitive function. **Methods:** There were ten group therapies of a week in the geriatric daycare, which included diverse group psychotherapies and the behavior activities such as singing and physical exercise. The group psychotherapies included reminiscence therapy, cognitive stimulation therapy and consulting group. Each session of the groups was 50 minutes. In the reminiscence group led by an experienced social worker, the discussion of past activities, events and experiences with other group members was aided by tangible prompts such as past photographs or other familiar items and/or music as well as archived sound recordings. The cognitive stimulation therapy was conducted by the psychologist in the daycare. Therapy directed to actively stimulate and engage the patients so as to create an optimal learning environment and the social benefits. The consulting group was

held once a week by the psychiatrist of daycare. The patients' mental and physical condition and the adjustment issues of the aging or disease could be discussed in the group. **Results:** There are 43 patients in the geriatric day-care unit currently. Around 90% of them regularly participate in the therapies, which have been progressing for more than 10 years since 2002. New participants might not remember the therapist or other members in the beginning, but they could be familiar to others soon after several sessions. However, the participating patients were used to have high motivation to the group therapies and cohesiveness could be noted in them. **Conclusion:** Many studies have evidenced different types of group therapies such as reminiscence therapy and cognitive stimulation therapy can delay the progression of dementia course in the early stage and minimize the related behavioral and psychological symptoms. Additionally, they also offer different stimulants to the brain and maintain the cognitive function. Nonetheless, further precise studies about the specific benefit of certain group therapy should be undertaken.

S09-1

A Case Report of Maintenance ECT Relieves a Patient with Resistant Bipolar Disorder

維持性電痙攣治療用在難治型雙極型情感性精神病之個案報告

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Objective: Treatment of resistant bipolar disorder is still a challenge for psychiatrists. This case report presents the efficacy of maintenance electroconvulsive therapy (M-ECT) for a patient with resistant bipolar disorder. **Case report:** A 60-year-old woman suffers from bipolar I disorder with rapid cycling since she was 35 year-old. She cannot respond a variety of mood stabilizing agents with full dose and sufficient duration of treatment, including antipsychotics, valproic acid, lamotrigine, carbamazepine and lithium in the past. The hospitalization period was 161 days in 2012 for treatment resistant mood symptoms. After discussion with the patient and family, we applied 8-session of ECT for acute treatment. We

used bilateral temporal ECT with thiamylal 2mg/kg as anesthesia and stimulus energy 30 joules at the first time and 35 joules after. There was neither mood stabilizer nor antipsychotics during the acute phase ECT treatment (a-ECT). After that, she continued to receive M-ECT once per month with lithium 600mg/day and quetiapine 300mg/day. We added valproic acid 1000mg/day in the inter-M-ECT period. Symptoms severity and daily functioning were assessed regularly by 17-item Hamilton Rating Scale for Depression (Ham-D), Young Mania Rating Scale (YMRS), Hamilton Anxiety Rating Scale (HARS), and Global Assessment of Functioning scale (GAF). The depression symptoms improve markedly during a-ECT period as the score drop to 3 from 28 with downward pattern and fluctuate in the range of 4 to 17 during M-ECT. The mania symptoms flared up at the end of a-ECT course as the score of 23 and in upward pattern during M-ECT. The anxiety symptoms improve markedly during a-ECT period as the score drop to 1 from 28 with downward pattern and range from 1 to 16 during M-ECT. The GAF score was improving during a-ECT from 15 to 65 and in the range of 55 to 85 except once in 35. She did not require hospitalization for mood episodes again except short-term stay in hospital for M-ECT. **Discussion:** The severity of depressive symptoms was very severe before a-ECT and improved to normal then. During M-ECT, the severity of depression fluctuated from normal to mild. There was no manic symptoms before a-ECT but flared at the end with moderate severity but mild in M-ECT period. The anxiety was clinically significant before a-ECT and improved in a-ECT and maintained in M-ECT period. ECT is the effective strategy for patients with resistant bipolar disorder especially in anxiety and depressive symptoms. The GAF improved during a-ECT and maintained in M-ECT. However, we are warning for the manic symptoms during a-ECT and M-ECT.

S09-2

ECT-induced Persistent Ventricular Premature Contractions in Patient with Bipolar Depression

ECT 誘發持續性心室早期收縮：一雙極性鬱症病患的案例報告

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Objective: Arrhythmias after electroconvulsive therapy (ECT) are noticed sometimes, but most of these cases are self-limited. In this report, we demonstrated a patient to develop persistent ventricular premature contractions (VPCs) after ECT treatment. **Case Report:** This is a 39-year-old woman with bipolar depression. The age onset of illness was 32 years old. She has no cardiovascular diseases or other severe systemic diseases before. She was admitted for bilateral ECT due to poor response to medications. Her initial 12-lead electrocardiography (ECG) showed normal sinus rhythm. We used thiamylal for anesthesia and succinylcholine for muscle relaxant. The initial stimulus energy was 25 joules. After the first ECT, occasional uniform VPCs were noted (about twice per hundred beats), her heart rate was 95 beats/min, blood pressure was 107/71 mmHg. The VPCs disappeared without any treatment. On the second ECT, trigeminal VPCs were noted and her heart rate was 73 beats/min, blood pressure was 102/55 mmHg. The VPCs disappeared without any treatment. Because she didn't have any discomfort after the ECT, we didn't add any medications for VPCs. On her third ECT, we shifted the energy to 20 joules. The ECG showed bigeminal and couplet VPCs after ECT, her heart rate was 72 beats/min, blood pressure was 105/57 mmHg. She didn't have any discomforts after the ECT. However, she complained of chest tightness, shortness of breath, and weakness the next day. She was transferred to cardiovascular clinic outpatient department of general hospital for further assessment. The 24 hours holter monitor revealed VPCs and mexiletine 100mg TID was prescribed. The patient was admitted to our acute ward again after 2 months after the ECT. VPCs were still noted by 12-lead ECG. **Discussions:** It has been known that when treating patients with cardiovascular diseases, ECT may worsen their underlying cardiac problems. However, ECT induced cardiovascular diseases are very rare. Our patient had no history of cardiovascular diseases, but persistent VPCs were noted after 2 months after the ECT and still didn't recover. Reviewing the course of treatment and possible ECT-induced VPCs, we have some different point of views. Owing to occasional VPCs were noted on the first ECT, 12-lead ECG is necessary to re-evaluate the cardiac risks of her following ECT. After the second ECT, since the trigeminal VPCs were noted, we should consult the cardiologist to evaluate the risks of ECT. β -blocker or other antiarrhythmic agents might be helpful for her to prevent arrhythmias before the following ECTs. In conclusion, our case of ECT-associated persistent PVCs in bipolar depression indicates that careful assessment for cardiac vulnerability before and after the ECT, as well as patient monitoring at regular intervals during ECT is important, especially when abnormal ECG was noted during the ECT treatment.

S09-3

linical Characteristics and Relapse/Recurrence After Electroconvulsive Therapy in Patients with and Patients without Initial Consent: a Retrospective Study

起初是否同意電癱癲治療病患的臨床特徵及經治療後的復發：回溯性研究

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Objectives: To analyze clinical characteristics and relapse/recurrence with repeated hospitalization in patients who had received ECT without their initial consent, with the intention to improve clinical care for life-threatening condition. **Methods:** This is a retrospective case study for inpatients receiving ECT without their initial consent. Surrogate family had signed informed consent for ECT to meet law regulation. The data are derived from a hospital quality register in Kaohsiung Chang Gung Memorial Hospital. The authors carefully define two groups by the informed consent process: one group includes 51 “ECT-compliance” patients who could clearly say “yes” for receiving ECT; the other group includes 66 “ECT-noncompliance” patients who refused or passively received ECT. Psychiatric hospitalization or suicide during first year after ECT is used as a marker for relapse/recurrence. **Results:** From January 1 of 2007 until June 30 of 2013, a total of 117 patients were clinically diagnosed to have major depressive disorder (n=43), schizophrenia (n=33), bipolar I disorder (n=25), schizoaffective disorder (n=9), and other psychotic disorder (n=7) in index hospitalization with first time ECT. The mean age of patients was 42.5±12.9 years. The mean educational years were 11.4 ± 2.3 years. The mean time lag between admission and ECT date (ECT lag) was 6.7 ± 9.7 days. The main reasons for ECT were repeated violence, suicidal attempt, destructive behavior, refusal or poor response to medication and intake refusal. There were no statistical difference in onset, age, educational years, ECT lag, hospitalization stay between the “ECT-compliance” and “ECT-noncompliance” group.

However, “ECT-noncompliance” group had more male and more comorbid personality disorder diagnosis than “ECT-compliance” group. All patients were temporally improved, but rate of first year relapse/recurrence with rehospitalization in these patients was 46.2 % (n=54).

Conclusions: ECT could be performed emergently applied to a great variety of Axis I and comorbid Axis II psychiatric diagnoses with life-threatening condition successfully. However, within the first year after ECT, relapses/recurrences leading to hospitalization are common.

S09-4

Benzodiazepines and Electroconvulsive Therapy for Catatonia

Treatment: Review and Our Experience

BZDs 及電癇癱瘓治療於僵直症的處理：回顧及我們的經驗

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Objectives: Catatonia is a unique clinical phenomenon characterized by concurrent motor, emotional, vegetative and behavioral signs. Benzodiazepines (BZD) and electroconvulsive therapy (ECT) can rapidly relieve catatonic signs. The lorazepam-diazepam protocol presented here has been proven to relieve catatonia in schizophrenia within a day.

Methods: From July 2002 to August 2011, schizophrenic patients requiring psychiatric intervention for catatonia in Kaohsiung Chang Gung Memorial Hospital were studied by medical chart review. The study used the Bush-Francis Catatonia Rating Scale (BFCRS).

Patients receiving the lorazepam-diazepam protocol were identified. **Results:** The survey included 21 patients (eight males and 13 females) with a mean age of 30.3 ± 12.6 years. Mean duration of schizophrenia was 4.7 ± 5.6 years. Thirteen (61.9%) patients responded within 2 hours, 18 (85.7%) responded within one day, and all became catatonia-free within a week.

Mean BFCRS score was 9.9 ± 3.0 before treatment. Patients that responded with a single intramuscular lorazepam injection had mean BFCRS score of 8.9 ± 2.8 , significantly lower than the mean score (11.6 ± 2.5) of the rest of the patients ($p = 0.034$).

Conclusions: The lorazepam-diazepam protocol can rapidly relieve retarded catatonia in schizophrenia. Most

patients became catatonia-free within one day but some may require up to a week. ECT should be considered if the protocol fails.

S10-1

Serotonin Hypothesis in Mood Disorder: an Update

精神異常之血清素假說

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Serotonin is one of most extensively studied neurotransmitter in the brain. It influences our emotion and cognition. Previous evidence has suggested the possible role of the serotonergic system in the etiology of mood disorder. The serotonin transporter (SERT) is a key regulator of central serotonergic activity; controlling the reuptake of serotonin and thereby terminating its action at the synapse. Study on SERT has been hampered by a suitable radiotracers. In this presentation I will present how to image the SERT in the living human brain. Meanwhile, it will over the recent data, which showed the changes of SERT in mood disorder and particularly compared the difference between major depressive disorder (MDD) and bipolar disorder (BD). Our data also firstly, demonstrate the interaction of SERT with other target system such as immune inflammatory system in MDD and BD. We will propose and discuss the possible targets, which could play a role in regulating the changes of SERT in the human brain.

S10-2

Methamphetamine and Ketamine Tell Stories

甲基安非他命及 K 他命

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Prolonged use of methamphetamine and ketamine can result in the onset or exacerbation of a multitude of physical, psychological, emotional, motivational, behavioral, and psychiatric disorders. Methamphetamine's main mechanism of action is its ability to increase neuronal release of monoamines, particularly dopamine. Of particular concern are psychiatric morbidities associated with methamphetamine use that include a florid psychosis. Clinical features of methamphetamine-associated psychosis resemble that of paranoid schizophrenia. Ketamine, an NMDA antagonist, affects glutamate dysfunction. Acute low dose of ketamine administration in healthy subjects induces hallucinations, cognitive impairment, disassociation, “out of body” experience, and thought disorders that are similar to schizophrenia. Chronic repeatedly ketamine use impacts cognitive function, increases paranoid thoughts and disassociation symptoms. Currently available drugs for major depressive disorder, which target monoaminergic systems, have a delayed onset of action and significant limitations in efficacy. Antidepressants with primary pharmacological targets outside the monoamine system may offer the potential for more rapid activity with improved therapeutic benefit. The glutamate system has been scrutinized as a target for antidepressant drug discovery. Current research on the antidepressant effects of ketamine has consistently shown rapid and substantial improvement in mood in the majority of patients. Thus, methamphetamine and ketamine provides pharmacological models to investigate neurochemical hypothesis of psychiatry disorders.

S10-3

D-Amino Acid Oxidase (DAAO) Inhibition for Cognition Enhancement in Schizophrenia and Dementia

右旋胺基酸氧化酵素抑制對精神分裂症與失智症之認知促進

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Objectives: Enhancement of NMDA neurotransmission has been proposed as a

potential treatment of several mental disorders. Several studies targeted at the glycine site of the NMDA receptor using an agonist (glycine, D-serine, D-alanine, or D-cycloserine). Another strategy to improve NMDA neurotransmission is increasing the synaptic glycine level by blocking the glycine transporter-1 (GlyT-1). The third strategy is increasing synaptic concentrations of D-serine and D-alanine by inhibiting D-amino acid oxidase (DAAO).

Methods: Sodium benzoate, a legal food preservative, is an inhibitor of DAAO. We conducted two clinical trials to show its efficacy for cognition enhancement in schizophrenia and early dementia. We conducted two clinical trials in schizophrenia and early dementia, respectively. **Results:** In a double-blind, placebo-controlled trial in chronic schizophrenia (n = 52), 6-week, 1-g/day sodium benzoate adjunctive therapy significantly and safely improved positive, negative, general-psychopathology, and depression symptoms, as well as global function and quality of life. Processing of speed and visual memory were also improved. In another randomized, double-blind, placebo-controlled trial in amnesic mild cognitive impairment (aMCI) and mild Alzheimer's disease (AD) (n = 60), patients were treated with 250-750 mg/day of sodium benzoate or placebo for 24 weeks. Alzheimer's disease assessment scale-cognitive subscale (ADAS-cog, the primary outcome in this trial) and global function (assessed by Clinician Interview Based Impression of Change plus Caregiver Input [CIBIC-plus]) were measured every eight weeks. Additional cognition composite was measured at baseline and endpoint. As a result, sodium benzoate produced better improvement than placebo in ADAS-cog at week 16, week 24 and endpoint, respectively, additional cognition composite at endpoint, and CIBIC-plus at week 16, week 24 and endpoint, respectively. Sodium benzoate was well tolerated without evident side-effects. **Conclusions:** These findings indicate that enhancing NMDA function via inhibiting DAAO can improve cognitive functions of patients with schizophrenia or early-phase AD.

S10-4

The Preliminary Neurochemical Findings in Generalized Anxiety Disorder

廣泛性焦慮症相關神經化學物質的初探

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The prevalence of generalized anxiety disorder (GAD) is 2 % to 8%. Although, the impact of GAD is significantly high based on several studies but less attention was paid till now. Regarding the pharmacological intervention being similar to major depressive disorder (MDD) and high comorbidity with MDD, the detection of GAD becomes less prevent in clinical practice. However, the etiology of GAD is still a unique diagnosis entity and needs to be more explored. Tryptophan is the precursor of serotonin. Tryptophan depletion test (TDT) was showed to a good tool for manipulating serotonergic system. Our data showed that individuals' heart rate variability (HRV) becomes worse in higher anxiety score group after 6-hour TDT, compared with in lower anxiety group. The HRV also showed worse in drug free patients with GAD. Regarding the dopamine and serotonin, the drug free patients with GAD showed lower dopamine transporter (DAT) availability but no change in serotonin transporter (SERT) availability, compared with their matched healthy control. In contrast with our previous studies, the DAT availability is higher and SERT availability is lower in drug free patients with MDD. Regarding the GAD and MDD, the interaction between central dopaminergic and serotonergic activities among these two diseases could be different. Currently, the pharmacological intervention of GAD and MDD could share similar medication. However, the neurimaging results hint neurochemical differences could exist which needs to be explored with larger sample.

S11-1**Introduction of Mental Health Service Research in Taiwan****台灣全民健保精神健康服務研究介紹**I-Chia Chien^{1,2}簡以嘉^{1,2}¹ Taoyuan Mental Hospital, Ministry of Health and Welfare² Department of Public Health & Institute of Public Health, National Yang-Ming University¹ 衛生福利部桃園療養院 ² 國立陽明大學

Taiwan implemented a NHI (National Health Insurance) program in March 1995, offering a comprehensive, unified, and universal health insurance program to all citizens. The coverage provides outpatient service, inpatient care, Chinese medicine, dental care, childbirth, physical therapy, preventive health care, home care, and rehabilitation for chronic mental illness. As many as 99% of the people in Taiwan have joined the NHI program in 2012. The Bureau of NHI has contracted with 92% of medical institutions in Taiwan. At present, there are over 100 papers using NHI database for research published in the international psychiatric journal during the past 10 years. The NHI medical claims database, including ambulatory care, hospital inpatient care, dental services, and prescription drugs, was provided by the National Health Research Institute (NHRI). Generally, the scopes of mental health service research in Taiwan include psychiatric epidemiology (prevalence, and incidence), pharmacoepidemiology (antipsychotics, antidepressants, mood stabilizers, anxiolytics, and hypnotics), pharmaco-economic, patient safety, medical comorbidity, risk factors, and trends study. The study types include cross-sectional and longitudinal study. The study samples include random sample, psychiatric disease database, or specific research aim database. Those study subjects include adults, children, adolescents, and elderly persons. Since we have a comprehensive population-based NHI database, we can make complete study designs for further research. Our mental health service research could offer very precious evidence-based data for policy making and clinical implication.

S11-2

The Utilization of National Health Insurance Research Database for Psychiatric Research in Taiwan: a Reader's Perspectives

全民健保資料庫的精神醫學研究：一個讀者的觀點

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The utilization of existing large-scale datasets to investigate specific research questions has become common practice in several disciplines, particularly in social research. However, there is a striking trend to use Taiwan's National Health Insurance Research Database (NHIRD) for psychiatric research in Taiwan. Taiwan's NHIRD may be one of the largest administrative healthcare databases nowadays and has been utilized widely in medical research. The author reviewed 86 psychiatric studies published from 2002 to now. The overall growth and spread of the study fields would first be presented. Psychiatric research utilizing the NHIRD grows rapidly not only in quantity but also in quality. Therefore, the evolution of research methodology would be traced and discussed. Furthermore, the way to overcome the limitations inherent in the administrative dataset would be demonstrated and discusses. From a reader's perspectives, psychiatric research in Taiwan does benefit from NHIRD. This publicly available research material may accelerate academic production and encourage researchers exploring new issues in psychiatry.

S11-3

Antipsychotic Medications, Mood Stabilizers, and Pneumonia in Bipolar Disorder

躁鬱症病患使用抗精神病藥、情緒穩定劑與發生肺炎危險之相關性

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Objective: Like mood stabilizers, most second-generation antipsychotics are widely used to treat patients with bipolar disorder, yet their safety is still a concern. This study explored the association between antipsychotics, mood stabilizers, and the risk of pneumonia, and provides evidence-based information for clinical practice. **Method:** In a nationwide cohort of bipolar patients (ICD-9 codes 296.0 to 296.16, 296.4 to 296.81, and 296.89) derived from the National Health Insurance Research Database in Taiwan, who were admitted between July 1, 1998 and December 31, 2006 (N = 9,999), we identified 571 patients who developed pneumonia (ICD-9 codes 480 to 486 and 507) requiring hospitalization, which was the primary outcome measure. Based on risk-set sampling in a 1:4 ratio, 2,277 matched controls were selected from the same cohort. We used conditional logistic regression to assess the association between drug exposure and pneumonia. **Results:** Current use of several antipsychotics separately, including olanzapine (the adjusted risk ratio [RR]=2.97, P < 0.001), clozapine (RR = 2.59, P < 0.01), and haloperidol (RR = 3.68, P < 0.001), is associated with a dose-dependent increase in the risk. Interestingly, lithium has a dose-dependent protective effect from pneumonia. Among certain drug combinations, olanzapine plus carbamazepine had the highest risk (RR = 11.88, P < 0.01), followed by clozapine plus valproate (RR = 4.80, P < 0.001). **Conclusions:** Several antipsychotics, but not mood stabilizers, were associated with the risk of pneumonia, which deserves our concern regarding patient safety. Some of the combinations of therapy resulted in synergy of risk.

S11-4

Medical Comorbidity in Schizophrenia

精神分裂症之合併症研究

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Schizophrenic patients have a greater risk of cardiovascular morbidity (Callaghan, 2009). Among risk factors for cardiovascular diseases, the age and sex adjusted prevalence and incidence of diabetes in schizophrenic patients is 1.81 and 1.47 times respectively higher than the general population based on the NHI database in Taiwan. With respect to hyperlipidemia, the prevalence and incidence among schizophrenic patients was 1.17 and 1.24 times respectively higher than the general population. Female and younger schizophrenic patients deserve special attention, because of the significantly higher rate of these metabolic disturbance (Chien & Hsu, 2009; Hsu & Chien, 2011, 2012). Genetic basis with predisposition to disease (Lin, 2010) and environmental factors, including sedentary or unhealthy life style, psychotropic drugs exposure (Liao, 2011) were attributed to this phenomenon. Considering the lung diseases, COPD is more prevalent in schizophrenic patients than the general population (OR 1.66) in Taiwan (Hsu & Chien, 2012). Younger and male schizophrenic patients have a greater likelihood to have COPD, which could result from the early onset age of schizophrenia and environmental factors such as smoking. The prevalence and incidence of chronic liver disease in schizophrenic patients were 1.27 and 1.15 times higher than the general population. Male patients exhibited higher risk of having chronic liver disease than females. The adjusted overall cancer risk for schizophrenic patients was 30% lower (HR, 0.71) than those in control group in both sexes. However, the adjusted cancer mortality for schizophrenic patients was 1.36 times higher than the control group (Chou, 2011). The tumor suppressor gene in schizophrenia, antitumor effect of antipsychotics, certain life habit such as substance use, smoking or food intake should be considered. Schizophrenic patients were 1.13 times likely to have a stroke and the adjusted all cause mortality risk was significantly higher

than the control group (OR, 1.23) (Tsai & Chou, 2012). With respect to atopic disorders, schizophrenic patients were associated with 1.3 fold increase risk of asthma. However the risk of having allergic rhinitis and urticaria was 23% and 26% lower among schizophrenia (Chen & Lin, 2009). To sum up, genetic factor cause schizophrenic patients more vulnerable to certain medical diseases. Younger schizophrenic patients showed a higher risk to have medical comorbidities than the general population. In addition, acquired factors such as lifestyle, smoking, alcohol use, psychotropic drug exposure and metabolic risk factors play roles in the occurrence of certain medical condition or sex distribution in certain diseases.

S12-1

Studies of Putative Prodromal Psychosis

疑似精神病前驅期之研究

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Led by Professor Hai-Gwo Hwu, a 5-year prospective study on the psychopathologic progress of early schizophrenia-like disorder (SOPRES) granted by the National Health Research Institute during 2006 to 2010 is the first prospective study focusing on early psychosis in Taiwan. With specific interests to the states prior to full-blown psychosis, the putative prodromal state, a series of publications was derived from our clinical observations. In SOPRES, subjects were recruited via different venues while the uncertainty of pre-psychotic state complicated the processes. Information campaign has its pros and cons while mental health professionals from different training backgrounds might see those individuals from different perspectives. A screening questionnaire for putative pre-psychotic states has been developed yet its practicability is pending for another field trial. Among our 59 ultra-high risk subjects, 21 (35%) developed full-blown psychosis (more than 75% of them were schizophrenia) in the next 3 years. These newly diagnosed schizophrenic patients might not have long-lasting positive symptoms but still showed significant negative symptoms and

cognitive decline. A short-term very low dose antipsychotic intervention seems to be effective in preventing progression into full-blown psychosis, yet such an approach is still highly controversial and is not recommended as the first line therapy for putative prodrome in international guidelines. Thus we need to find better approaches to tackle this ambiguous clinical entity.

S12-2

Clinical Treatment of Schizophrenia: from Genetics, Animal Study to Drug Development

精神分裂症臨床治療的發展：從遺傳研究，動物實驗到藥物發展

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Many susceptibility genes have been found from linkage and association studies in schizophrenia. We have found several candidate genes using Taiwan schizophrenia samples, including NRG1, DISC1, DAO, CACNG2, etc. These findings point out a novel pathophysiological pathway of this disorder. However, there is still a gap from the gene identification to the new drug development. Here we presented two examples delineating novel treatments of schizophrenia developing from genetic and animal studies. In the study of the mice with the heterozygous deletion of NRG1 (NRG1^{+/-} mice) in comparison with their wild-type littermates, it was found that serotonin hypo-function may be involved in the immobilization symptom of schizophrenia with NRG1 defect. Thus our study implied that serotonin transporter blockers may be beneficial for the treatment of negative symptoms in some subtypes of schizophrenia, especially for the patients with NRG1 defect, which could be

tested by examining specific polymorphism of NRG1 gene. We have identified a novel promoter variant (T C), named NRG1-P3, located on the promoter region of type V NRG1, from a direct sequencing study in Taiwanese schizophrenic patients and found it was significantly associated with schizophrenia in a large case-control sample. Therefore, we conducted a double-blind, randomized, placebo controlled clinical trial comparing 3 groups of schizophrenic subjects, who have no less than moderate degree of negative symptoms and carry the homozygous risk genotype (TT) of NRG1-P3. Patients were randomized to escitalopram 10-20 mg/day, duloxetine 30-60 mg/day, or placebo. Details will be presented in the symposium. The D-amino acid oxidase gene (DAO) had shown significant associations with the schizophrenia in the patients of Taiwan. A risk SNP (DAO-13) composed of haplotype had demonstrated highly significant associations with schizophrenia. The increased DAO expression and activity in the postmortem brain of schizophrenic patients had been reported in several papers. The DAO risk allele type carriers had higher DAO expression than its counter allele type in our patients. Using gene-gene network study for the schizophrenia candidate genes obtained from our genomic study, the DAO has demonstrated as the key factor in the disease network. In the DAO inhibitors (DAOI) assay, we screened 264 chemicals and found 30 chemicals possessing different levels of DAO inhibitory effect. These 30 chemicals were further analyzed for their cellular toxicity and DAO inhibitory effect. The cellular DAO inhibitory assay represented the screening of chemicals which may pass the blood brain barrier. Current lead is the compound number 72 which demonstrates DAO inhibitory effect and low cellular toxicity. Using the mouse animal behavior study of prepulse inhibition (PPI) as an indicator for potential antipsychotic effect, compound number 72 has demonstrated a dose response PPI effect. Details regarding the lead compound number 72 will be discussed in the symposium.

S12-3

Neurophysiological Studies in Schizophrenia: from ERP Viewpoint 精神分裂症的神經生理研究：事件相關電位觀點

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Schizophrenia is a debilitating disorder with heterogenous manifestations and high genetic heritability. Meanwhile, it is also a research paradigm for complex mental disorders. Previous studies consistently revealed several cognitive deficits, which may serve as candidate endophenotype markers for identifying the genes for schizophrenia susceptibility. However, the reliability of some cognitive measurements had been criticized since the schizophrenia patients with negative symptoms usually did not have strong motivation to cooperate with such attention-dependent tests. Therefore, pre-attentional, task-independent, neurophysiological measures are important to explore the underlying mechanisms of schizophrenia. Event-related potentials are currently utilized to study the defects in information processing under the influence of neuropsychiatric disorders. In addition, some event-related potentials are candidate endophenotypes of schizophrenia. For example, sensory gating measures such as P50/ N100 indicate the ability to inhibit intrinsic responses to redundant stimuli. Deviance detection measures, such as MMN (mismatch negativity), represent the ability to facilitate responses to less frequent salient stimuli. In comparison to control subjects, the above auditory ERP (event-related potentials) revealed robust impairments in schizophrenia and some high-risk subjects as well as non-disease relatives of schizophrenia probands. The schizophrenia research team in National Taiwan University Hospital, led by Prof. Hai-Gwo Hwu, utilized auditory event-related potentials to explore subjects with different levels of psychosis, from prodrome, first-episode psychosis to chronic schizophrenia. In this symposium, we will elaborate the role of ERP in bridging genotype (gene, gene expression) and phenotype (human cognition and disorder) during different stages of illness and future impact in brain and mind research.

S12-4**Functional MRI and Diffusion Spectrum Imaging Studies in Schizophrenia: from Symptomatology to Drug Response****精神分裂症的功能性磁振造影及擴散頻譜造影研究：從症狀表現到藥物反應**

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More than one hundred years after the term schizophrenia was first coined, this disorder remains one of the most debilitating and baffling brain diseases. Modern neuroimaging techniques, including fMRI and diffusion spectrum imaging (DSI), have been used to map out brain functional connectivity and microstructural integrity in patients with schizophrenia. This neuroimaging approach helps us understand the complex disorder from a broad neuroscience perspective and provide insights into the underlying pathophysiology and potential treatment strategy. Even in the era of DSM-5, the diagnosis of schizophrenia is still based on symptomatology. However, the underlying neural networks responsible for different symptoms are not clear. Moreover, whether white matter integrity plays a role in the pathogenesis of different symptoms is also not totally clear. In the presentation, we will discuss our research findings and review literature to answer these questions. Although mapping the brain structurally and functionally is attractive and helpful, mapping is not enough if it can not lead to useful treatment for this complex disorder. We usually start to treat schizophrenia long after its pathology becomes manifest. Evidence from previous neuroimaging studies has shown that abnormalities found in patients may reflect a complex and progressive condition that could be best treated at the early phase of illness. Neuroimaging approach, a system-level neuroscience, may be useful in characterizing both genetic and

environmental risk factors for schizophrenia and treatment response for medication. In this talk, we will present our preliminary data and review current advancement in these area.

S13-1

Suicide Prevention in Taiwan

台灣自殺防治現況

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Suicide has been among the top ten causes of death for the consecutive thirteen years since 1997. In order to effectively reduce suicide rate, the Department of Health established National Suicide Prevention Center since 2005. National suicide prevention strategies were set up to apply universal, selective, and indicative multilevel approach. Universal strategy focused at general population and was aimed at reduce suicide ideation, promote mental health, control media reports, control lethal suicide methods, and monitor suicide data. Selective strategy focused at vulnerability group which may be the candidate of suicide, and was aimed at gate keeper of suicide prevention to reduce the risk of suicide attempt. Indicative strategy focused on suicide attempters and provided aftercares to reduce their risk of repetitions. Hotline, National Suicide Surveillance System, hospitals, schools, and army were all important network of suicide prevention.

S13-2

The Effectiveness of Seven – Year Suicide Prevention in Kaohsiung City, Taiwan

高雄市自殺防治七年經驗回顧

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Background/Objectives: The purpose of this study is to evaluate the effectiveness of the Kaohsiung Suicide Prevention Center (KSPC) of Kaohsiung City, Taiwan for seven years.

Methods: We used a modified CIPP evaluation model to evaluate the suicide prevention program in Kaohsiung. Four evaluation models were applied to evaluate the KSPC: a context evaluation of the background and origin of the center, an input evaluation of the resources of the center, a process evaluation of the activities of the suicide prevention project, and a product evaluation of the ascertainment of project objectives. **Results:** The context evaluation revealed that the task of the KSPC is to lower mortality. The input evaluation assessed the efficiency of manpower and the grants supported by Taiwan's Department of Health and Kaohsiung City government's Bureau of Health. In the process evaluation, we inspected the suicide prevention strategies of the KSPC, which are a modified version of the National Suicide Prevention Strategy of Australia. In the product evaluation, four major objectives were evaluated: 1) the suicide rate in Kaohsiung, 2) the reported suicidal cases, 3) telephone counseling. From 2006 to 2012 (merge Kaohsiung city and county into new Kaohsiung city in 2010), the number of telephone counseling sessions (3789, 1821, 1858, 19230, 19494, 35511 and 33651). Because of the increase in reported suicidal cases (1834, 1852, 2100, 2017, 2106, 3581, 3745 and respectively), cases which were underreported in the past, we have increasingly been able to contact the people who need help. During this same time period, the half-year suicide re-attempt rate decreased significantly for those who received services, and the committed suicide rate (20.1, 18.2, 19.0, 18.8, 18.1, 16.8, 18.6 and per 100,000 populations, respectively) also decreased. **Conclusion:** The suicide prevention program in Kaohsiung is worth implementing on a continual basis if financial constraints are addressed.

S13-3

A Reflection on the Legislation of Suicide Prevention Law in Japan and Korea

他山之石：借鏡日本及韓國自殺防治法之立法

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Suicide is one important issue not only in legal, ethical, philosophical, medical, religious field on individual basis, but also in public health, social welfare, national policy on state basis. Any citizen who is not incapacitated from basic rights is well protected against illegitimate and illegal infringement from the state and other person and can do whatever he/she desires to do as he/she wishes as long as he/she does not infringe other citizen's rights. However, in recent years, Asian countries including Japan, Korea, has enacted new laws to prevent suicide and thus intervenes any citizen's autonomous life under the flag of saving lives and human dignity which is insurmountable value in any modern and civilized society. Despite most of persons who committed suicide are inflicted with depression, they are still reasonable and sane without being regarded as mentally ill patient who can be applied to Mental Health Act for involuntary commitment for suicide prevention and self-harm. As a result, is there a leak in current legal network and lack of legal ground to apply to those who attempt to commit suicide? And, furthermore, is there also an imperative need to enact a new law in order to meet persistent and potentially surging higher rate of suicide rate in Taiwan? Is it legitimate and legal to override any suicide-attempter's voluntary decision to die? And, if so, how to enact a new law and envision the drafet? Above issues are to be discussed and explored by way of comparison with the legislation of Suicide Prevention Law in Japan and Korea.

S13-4

Toward Suicide Prevention: A Socio-Cultural, Historical and Legal Perspective

從歷史與文化看自殺防治法律政策

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Background/Objectives: Rising suicide rates have led to the recent drafting of suicide prevention laws in several East Asian countries. Yet the appropriate role of law in reducing suicides is unclear. Exploring the historical, sociocultural, and legal precedents regarding suicides in the East versus the West may help shape public policies aimed at reducing suicide rates. This article attempts to compare and contrast the historical evolution of societal, cultural, and legal responses to suicide in East Asian countries versus the West.

Methods: A history of suicide in East Asian Countries and the West is reviewed through documentary survey, with a specific emphasis on the use of law to address suicide. The role of stigmatization and criminalization in suicide prevention in each of these cultures is discussed via incorporation and comparison of theories of public health, law and stigmatization. Finally, a culturally appropriate suicide prevention law in East Asian countries is proposed.

Results: In contrast with the West, suicide in Confucian-based society was never absolutely condemned, but instead continued to retain a socially accepted role in certain circumstances. The historical progress of deeming suicide as sin, then crime then most of the time mental illness in Western culture, has not had a counterpart in East Asian culture. Recent studies suggest the factors contributing to suicide in East Asian countries appear to differ from those in the West. The use of shame as a deterrent for suicide prevention law is discussed.

Conclusions: Culturally appropriate suicide prevention laws in East Asia should focus on erecting physical and psychological barriers to suicide while also increasing socio-culturally acceptable alternatives for people in extreme distress.

S14-1

The Challenges of Psychiatric Clinical PI-initiated Trials in General Hospital

綜合醫院精神科臨床主持人發起的試驗中所面臨的挑戰

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It is a trend that keeping good research performance for a clinician becomes a basic element regarding the well survival in medical/general hospital. Paper publication and research funding raising are critical to demonstrate that research performance for a psychiatrist in medical center is good enough. Unfortunately, regarding the heavy load of clinical demands, most of psychiatrists in Taiwan felt exhausted in their workplaces, which could damage the potential of academic development. Gradually, it becomes a nightmare for a psychiatrist with few publications. Finally, the carrier development of this psychiatrist in medical center discontinued. Clinical drug trial is the interface between clinical practice and research. Regarding the pharmaceuticals initiated trial; the incentive from physicians' income is more than from paper publication because it is seldom for Taiwanese psychiatrists to become the important authorship, i.e. first or respondent author in international multi-center trials. The PI (principle investigator, most of them are psychiatrists) -initiated clinical trial (PICT) could balance the pressure between publication and clinical demands. The scope of PICT may be divided into three domains such as for new clinical events, new indication / method/ device, or strategy making. However, several obstacles still remained. Inadequate funding, obscure primary objective, lack of advanced technique and insufficiency patient number are the most reasons for failure in PICT. It is important to establish good management system to conduct PICT which is similar to the procedure of clinical quality control in our daily practice. Several key elements are essential for successful PICT such as team cooperation, risk evaluation/ control, research assistant training/ qualification, and regular monitoring the procedure of patient recruitment. Finally, the preparation of research results to be published in SCI journals is the last mile which also needs to be operated as the above mentioned process. The senior staff in medical center should provide more resource and

endorse more role model for junior psychiatrists, which PICT might be a alternative to equip young staff to become not only a well training staff and but also a happy staff at his/her workplace.

S14-2

Psychiatric Clinical Trials in General Hospital

綜合醫院的精神科臨床試驗

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In the past six decades medicine has made great strides in finding effective therapies for mental illnesses. Pharmacological treatment of psychiatric disorder works by altering in some way the chemistry of the brain and body. A cornerstone of the improvements in management in mental health particularly has been the introduction of an acceptable scientific approach to treatment evaluation, i.e. the clinical trial. Clinical trials are also the cornerstone of the modern evidence based medicine movement. At the first beginning clinical trials in psychiatry largely involved the evaluation of drug treatments. More recently psychological therapies and other managements have also been subjected to the clinical trial. Clinical trials are a composite of matters, ethical, practical, and theoretical. The randomized controlled clinical trial has become one of the most important tools. But clinical trials have their own limitations. Broad ethical arguments against clinical trials are now largely recognized as misplaced and misguided. . Designing a clinical trial requires considerable skill and attention. Performing a clinical trial needs team work, accuracy, follow the protocol, and honest. Clinical trials in psychiatric department of general hospital have some differences from mental hospital. It has its pros and cons. It may focus on all kinds of mental disorders, also concerns co-morbidity with medical illness. It may be has some barriers and quite complicated, needs more assessment tools. We can not deny there have some threats, challenges in clinical trials. Nowadays patients mostly no longer accept the notion of self-sacrifice for the common good. Failure to recruit adequate subject numbers is a real threat to many trials and often the reason that many trials get abandoned and left unreported. We have to think can clinical trials in psychiatry be justified?

Are our interventions too complex and individual? Are our subjects too complex? How to handling the conflicts of interests? How to prevent the scandals? What does the future hold for clinical trials in mental health? How to defending the clinical trial? The researcher must keep strict protocol compliance, maintain all source documents properly, write CRFs and queries accurate and complete, ensure subject's safety, do appropriate data analysis, write good quality trial report. All health-care professionals involved in clinical trials should never forget why we design and perform clinical drug trial. Just do it with care and honesty.

S14-3

Experiences of Clinical Trials in Kai-Syuan Psychiatric Hospital

凱旋醫院臨床試驗之經驗

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Frank Huang-Chih Chou, Cheng-Chung Chen

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Objective: Clinical trial is a medical experiment designed to evaluate which of two or more treatments is more effective. There are three main components of a clinical trial including comparison of the treatment group with the control group, a method of assigning patients to the treatment and control groups, and a mean of assessing effectiveness (i.e. a measure of outcome). The purpose of this study was to review the experiences of clinical trials implemented in a public mental hospital. **Methods:** General data of all pharmaceutical company-sponsored trials conducted in Kai-Syuan Psychiatric Hospital between May 1, 2008 and June 31, 2013 were assessed. SWOT analysis was used to evaluate the strengths, weaknesses, opportunities, and threats for clinical trial in a public mental hospital. **Results:** We have accepted 30 pharmaceutical company-sponsored trials since 2008. Among them, 13 trials have been completed finished and 4 trials were end prematurely. We are still having 13 on-going trials. Eight-nine (43.8%) of 203 participants were female and 114 (56.2%) were male. The mean \pm SD age was 47.8 ± 10.9 years. Strengths were relatively large numbers of subjects enrolled, well facility, certificated institutional review board (IRB), successive grants from government. Weakness included limited incentives for busy investigators and

communication problems between different units. However, growing pharmaceutical markets, relative lower cost compared to other developed countries, and new indications or recommended dosage for Asian people were our opportunities. We have to also face the threats like rising competition from other countries, autonomy of the studied subjects and families, and unexpected serious adverse events. **Discussion:** Clinical trials conducted have impacted on many aspects in a mental hospital, for examples, training, protection of subjects, studies, resources allocation, and so on. Transferring the concept of the good clinical practice (GCP) from clinical trials to clinical practice is not only a challenge but and also the ultimate goal for clinicians.

S15-1

Case Analysis of Medical Referrals for Hospitalization from a Large Psychiatric Hospital Due to Gastrointestinal Bleeding

某一大型精神科醫院因腸胃道出血轉診住院之個案分析

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Objective: Patients with schizophrenia and other serious psychiatric conditions experience a significantly increased risk of death from gastrointestinal (GI) illnesses. Proposed mechanisms of raised natural mortality include unrecognized medical disease, unhealthy lifestyle, substance misuse and poor compliance or refusal of treatment for medical disease. GI bleeding is also the second leading cause of medical referrals for hospitalization from Yuli hospital, a large psychiatric institution in eastern Taiwan. This study aimed to survey the clinical characteristics of this patient group in Yuli hospital in hope of finding modifiable causes. **Methods:** Medical records of this patient group were reviewed to register age, bedridden status, use of nasogastric (NG) tube, cigarette consumption, comorbidities, use of SSRI/Aspirin/NSAID, complete blood cell/differential counts, biochemistry profiles and endoscopic findings in Yuli hospital in 2012. For analysis, we further sub-grouped the results according to gender and single/re-admission status of the patients. **Results:** In total, there were 37 patients and 53 admissions (16 patients had 2 admissions) due to GI bleeding. The

estimated annual incidence rate was 2078 per 100,000 population in Yuli hospital in 2012. The male to female ratio was 3.1:1. The percentage of anemia and hypoalbuminemia were 86% and 72% in the male group and 77% and 88% in the female group respectively. Both in male and female, older mean age, a higher percentage of bedridden status and use of NG tubes were observed in the re-admission group than in the single admission group. (Male re-admission vs single admission group: mean age 64 vs 61, bedridden percentage: 77% vs 46%, NG tube: 77% vs 19%; Female re-admission vs single admission group: mean age 76 vs 67, bedridden percentage: 100% vs 80%, NG tube: 85% vs 55%). Both in the male and the female group, the leading two comorbidities were pneumonia and urinary tract infection (UTI). (male pneumonia: 53%, male UTI: 25%; female pneumonia: 33%, female UTI: 33%). The endoscopic findings were predominantly upper GI lesions with 52% gastroesophageal reflux disease, 49% peptic ulcer, 41% gastritis in male and 33% gastroesophageal reflux disease, 33% peptic ulcer, 56% gastritis in female. **Conclusion:** The remarkably higher annual incidence rate of hospitalization due to GI bleeding than in previous reports was postulated to be caused by (1) higher detection rate of GI bleeding (2) older patients with more comorbidities (3) more severe mental illness (4) higher life stress in Yuli hospital. Besides, the study showed poor nutrition and bedridden status were related to GI bleeding. Therefore, we might lessen the risk of GI bleeding by improving patients' nutrition status and by preventing patients from becoming bedridden.

S15-2

Clinical Characteristics of Pneumonia in Patients with Severe Mental Illness

某一大型精神醫院嚴重精神疾患合併肺炎之臨床特徵研究

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Objective: Patients with severe mental illness (SMI) have a increased risk of several physical conditions, such as respiratory illness. Pneumonia is the leading cause of medical referrals for hospitalization from Yuli hospital, a large psychiatric institution in eastern

Taiwan. This study surveyed the clinical characteristics of this patient group in Yuli hospital in order to find clinical modifiable causes of pneumonia in patients with SMI. **Methods:** Out patients with medical admissions due to pneumonia in 2012 were identified from their medical records. We reviewed the demographic data and clinical characteristics which including gender, age, body weight, complete blood cell counts and biochemistry profiles in Yuli hospital. Patients with repeated admission due to pneumonia and patients with single annular admission due to pneumonia were compared and analyzed. **Results:** There were 233 patients and 355 admissions due to pneumonia (70 patients had repeated admissions). Among these patients, male cases were dominant (N=168, 72.1%). Female cases were 68 (27.9%). The gender ratio was compatible with our patient populations. The mean age of these included SMI patients with pneumonia was 62.7 years (62.5 years in male and 63.7 years in female). Their mean body weight was 51.4 kg (52.3kg in male and 49.0 kg in female). The percentage of anemia were 70.8% in the male patients and 56.9% in the female. The percentage of hypoalbuminemia were 47.0% in the male patients and 50.8% in the female. Within those pneumonia patients with repeated admissions, 70 cases were identified. The male case numbers were 56 (male to female ratio was 4:1) which with more dominant in gender differences. The mean age of repeated pneumonia patients was 64.9 years (66.1 years in male and 63.5 years in female). Their mean body weight was 48 kg (47.9kg in male and 48.5 in female). Their percentage of anemia were 78.6% in the male patients and 64.3% in the female. Their hypoalbuminemia percentage was 58.9% in the male patients and 64.3% in the female. **Conclusion:** The findings of this study presented SMI patients with repeated pneumonia had male gender differences, lower body weights, higher percentage of anemia and higher percentage of hypoalbuminemia. Further researches are advised in order to clarify the clinical meanings and implications of these findings.

S15-3

The Weight Control Program in Chronic Mentally Ill Inpatients

住院慢性精神病患體重控制專案

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Objectives: The obesity and its complications are common problems in chronic mentally ill patients. We design this program which included establishment of patient sports groups, diet education and behavior modification. The study is to explore the effect of the 9-month program on the body weight and related factors, such as blood pressure, sugar, TG, and cholesterol. **Methods:** The study included 330 chronic mentally ill inpatients with BMI \geq 24 in a psychiatric hospital in central Taiwan. The samples were divided into an experimental group with 135 subjects and a control group with 195 subjects. The experimental group was assigned to establish sports groups in 8 rehabilitation wards. Each sports group was led by an occupational therapist one hour per week. The individual sports programs were provided by therapist. We encourage the autonomy of the members to make the sports group working spontaneously. We also provide diet education by nutritionist once per month. The control group participated in routine activities. **Results:** After 3 months of sports groups with diet education program initially, the changes in body weight and blood pressure, in pre- and post-test among the experimental and control groups showed significant differences. **Conclusions:** The results demonstrate that the patient sports groups combined diet education program can assist chronic mentally ill inpatients to improve body weight and its complications. The results of this study can be used as a reference in the promotion of weight control programs in chronic psychiatric hospitals in Taiwan.

S15-4

Retrospective Analysis of the Documented Falls in a Psychiatric Center with Healthcare Quality Improvement Program: from 2010 to 2012 品質管理方案下某精神專科醫院有紀錄之跌倒發生密度趨勢分析： 2010 年至 2012 年

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Background: Healthcare Quality Improvement Program has been ongoing for years in the psychiatric center for monitoring several patient safety indicators (PSI). One of the indicators is documented falls in inpatients. Psychiatric inpatient falls are not rare and may lead to injuries and unexpected medical costs. Both of the International Quality Indicator Project (IQIP) and Taiwan Clinical Performance Indicator system (TCPI) take the documented falls as the main indicator. This study aimed to analyze the trend in the documented falls in a psychiatric center from 2010 to 2012 under the Healthcare Quality Improvement Program. We also examine patterns of falling accidents, search processes and subsequent prevention strategies and to explore factors that predict falling accidents among psychiatric inpatients. **Methods:** It was a retrospective analysis of the data in a psychiatric center, gathering samples from Jan.2010 to Dec.2012 by the Patient-Safety Reporting System. In this study, we analyzed the primary data in the database of the Medical Administration Office and had the incidence density (person/day) of documented falls in per person and per month. The demographic characteristics, clinical conditions, diagnosis, and information about all falling accidents, were analyzed descriptively. **Results:** The incidence density dropped from 0.59‰ (2010), 0.51‰ (2011) to 0.42‰ (2012). There were also high variations in wards and doctors in charge. The ward with highest incidence density (2.57‰) was 5 times more than the whole incidence density. Among those documented falls, the incidence density of the patient with high risk (with the history of falling) was 4.20‰, while the incidence density of the ones without previous falling was 0.24‰. Repetitive falling could be a vital issue for further intervention. Most falls happened in schizophrenic patients. However, patients with dementia had higher incidence rate (7.34%) and have increasing gradually in these three years

considering the much smaller proportion of admission. The distribution of age, genders and further analysis of factors were discussed in the text as well as the effectiveness analysis of our interventions. **Conclusions:** The Healthcare Quality Improvement Program has proceeded for years in the psychiatric center. The intervention of each indicator was discussed and modified every year. In the first year we aimed to several strategies of general prevention for falling, while more individual and tailored intervention was conducted in the following years. Further interventions could be tailored and the effectiveness analysis of these interventions could be available.

S16-1

The Applicability of Multi-dimension Assessment Instrument for Long Term Care in Mentally Ill Disables

長期照護保險多元評估量表精神障礙者之適用性評估

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For preparing the long term care insurance, the DOH had developed the “Multi-dimension assessment instrument for long term care” (MDAI-LTC) for assessing the needs of disabilities. There were two stages in this study, first identified peoples needed assistance, then testing the instrument. However, because the needs of severely mentally ill clients might differ from physical disabilities, the instrument need to be further validated. This study had conducted 8 sessions focus group with experts and care givers is to validity and modify the instrument. Then 320 SMI and autism clients and their care givers from different institutions and community were selected for testing. Among those samples, around 90 of them were selected from the sample of previous staging research, they were rated SASMIP (Staging Assessment for Severely Mentally Ill Patient) at the same time, for analysis the criterion related validity of MDAI-LTC. The internal consistence of most MDAI-LTC item is good, Cronbach alpha greater than 0.7, except I.Mental symptoms Only 0.64. After removed 5 less correlated items based on cluster analysis, alpha raised up to 0.72, the acceptable range. Case

cluster analysis was performed by set as 4 and 5 cluster, the concurrent rate of the new clusters compared with actual disability level, clinical rate levels and SASMIP staging were 38-92%. The item responsiveness of MDAI-LTC on different classification category were good, the effect size (Cohen F2) all greater than 0.35. The MDAI-LTC is feasible and valid in assessment mentally ill and autism cases, we suggest modified or removed some less relevant items like delusion or depression.

S16-2

How Effective our Vocational Rehabilitation System Is Regarding to Employment Outcome of People with Psychiatric Disabilities?

職業重建體系對協助精神障礙者就業多有效？

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Assisting people with disabilities back to labor market is the primary goal of vocational rehabilitation (VR) system operated under administration and surveillance by the Bureau of Vocational Training of Labor Council. Data of the Vocational Case Management System kept by the Bureau of Vocational Training revealed that, from 2009 to 2011, the VR system served 4,618 persons with psychiatric disabilities. That is, around 1.3 % to 1.5 % of total population of psychiatric disabilities ever seek for assistance from VR system every year. The number shows huge gap from employment need and provision of employment services. The employment services of VR system included case management, vocational evaluation, sheltered employment, supported employment, vocational training, self-employment, and so on. On average, people stayed in any program for 198.4 days (SD= 154.6). The most utilized services in those years include supported employment (n=1,899), and case management (n=1,826). Sheltered employment programs served 280 persons with psychiatric disabilities. Those numbers reflect the fact that most people were dropped from VR services before having

a positive results. All together, there were 5,331 cases closed due to all sort of reasons. Among them, 1,510 (28.8%) cases were closed due to being successfully employed for more than three months. People with psychiatric disabilities worked in sheltered workshop earned 5,000-6,500 NT\$ per month; people had job via supported employment services earned 16,000 NT\$ monthly on average. Owing to regulation and hiring incentives, the chance that employers would hire people with psychiatric disabilities after job interview could be up to 85% in certain occupations, but the job tenure was short. Only around 30% people could sustain their jobs for more than 3 months. From resource perspective, VR system would be our strongest partner to achieve better employment outcome of people with psychiatric disabilities. From evidence-based research perspective, integration between medical system and vocational rehabilitation system is not only achievable but also feasible to assist people getting back to competitive labor market. The systemic issues will be analyzed, and possibilities and strategies will be proposed in this presentation.

S16-3

Development of Clubhouse Model in Psychiatry Rehabilitation

俱樂部會所在社區精神復健的發展歷程

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In 1948, a small group of people who recently had been discharged from a New York state psychiatry hospital united to create a group known as “We Are Not Alone (WANA).” Initially started as a self-group organization, WANA later evolved into a highly successful and innovative community based program to assist people with mental illness to reclaim the lives and aspirations they had lost during the time of the illness. In the early 1950s, WANA renamed their organization “Fountain House.” The Fountain House program became the template for the Clubhouse Model of Rehabilitation. The Clubhouse Model of Psychosocial Rehabilitation is a comprehensive and dynamic program of support and opportunities for people with severe

and persistent mental illness. In contrast to traditional day-treatment and other program models, Clubhouse participants are called "members" (as opposed to "patients" or "clients") and restorative activities focus on their strengths and abilities, not their illness. The Clubhouse is unique in that it is not a clinical program, rather than their illness. Additionally, all participation in a clubhouse is strictly on a voluntary basis. In Taiwan, we ever established Clubhouse Model. My House, Taipei and My House, Kaohsiung failed after three years effort. Easy Clubhouse and Eden Fountain Clubhouse work well in north Taipei. The symposium will discuss about the rehabilitation model.

S17-1

Neuroscience of Anxiety Disorders and Psychotherapy

焦慮症及其心理治療之神經科學觀

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Anxiety is a common mental symptom, usually mixed with depression, which may be a normal reaction to stress or pathological presentation. The etiological model of anxiety disorders involves genetic and epigenetic factors. The most important environmental correlates during the developmental stages may arise from familial attachment and peer interaction at schools. Secure attachment from caregiver at childhood is a protective factor from anxiety illnesses. The neuroanatomical areas involved in the presentation of anxiety include amygdala, medial prefrontal cortex, and hippocampus. Serotonin and norepinephrine are the main neurotransmitters to affect the function of those areas. Over a period of 20 years, from 1990 to 2010, common mental disorders in Taiwan, including anxiety and depressive illnesses, increased step by step, and the trends of increasing were associated with physical and psychosocial factors. This finding implicated the importance of psychological intervention for anxiety disorders. The presentation will focus on displaying the prevalence of anxiety disorders in Taiwan, the stress-diathesis model of anxiety as well as its neurobiological bases, the cascade of stress reaction in the development of anxiety illness,

how to manage the anxiety disorders including drugs and psychotherapies, and finally elucidate how to integrate drug and psychological therapies from their common pathways in neuroscience. Reference: 1.Rudolph U and Knoflach F:Beyond classical benzodiazepines: novel therapeutic potential of GABAAreceptor subtypesNATURE REVIEWS | DRUG DISCOVERYVOLUME 10 | SEPTEMBER 2011 | 685—697 2.Fu TST*, Lee CS*, Gunnell D, Lee WC, Cheng ATA (2013): Changing trends in the prevalence of common mental disorders in Taiwan: a repeated cross-sectional survey over 20 years. The Lancet2013; 381: 235-41 (*These authors contributed equally to this work) 3.Strathearn L: Maternal Neglect: Oxytocin, Dopamine and the Neurobiology of Attachment. Journal of Neuroendocrinology 2011; 23: 1054-1065 4.Marco TamiettoM, de Gelder B:Neural bases of the non-consciousperception of emotional signals. Nature Reviews, Neuroscience2010; 11:697-709.

S17-2

Dissociation, Trance and Mindfulness

解離、神入與內觀

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Dissociation is a complicated phenomenon, typically defined as the lack of normal integration of thoughts, feelings, and experiences into consciousness and memory. Although non-pathological dissociation is quite common in the general population, dissociative experiences are mostly studied as a risk factors for dissociative pathology. However, the different methodological approaches among the studies developed so far make it difficult to articulate a comprehensive framework for brain activity and cognitive mechanisms in pathological and non-pathological dissociation. Reviewing the scientific literature and according to the clinical observations, we also find there are some overlapping pictures between dissociation, hypnotic trance and mindfulness. In a single case study with positron emission tomography (PET) brain imaging, supporting the view that hypnosis and dissociation might share the common neurophysiological mechanisms. Some researchers such as Lynn & Kirsch, 2006 and Kabat-Zinn, 1994 suggested the similarities between hypnosis

and mindfulness-based approach. Mindfulness-based techniques, like hypnotic suggestions, can be used to promote acceptance and mitigate behavioral avoidance. It seems a paradox that dissociation might be the psychotherapeutic process to treat dissociative disorders. We try to make a comparison between these three phenomena and discussion about their relationship from clinical characteristics, neuroscience findings and psychotherapeutic aspects. Reference: 1.Spiegel D et al.: Dissociative disorders in DSM-5. *Depression And Anxiety* 28:E17-E45 (2011). 2.Halligan PW, et al.: Imaging hypnotic paralysis: implications for conversion hysteria. *Lancet*. 2000 Mar 18;355(9208):986-7. 3.Lynn JL, et al.: Mindfulness, acceptance, and hypnosis: cognitive and clinical perspectives. *Intl. Journal of Clinical and experimental Hypnosis*,54(2):143-166,2006.

S17-3

Mindfulness and Hypnosis to the Treatments of PTSD: Mechanism and Neuroscience Bases

重大創傷後壓力症候群之內觀及催眠治療：機制與神經科學基礎

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The presentation will review evidence-based practices for the treatment of post-traumatic stress disorder (PTSD), including cognitive-behavioral spectrum interventions for PTSD, EMDR, mindfulness and acceptance-based approaches, and the empirical use of hypnosis. Brain area of mindfulness and hypnosis will be reviewed as well. Exposure and desensitization as major mechanisms for psychological interventions with a consolidation in cognitive-behavioral therapy are well-suited to treat the symptoms of PTSD. Hypnosis can be a useful adjunct to evidence-based cognitive-behavioral approaches, including mindfulness and acceptance-based interventions, for treating PTSD will also be addressed.

S18-1

Prevalence and Family Aggregation of Physical Diseases in Families with Recurrent Depression

復發型憂鬱症家屬中身體疾病的盛行率與家族群聚現象

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Backgrounds: There is accumulating evidence that certain common physical diseases are associated with major depression but the causes of such associations remain unclear. In this study, we aimed to compare the prevalence of physical diseases in depressed patients and psychiatrically healthy controls and to investigate familial aggregation of physical diseases and their inter-correlation in families with recurrent depression. **Methods:** A total of 1670 depressed patients from 721 families and 804 controls were interviewed for lifetime history of 16 physical diseases. **Results:** After controlling for age, gender, body mass index (BMI), family membership and multiple comparisons, the following disorders were significantly more frequent in depressed patients: hypertension, hypercholesterolemia, myocardial infarction, asthma, allergic rhinitis/ hay fever, gastric ulcer, osteoarthritis and thyroid disease. Hypertension, hypercholesterolemia, asthma, osteoarthritis and gastric ulcer were familial in depressed patients. Correlational analysis showed that hypertension, hypercholesterolemia and myocardial infarction were associated with each other as was asthma with rhinitis/ hay fever, and hypertension and osteoarthritis with gastric ulcer, hypertension, thyroid disease and osteoporosis. **Conclusions:** We confirmed that patients with recurrent depression have substantially increased rates of several common physical diseases and that familial aggregation of such diseases is significant. Common pathways to both depression and these physical diseases such as hypothalamus-pituitary axis dysfunction, inflammatory processes or a shared genetic contribution might explain the observed comorbidity and familiarity.

S18-2**Omega-3 Polyunsaturated Fatty Acids on Major Depressive Disorder in Patients with Cardiovascular Diseases****Omega-3 多元不飽合脂肪酸對心血管疾病患者共患憂鬱症療效研究**

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Objectives: Depression and cardiovascular diseases (CVDs) exist frequently as comorbid conditions, suggesting their common etiologies. Omega-3 polyunsaturated fatty acids (n-3 PUFAs) play important roles in inflammation and brain functions, and they appear to be a possible interface between depression and CVDs. Cardiovascular diseases (CVDs) and depression have great impact on human health. World Health Organization has pointed out that these 2 conditions will be the 2 top leading causes of disability and premature death in established market economies by 2020. The review is to assess the effects of omega-3 in patients with CVDs comorbid with depression, and focus on different mechanisms, such as inflammation, hypothalamus-pituitary-adrenal (HPA) axis activation, neurotransmission signaling, and lipid raft as the link in-between. **Methods:** We reviewed all recently published papers on n-3 PUFAs, inflammation, HPA axis activation, and lipid rafts to look for their implications in causing CVDs and depression. We also conducted a one year trial of 12 week double-blind placebo controlled study of omega-3 PUFAs in patients with CVD with depression, with lowering of depression symptoms as the primary outcome. The patients received diagnosis of CVD from cardiologist, structured interview for DSM-IV diagnosis of Major depressive episode. Depressive and somatic symptoms were periodically assessed and self-reported during the study, while blood PUFA levels were assessed at the beginning and the end of the study. **Results:** The literature review showed that omega-3 PUFAs has close relations with the etiologies of CVDs and depression individually based on epidemiological studies and neurophysiology and treatment studies. Moreover, lipid raft formations and disruptions are critically important in regulating of neurotransmission signaling and receptor functions, which in turn might be involved in causing depression and CVDs. Besides neurotransmission, n-3 PUFAs have shown to possibly regulate immunity and neuroendocrine

function via lipid raft modulations. **Conclusions:** This review has provided evidences for the role of n-3 PUFAs in causing depression and CVD. We also propose a new hypothesis about cellular mechanisms mediated by lipid rafts. The preliminary data of the study gives more insight on effects of n-3 PUFAs in treating patients with CVD comorbid with depression.

S18-3

Morbidity and Predictors of Depressive Disorders of Caregivers in Patients with Head and Neck Cancer: a 6-month Follow-up Study

一所綜合醫院頭頸癌病患照顧者之憂鬱症罹病率與相關因子：六個月追蹤研究

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Objectives: Many cancer patients' caregivers have high levels of psychological impact and distress. Few prospective studies focused on morbidity of depressive disorder in caregivers of patients with head and neck cancer. This study has two aims: (1) investigate the prevalence of psychiatric disorders in caregivers of patients with head and neck cancer; (2) detect the morbidity and predictors of depressive disorders among caregivers of patients with head and neck cancer after six months follow-up. **Methods:** This study was conducted by a prospective design with consecutive sampling. Study subjects were recruited from outpatient combined treatment clinic of head and neck cancer at Kaohsiung Chang Gung Memorial Hospital. Structured Clinical Interview for DSM-IV (SCID) was conducted by a trained senior psychiatrist to have caregivers' psychiatric diagnosis. One research assistant collected patients' demographic and clinical data, as well as collected caregivers' demographic data, and clinical rating scales, included Hospital Anxiety and Depression Scale (HADS), The Short Form 36 Health Survey (SF-36), and Family APGAR index at the patients' pretreatment, 3-, 6-month follow-up. **Results:** Among the 152 caregivers participated in the study, 76.3% (n=116) were females. The average age of subjects is 47.2 (\pm 11.6) years. Their mean education level was 10.2 (\pm 4.0) years, 76.3% were married, and 57.9% were currently employed. The most frequent cancer sites were the oral cavity (52.0%), nasopharynx (19.7%),

and oropharynx (12.5%). The most prevalent psychiatric diagnoses were the adjustment disorder (15.1%), followed by depressive disorders (14.5%) at initial evaluation. The prevalence of depressive disorder at 6-month follow-up decrease to 12.9%. Nearly one third of caregivers have psychiatric diagnoses before patients received treatment. Sixth months later, psychiatric morbidity of caregivers decreased to 15.9%. At 6-month follow-up, it was found that predictors of depressive disorders included elderly (OR=14.01; 95% CI, 1.19-164.82; $p<0.05$)、hypnotics use (OR=14.08; 95% CI, 2.39-82.80; $p<0.01$), lower family support (OR=1.52; 95% CI, 1.00-2.29; $p<0.05$), lower general health (OR=1.30; 95% CI, 1.02-1.65; $p<0.05$), and lower social functioning (OR=1.62; 95% CI, 1.11-2.37; $p<0.05$).

Conclusions: The clinical implication of this study is to use standardized structure interview for early diagnosis of depressive disorder of cancer patients' caregivers. Furthermore, we can provide proper management for caregivers of head and neck cancer patients to have better quality and dignity of life.

S18-4

Hepatitis C Infection, Interferon Treatment, and Depression

C 型肝炎感染，干擾素治療，與憂鬱症

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Hepatitis C virus (HCV) infection is a serious public health problem that affects around 170 millions people worldwide. A substantial portion of infected patients may develop liver cirrhosis or even hepatocellular carcinoma. Nowadays, HCV is the main cause of cirrhosis and the main indication for liver transplant in the world. Aggressive antiviral treatment, including pegylated interferon-alpha and ribavirin, is required to prevent the progression of the infection to severe consequences. Multiple mental health problems frequently occur in patients with chronic infection with HCV. Of all problems, depression is one the most important complications during antiviral treatment. Depression is associated with lower tolerance to somatic adverse effects, poor treatment compliance, and decreased life quality. Hence, treatment of patients with chronic HCV infection emerges as a new challenge to both liaison

psychiatry and internal medicine. In this review, we are going to summarize current knowledge of HCV infection and the psychiatric complications; prevalence, course, and possible risk factors of interferon-alpha-induced depression and suicide attempt; psychiatric management of HCV-infected patients before and during antiviral treatment. In addition, we will present our own meta-analysis of selective serotonin reuptake inhibitor (SSRI) prophylaxis of interferon-alpha-induced depression in these patients. Early identification of patients at risk of psychiatric co-morbidities, screening for depression before and during antiviral treatment, combined with effective therapeutic strategies should depression occur, will improve adherence rate and viral clearance in patients with hepatitis C.

S18-5

Omega-3 Fatty Acids in Depression Coexisting Physical Manifestation

Omega-3 脂肪酸與憂鬱症合併生理症候的關係

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The unsatisfaction of monoamine-based antidepressant therapy and the high occurrence of somatic symptoms and physical illness in patients with depression imply that the serotonin hypothesis is insufficient to approach the aetiology of depression. Depressive disorders with somatic presentation are the most common form of depression. Somatization, the bodily symptoms without organic explanation, is similar to cytokine-induced sickness behaviour. Based on recent evidence, omega-3 polyunsaturated fatty acids (omega-3 PUFAs, or omega-3 fatty acids) is enlightening a promising path to discover the unsolved of depression, sickness behaviour and to link the connection of mind and body. The PUFAs are classified into n-3 (or omega-3) and n-6 (or omega-6) groups. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), the major bioactive components of omega-3 PUFAs, are not efficiently synthesized in humans and should therefore be obtained directly from the diet, particularly by consuming fish. DHA deficiency is associated with dysfunctions of neuronal membrane stability and transmission of serotonin, norepinephrine and dopamine, which might connect to aetiology of mood and cognitive dysfunction of depression. Likewise, EPA is important in

balancing the immune function and physical healthy by reducing membrane arachidonic acid (AA, an n-6 PUFA) and prostaglandin E2 (PGE2) synthesis, which might connect to the somatic manifestations and physical comorbidity in depression. The role of omega-3 PUFAs in immunity and mood function supports the promising hypothesis of psychoneuroimmunology of depression and provides an excellent interface between “mind” and “body”. The review is to provide an overview of the evidence about the role of omega-3 PUFAs on depression and its common comorbid physical conditions and to propose mechanisms by which they may modulate molecular and cellular functions.

S19-1

Risk Factors for Natural Death among Patients with Methamphetamine Dependence

甲基安非他命依賴者之自然死亡危險因子研究

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Background: Methamphetamine is one of the fastest growing illicit drugs worldwide, causing multiple organ damage and excessive natural deaths. The authors aimed to identify potential laboratory indices and clinical characteristics associated with natural death through a two-phase study. **Methods:** Methamphetamine-dependent patients (n = 1,254) admitted to a psychiatric center in Taiwan between 1990 and 2007 were linked with a national mortality database for causes of death. Forty-eight subjects died of natural causes, and were defined as the case subjects. A time-efficient sex- and age-matched nested case-control study derived from the cohort was conducted first to explore the potential factors associated with natural

death through a time-consuming standardized review of medical records. Then the identified potential factors were evaluated in the whole cohort to validate the findings. **Results:** In phase I, several potential factors associated with natural death were identified, including aspartate aminotransferase (AST), alanine aminotransferase (ALT), comorbid alcohol use disorder, and the prescription of antipsychotic drugs. In phase II, these factors were confirmed in the whole cohort using survival analysis. For the characteristics at the latest hospital admission, Cox proportional hazards models showed that the adjusted hazard ratios for natural death were 6.75 ($p<0.001$) in the group with markedly elevated AST (> 80 U/L) and 2.66 ($p<0.05$) in the group with mildly elevated AST (40-80 U/L), with reference to the control group (< 40 U/L). As for ALT, the adjusted hazard ratios were 5.41 ($p<0.001$), and 1.44 ($p>0.05$). Comorbid alcohol use disorder was associated with an increased risk of natural death, whereas administration of antipsychotic drugs was not associated with lowered risk. **Conclusions:** This study highlights the necessity of intensive follow-up for those with elevated AST and ALT levels and comorbid alcohol use disorder for preventing excessive natural deaths.

S19-2

Risk Factors of Premature Respiratory Mortality in Schizophrenia

精神分裂症患者提早死於呼吸疾病之危險因素

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Background: The respiratory disease has been consistently demonstrated as one principal cause of natural death in schizophrenic patients. Adverse effect of psychotropic agents, pathophysiological, and life style, psychosocial factors may play contributory roles in the mortality outcome. Most studies focus on the factors associated with circulatory rather than respiratory mortality. We attempted to identify risk factors of mortality from respiratory

diseases with less being confounded by substance use. **Methods:** All inpatients diagnosed as schizophrenia (DSM-IV) were followed from date of admission after January 1, 1985, unto December 31, 2008 by record linkage to the Death Certification System in Taiwan, which is issued throughout 2008 or later. Each patients dying from respiratory causes within this period was recruited and matched with one living schizophrenic patient as a control subject for age (± 2 years), sex, and date of admission (± 3 years). We collected variables including demographic data, family history, results of routine laboratory examination, medication status, and clinical characteristics from the medical records that had been formally confirmed at every admission. The cut-off age for premature mortality is defined as less than 65 years old. **Results:** There were 35 patients with schizophrenia dying from respiratory causes at the mean 57.6 ± 6.9 years old. Compared with living matched patients with schizophrenia, they had significantly higher mean values of blood urea nitrogen ($p=0.044$), creatine ($p=0.035$), heart rate on admission ($p=0.028$), and wider QRS complex ($p=0.015$). Multivariate Conditional Logistic Regression showed that higher hear rate on admission and QRS complex were remained associated with higher risk for dying of respiratory causes (95 % CI for odds ratio (OR) =1.00-1.25 ; 95 % CI for OR= 1.01-1.23, respectively). **Conclusions:** In schizophrenia, increased hear rate on admission and wider QRS complex may raise the respiratory mortality. Cardiac dysregulation may also serve as predictors for early respiratory mortality.

S19-3

Risk and Protective Factors for Prematurely Circulatory Mortality in Schizophrenic Patients

精神分裂症患者提早死於循環系統疾病之危險與保護因素

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Background: Patients with schizophrenia are at high risk to prematurely and excessively die from circulatory diseases. The pathophysiology, psychotropic effects, and medical comorbidities may play contributory roles in the mortality outcome of schizophrenia. In this study, we examined the clinical features of schizophrenic patients to find out the factors associated with premature circulatory death. **Methods:** Schizophrenic inpatients were retrospectively followed for cause of death through record linkage to the Death Certification System in Taiwan. Patients dying from circulatory morbidity [ICD 401 - 443] before 65 years old were recruited. Each deceased subject was matched with one living schizophrenic patients for age, sex, and date of index admission. Clinical data and the results of laboratory tests during the latest acute psychiatric hospitalization were obtained by reviewing medical records. **Results:** A total of 80 schizophrenic patients who died from circulatory diseases at mean age of 47.8 ± 10.8 years old were recruited in this study. Conditional logistic regression models revealed that years of second generation antipsychotic use prior to the last visit (95% CI for OR = 0.65-0.91), blood leukocyte counts (95% CI for OR = 1.03-1.43) and blood urine nitrogen levels (95% CI for OR = 1.01-1.21) on the latest acute psychiatric admission, and concurrent cardiovascular morbidity (95% CI for OR = 1.47-8.34) were the variables most strongly associated with circulatory mortality. **Conclusion:** In addition to the concurrent cardiovascular morbidity, systemic inflammation and renal perfusion change during the acute phase of schizophrenic disorder are two main risk factors for early circulatory mortality. Psychopharmacological treatment, mainly the length of second generation antipsychotics therapy, may protect patients from this unfavorable outcome.

S19-4

Increasing Heart Rate and Leukocytes in Acute Phase Predicting Premature Circulatory Mortality in Bipolar Disorder

急性期心跳加速與白血球增多預測雙極症患者提早死於循環疾病

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Objectives: Circulatory diseases are the principal causes of premature mortality in major psychiatric disorder. In addition to well-known risk factors for circulatory morbidity, unique risk factor of premature circulatory mortality in bipolar disorder remains unclear. This study examines personal and clinical characteristics of the bipolar patients in order to identify the factors associated with early natural death from circulatory diseases. **Methods:** Patients with bipolar I disorder (DSM-IV) admitting to a acute psychiatric ward after 1987 were retrospectively followed for cause of death until 2010 through record linkage to the Death Certification System. Patients dying from circulatory causes (cardiovascular diseases [ICD 401-429], cerebrovascular diseases [ICD 430-438], and vascular diseases [ICD 440-443]) before the age of 65 years were enrolled. One living bipolar individual was matched to each deceased patients as a control subject for age, sex, and date of index admission ± 2 years). Clinical data and the results of laboratory examinations during the last period of acute hospitalization were obtained through a review of medical records. The Framingham Risk Score at the last admission was utilized to estimate the 10-year cardiovascular risk of an individual **Results:** There were 35 bipolar patients who died at the mean 47.2 ± 11.7 years old. Based on the Table 1 and 2, conditional logistic regression without considering BMI revealed the variables most strongly associated with premature circulatory mortality were heart rate at the first day of last acute admission (95% CI for odds ratio [OR]= 1.01 to 1.10, $p < 0.025$) and leukocyte of the last acute admission (95% CI for OR= 0.97 to 1.53, $p=0.095$). There is no significance in Framingham risk score (data no shown) and variables of 12-lead electrocardiography between deceased patients and living controls. **Conclusions:** Unique risk factors for circulatory mortality in bipolar patients may exist, unlike Framingham risk score and rate-corrected QT interval (QTc) for general population. Autonomic dysfunction reflected by increasing heart rate and high levels of leukocyte indicating systemic inflammation in the acute phase may predict the early circulatory mortality before reaching geriatric age.

S20-1

The Capacity for Responsibility among People with Mental Retardation 智能障礙者性責任能力探討

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The relationship between mental illness and judicial system is an entangled issue. The responsibility is a very important part of criminal law system. In Taiwan, it was written in the article 19 of criminal code. The definition and the criteria of insanity and diminished responsibility had been revised on Feb. 2, 2005. The people with mental retardation are prone to violate the statutes and to be hurt by others. They could be the criminals, the victims or both to come across to the legal system. Therefore, psychiatrists are invited to provide professional opinion to pursue the due process for those people. The objective of our present is to discuss the situation of people with mental retardation in recent forensic psychiatric evaluation.

S20-2

Mental Retardation and Sexual Offense: Instinct or Mens Rea 智能障礙者與性侵害犯行：本能或惡意

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Mental retardation is one of the most common seen mentally disability in forensic psychiatric evaluation and also the most common seen victims in criminal cases. According to former studies, stealing and sexual offense are the two most frequent criminal behavior committed by people with mental retardation. How could it be possible that people are both offenders and victims of sexual offense? This article is going to explore the characteristics of the retarded sexual offenders and to clarify their offense to instinct or mens rea. Due to the cognitive deficit, the retarded persons showed varied difficulties in social

interaction, they may have some maladaptive behavior to show their interests in other people and unable to foresee the consequence of their behavior. Therefore, it is always a dilemma to decide the rightness of their behavior and the responsibility level of them while doing the forensic evaluation. Besides, people with mental retardation tend to choose younger, weaker or other more vulnerable people than themselves to be the objects, which meant the victims are more likely to be children or mental retarded persons. Both of them may have difficulties to tell the motivation of the “sex offense” which might be an expression of fondness or frankly a sexual assault. In some cases, when both of the victim and the offender are mental retarded; it would be awkward to decide who the victim and who the offender is. We need to revisit the issues so that we could set up efficient and effective programs for the sexual offenders with mental retardation instead of punishment only. Key word: mental retardation, sexual offense, sexual offender

S20-3

PTSD Symptoms of Sexual Offending Victims with Mental Retardation

智能障礙之性侵害受害者創傷後壓力反應初探

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Background: People with mental retardation are often the victims in judicial cases, and whether they have post-traumatic symptoms are always the core issue in the forensic psychiatric evaluation, especially the victims of sexual offense. To set up the commonality to consult during the assessment, we try to explore the PTSD symptoms of the sexual offending victims with mental retardation. **Method:** Subjects who are sexual assault victims with mental retardation from forensic psychiatry evaluation during 2011 to 2013 were included in present study. Then we collected qualitative information for further discussion. **Result:** There are seven subjects fit our criteria. All of them are female and their average age was 15.2 years old. The mental retardation degree of them was between mild to moderate. The offenders included parents, boyfriends and acquaintance. According to their descriptions of emotion and behavior changes after sexual assault events, they usually experienced the fear of person

whose age and appearance look similar to the offenders, they also reported inattention, social withdraw, nervous, vigilance, sleep disturbance, irritable, self-harm behavior and more dependent on caregiver. **Conclusion:** Developmental level is negatively correlated with PTSD risk and the severity of PTSD symptoms. To enhance the reliability of psychiatric diagnoses in people with mental retardation, we are trying to provide some hints when assessing PTSD symptoms. It is suggested that behavior changes (i.e. non-compliance, isolation, self-harm) following sexual abuse may be a common feature. Clinical professionals should pay more attention on behavioral difficulties. In the meanwhile, differentiating behavioral problems from which belonged to mental retardation itself is also needed. **Keywords:** Mental retardation, PTSD, Sexual offense.

S20-4

Forensic Assessment of Sexual Offense Victims with Mental Retardation (Intellectual Disability): Sexual Autonomy of the People with Mental Retardation (Intellectual Disability)

性侵害受害者為智能障礙之鑑定案件：智能障礙者之性自主

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Formerly, based on protection and restriction, various states had penal punishments to sexual encounters with children and juveniles. According similar considerations, sexual encounters with those mentally disorders and mentally retarded were also punished. Lately, advocating of sexual autonomy for the people with mental retardation as basic human right become prevalent. The issues, where there is sexual autonomy for the people with mental retardation and how to assess the sexual autonomy, raised frequently and involve not only concept and assumption but also practical verification of sexual offense. There are different levels and aspects of capacities for the intellectual performance, capacities for competence or sexual autonomy. Therefore, delineation based on mental age or age of competence seems not

to solve the predicament. After reviewed ideas about the sexual autonomy for the people with mental retardation and several arguments in various jurisdictions, the article summarized different criteria about sexual autonomy: understanding of the physical act, understanding of potential consequences, expression of consensus and refusal, understanding the power and irresistible situations involved sexual act and the inappropriate partners with sex. Various criteria yield different impacts on the verification of sexual offense and consensual sex. Broader or higher standards on sexual autonomy will make the assertion of sexual offense easier and convictions more possible. On the other hand, such standards would let the consensual sex between two mentally-retarded persons untenable and make the two persons both criminal! It is exactly the traditional way to deny the sexual autonomy. How to use different criteria and standards becomes major challenge to balance between the protection of the disabilities and advocating of rights. Keyword: mental retardation (intellectual disability), sexual autonomy, forensic assessment.

S21-1

Distinctively Higher Plasma G72 Protein Levels in Patients with Schizophrenia Than in Healthy Individuals

精神分裂症患者比健康者的血漿 G72 蛋白質濃度顯著較高

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Background: NMDA hypofunction is implicated in the pathophysiology of schizophrenia. D-serine, a potent NMDA co-agonist, is metabolized by D-amino acid oxidase (DAAO), which is activated by DAAO activator (DAOA, or named G72). Theoretically, DAOA overactivation leads to NMDA hypofunction. This study examined whether peripheral G72 protein expression is characteristic of schizophrenia. **Method:** G72 protein level was measured in peripheral plasma in patients with schizophrenia and healthy controls in two independent cohorts. Receiver operating characteristic (ROC) curve was conducted to determine the optimal cutoff values of G72 protein level for schizophrenia patients vs. healthy controls. **Results:** In the learning set, the G72 protein level was higher in medicated

schizophrenia patients (mean = 4.43 ± 2.84 , $n = 39$) when compared with healthy individuals (1.17 ± 0.57 , $p < 0.001$, $n = 30$). The optimal cutoff value, 2.017, between age- and gender-matched medicated schizophrenia patients and healthy subjects generated a sensitivity of 0.97 and specificity of 0.93 (area under curve [AUC] of ROC = 0.986). For the testing set, the G72 protein level was higher in drug-free schizophrenia patients (mean = 3.64 ± 1.80 , $n = 27$) than the second group of healthy individuals (1.13 ± 0.58 , $p < 0.001$, $n = 30$). A cutoff of 2.131 differentiated matched drug-free schizophrenia from healthy subjects with a sensitivity of 0.78 and specificity of 0.96 (AUC = 0.896). **Conclusion:** If confirmed by further replication studies, these findings could provide the first peripheral biomarker for schizophrenia to assist its diagnosis.

S21-2

A Randomized, Double-blind, Placebo-controlled Trial of Sarcosine (N-methyl-glycine) in Treatment for Oppositional Defiant Disorder (ODD) Symptomology of Attention Deficit Hyperactivity Disorder

注意力不足過動症合併對立反抗症 (ODD) 兒童使用肌氨酸 (N-甲基-甘氨酸) 之隨機，雙盲，安慰劑控制試驗

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Objectives: Current treatment for attention deficit hyperactivity disorder (ADHD) has limited efficacy for frequently comorbid oppositional defiant disorder (ODD). N-methyl-D-aspartate (NMDA) receptor activity, playing a vital role in mood modulation, can be a potential target of drug development for such illness. This study aims to assess the efficacy and safety of an endogenous glycine transporter-1 (GlyT-1) inhibitor, sarcosine (N-methylglycine), for treatment of ADHD in children. **Methods:** One hundred and sixteen children were enrolled in a 6-week, randomized, double-blind clinical trial to receive

sarcosine (0.03 gm/kg/day) or placebo. The primary outcome measures included inattention, hyperactivity/impulsivity, and oppositional defiant disorder (ODD) subscales of Swanson, Nolan, and Pelham, version IV scale (SNAP-IV-C). **Results:** Sarcosine surpassed placebo in ODD ($p = 0.025$) but not in inattention and hyperactivity/impulsivity subscales by interaction analysis of treatment group and treatment duration using the generalized estimating equation (GEE) method's multiple logistic regression. **Conclusion:** Sarcosine therapy was very well tolerated. This study suggests that the pivotal GlyT-1 inhibitor, sarcosine, be efficacious for treatment of ODD symptoms in ADHD, indicating that GlyT-1 is a novel target for developing new treatment of ADHD's comorbid ODD.

S21-3

A Double-Blind, Placebo-Controlled Trial Assessing the Efficacy of Sorbate for Alcohol Dependence

雙盲安慰劑對照試驗評估 sorbate 對於酒精依賴的療效

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Background: NMDA receptor antagonists have produced mixed results in treatment studies for alcohol dependence. Since glutamate and glycine serve as coagonists at the NMDA receptor, hence, enhancement of co-agonist in favor of glycine instead of glutamate site will modulate the NMDA receptor dysregulation and might be a candidate. Animal studies showed that the glycine enhancement could reduce drinking behavior. D-Serine is more potent than glycine at the glycine site and degraded by D-amino acid oxidase (DAAO). Inhibition of DAAO by DAAO inhibitors (DAOI), such as sorbic acid, leads to an increase in synaptic availability of D-serine and is presumably beneficial in alcohol dependence treatment. **Methods:** Subjects meeting the criteria for alcohol dependence were recruited. Forty-two patients received double-blind potassium sorbate (1500 mg/day), in which dose range has been approved by FDA with a safety profile comparable to table salts, or placebo plus limited psychotherapy sessions for 12 weeks. We compared craving, the primary outcome measure,

as well as other drinking variables, depression/anxiety symptom severity, cognitive performance, and tolerability profile between two treatment groups at week 1, 2, 4, 8, and 12.

Results: Subjects receiving sorbate (n = 24) had significantly lower craving scores compared to controls (n = 18). The other outcome measurements were comparable between two groups, including the alcohol drinking variables, severity of alcohol dependence, and depression and anxiety ratings. Potassium sorbate was well-tolerated with side effects similar to placebo group. **Conclusion:** Our study suggests that the sorbate, a DAOI, is potentially efficacious in reducing alcohol craving, however, lacks significant benefit on relapse prevention or decreasing cognitive impairment or anxiety/depressive symptoms in our limited sample size of alcohol dependent subjects. The data also supports NMDA dysregulation might play a role in alcohol craving.

S21-4

A New Hypothesis for Antidepressants: Balance of NMDA Function

憂鬱症治療之新假說 — 恆定 NMDA 功能

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Objectives: Dysfunction of glutamatergic system has been implicated in the pathophysiology of depression. The concept of hyperactivity of the NMDA receptor for glutamate is supported by NMDA antagonists' antidepressant effect. Interestingly, enhancing NMDA function can also improve depression-like behaviors in rodent models and major depression in humans. The current study aims to elucidate the seemingly discordant findings. **Methods:** We investigated the expression of NMDA and AMPA receptors in the hippocampus of rats treated with an NMDA antagonist (ketamine), NMDA agonists (D-serine, D-alanine), and a tricyclic antidepressant (desipramine) at the doses with antidepressant-like effects. **Results:** Up-regulation of hippocampal phosphorylated NMDA receptor at NR-1 serine-897 site and AMPA receptor at GluR1 serine-845 site (the key factor in the fast-acting antidepressant effect of ketamine) were uniformly found for D-serine, D-

alanine, and ketamine. **Conclusion:** We therefore propose a new balance model. At the appropriate dose and time, both NMDA agonists and antagonists may exert common antidepressant-like effects via rapid activation of mTOR-mediated signaling pathways. This model may help in understanding human mood and developing novel antidepressants.

S22-1

The Correlation between Oxytocin Receptor Gene rs53576 Polymorphism and Striatal Dopamine Transporter Availability in Healthy Volunteers—a SPECT Study

運用單光子放射斷層掃描探討健康受試者催產素受體 rs53576 多型性與紋狀體多巴受體可用性之相關性研究

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Background: Evidence has shown that the oxytocinergic and dopaminergic systems interact in the brain to regulate associated behavior. The current study aimed to investigate the correlation between a common single nucleotide polymorphism (SNP) (rs53576) in the oxytocin receptor (OXTR) gene and striatal dopamine transporter (DAT) availability in healthy volunteers. **Methods:** The DAT availability in ninety-five healthy subjects was approximated using single photon emission computed tomography (SPECT) with [99mTc] TRODAT-1. Their OXTR rs53576 polymorphism was genotyped and oxytocin level was measured. **Results:** The striatal DAT availability in the AG+GG group was significantly lower than that in the AA group (2.08 ± 0.47 vs. 1.90 ± 0.32 , $p = 0.04$). Furthermore, only individuals with one or two copies of the G allele of rs53576 showed a negative correlation between DAT availability and oxytocin level ($r = -0.41$ $p = 0.002$). **Conclusions:** The results indicated that genetic variation of OXTR might modulate the interaction between the oxytocinergic and dopaminergic systems.

S22-2**Borderline Personality Disorders and Refractory Major Depression:
Neuroimaging Updates****邊緣型人格障礙與阻抗型重鬱症：神經影像學新知**Cheng-Ta Li^{1,2}李正達^{1,2}¹ Department of Psychiatry, Taipei Veterans General Hospital, Taiwan² Division of Psychiatry, School of Medicine, National Yang-Ming University, Taiwan¹ 台北榮民總醫院精神部 ² 國立陽明大學醫學系精神學科

Borderline personality disorder (BPD) is characterized by mood instability, high impulsivity and instability of interpersonal relationship. High comorbidities of mood disorders such as depression and bipolar disorders have been found in patients with BPD. Whether BPD with or without mood disorders are challenging clinical problems in term of effective treatments for psychiatrists. With the advent of neuroimaging tools, more and more evidences have been disclosed that BPD has brain structural and functional abnormalities in brain regions such as prefrontal cortex, anterior cingulate cortex, amygdala, insula. Fronto-limbic dysregulation is involved in the central mechanisms in BPD. All of the identified regions in BPD overlap with that found in depression and other mood disorders. Although BPD with comorbid with depression frequently showed poor responses to sequential antidepressant treatment, the central mechanisms of BPD seems to differ from that of medication-refractory depression. In this presentation, we would like to demonstrate recent advances in the finding of central pathophysiology involved in refractory depression and also review brain abnormalities engaged in BPD. The links between depression and BPD and potential treatment effects from psychotherapeutic intervention will also be discussed.

S22-3

The Difference of fMRI Signal between Right and Left Amygdalae in Major Depressive Patients under Antidepressant Treatment

接受抗憂鬱劑治療病人之左右杏仁核功能性核磁共振訊號差異分析

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Objectives: Major depressive disorder (MDD) is a serious mental disorder associated with disability, significantly impairs quality of life, however, the neurophysiology of major depression remains relatively uncharacterized. The purpose of this study is to determine whether there are differential amygdala responses to emotional stimuli in depression and whether they are related to specific emotions or response to antidepressant treatment.

Methods: Activation of amygdala to negative emotions has ever been proposed as a biomarker for negative emotion processing bias underlying depressive symptoms. Previous neuroimage studies of emotion processing have reported signal changes in amygdala activity. Lateralization of amygdala activity consistently observed implies differential contribution of right and left amygdalae to affective information processing. However, it remains inconclusive whether left or right amygdala plays a more important role in emotional processing in depressed patients. In this study twenty patients with unipolar depression and twenty healthy comparison subjects underwent emotion processing task during fMRI.

Results: The results showed that the difference between right and left amygdalae of the patients after treatment were higher than that before treatment, and the variation of the left amygdala were larger than that of the right amygdala. **Conclusions:** We found the responses between the right and left amygdalae were not different in time series stimulations, but it was raised after antidepressant treatment for each emotion. In the future, methods of signal processing will be applied to evaluate the feature and difference of BOLD signals in emotion

detection. **References:** 1.Zhong M, et al: Amygdala hyperactivation and prefrontal hypoactivation in subjects with cognitive vulnerability to depression. *Biological Psychology* 2011, 88:233-242. 2.Canli T, Cooney RE, Goldin P, Shah M, Sivers H, Thomason ME, et al: Amygdala reactivity to emotional faces predicts improvement in major depression. *NeuroReport* 2005, 16:1267-1270. 3.Shin LM, et al: A functional magnetic resonance imaging study of amygdala and medial prefrontal cortex responses to overtly presented fearful faces in posttraumatic stress disorder. *Arch Gen Psychiatry* 2005, 62:273-281.

三、工作坊

W01-1

DSM-5 Workshop: Anxiety, Trauma and Stressor Related Disorders

DSM-5 工作坊：焦慮及創傷和壓力相關疾患

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Anxiety disorders in DSM-IV have been separated into anxiety disorders, obsessive — compulsive and related disorders, and trauma- and stressor-related disorders in DSM-5. Anxiety disorders in DSM-5 include separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, and generalized anxiety disorder. Selective mutism and separation anxiety disorder are now classified as anxiety disorders rather than disorders usually first diagnosed in infancy, childhood, or adolescence. The criterion indicating a person with specific phobia or social anxiety disorder to recognize that the fear is excessive or unreasonable are now replaced with criterion that the fear or anxiety is out of proportion to the actual threat. The generalized subtype of social anxiety disorder is deleted and performance only subtype is added. Panic disorder and agoraphobia are now listed as two separate and distinct mental health disorders and different from DSM-IV that panic disorder was diagnosed as occurring with or without agoraphobia. The criteria of generalized anxiety disorder remain virtually identical between the previous DSM-IV and DSM-5. Trauma- and stressor-related disorders include disorders in which exposure to a traumatic or stressful event is listed explicitly as a diagnostic criterion. Because variable expressions of clinical distress following exposure to catastrophic or aversive events, reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder, acute stress disorder, and adjustment disorders are grouped under trauma- and stressor-related disorders. Reactive attachment disorder is moved from disorders of early onset to this category. Disinhibited social engagement disorder is further distinguished from reactive attachment

disorder, corresponding to disinhibited attachment disorder of childhood in the ICD-10. Criteria for posttraumatic stress disorder and acute stress disorder now specify whether the traumatic event is experienced directly, is witnessed or is indirectly experienced. Furthermore, both disorders include emotional reactions to a distressing event other than fear. The dissociative symptoms may occur, but are not required for a diagnosis of acute stress disorder. There are four symptom clusters for PTSD instead of the three in DSM-IV. Adjustment disorder has been more specifically defined as a stress-response problem following traumatic or non-traumatic events. The criteria for adjustment disorders do not change much but are more specifically regarded as a stress-response problem and taking into account the external context and cultural factors. The most important change of this topic in DSM-5 is the reorganization of diagnostic categories. There are minor changes in the criteria of most disorders discussed here.

W01-2

Obsessive-Compulsive and Related Disorders

強迫症和相關疾病

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One of the new chapters of DSM-5, obsessive-compulsive (OCD) and related disorders, includes OCD, body dysmorphic disorder, and trichotillomania /hair pulling disorder and four new disorders - hoarding disorder, excoriation/skin picking disorder, substance- /medication-induced obsessive-compulsive and related disorder, and obsessive-compulsive and related disorder due to another medical condition. These disorders have similarities in clinical features, such as preoccupations and repetitive behaviors. Distinguishing between disorders can be difficult because of symptom overlap. This talk would cover differences between DSM-5 and DSM-IV criteria and concise introduction to the new disorders.

W01-3

Mood Disorder

情緒障礙症

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The changes of criteria for mood disorder between DSM-IV and V are not significantly different. The criteria of manic episode is still keeping in seven items and not as previously mentioned that it will stress the important of motor activity. The dichotomy of bipolar disorder is maintained. A new supplement called specifier which is aiming to clarify the mixed state. A new category in depressive disorder is “disruptive dysregulation mood disorder” which is exactly the same as the diagnosis in child is inserted in this category. We prefer not to use this diagnosis in adult. It is worthy to mention that there is a clear definition of severity in this disease including mild, moderate and severe. Overall, the changes are not significant. In this presentation I will point out the difference between these two versions.

W02-1

Balint Group for Psychiatrists

巴林團體

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Since 1945 Michael Balint (1896~1970) began a General Practitioners’ group in the Tavistock Clinic, London, UK to discuss doctor-patient relationship. Since then this so called “Balint group” became an important vehicle for many physicians in Europe and North America to cope with their difficulties in the relational issues encountered in the medical practice. In each session of the Balint Group a case is presented by one of the participants.

Through questioning the other participants get an impression about the patient and the relationship between him/her and the presenter. Then the participants other than the case-presenting physician discuss about the case, raising their association, fantasy and sometimes suggestions about the case. The aim is to sensitize the doctor to transference and counter-transference in the “retroactive action” of the consultation, to give the doctor psychotherapeutic qualities, and thus to achieve a “considerable though limited change in the doctors personality” to enable the doctor to better understand and help patients (Balint, 1957, p. 121). The author plans to organize an “in vivo” Balint Group to help psychiatrists in Taiwan “taste” this group. The co-author will demonstrate another session of Balint Group to let other psychiatrists who cannot attend this session have second opportunity. We hope that more psychiatrists can hold such a group in their practices or hospitals in order to help doctors of other specialties improve their relationship with their patients.

W03-1

The Conceptual Changes of Dissociative Disorders from DSM-IV-TR to DSM-5

解離症從 DSM-IV-TR 到 DSM-5 概念上的改變

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I present this article with reviewing clinical, phenomenological, epidemiological, cultural and neurobiological findings related to the dissociative disorders (DDs) to generate an up-to-date, evidence-based set of DDs diagnoses and diagnostic criteria change from DSM-IV-TR to DSM-5. First part, I review the definitions of dissociation and the differences between the definitions of dissociation and concepts of DDs in the DSM-IV-TR and the DSM-5. Second part, I review a series of questions related to the DSM-5 DDs and discuss about diagnostic criteria issues include: 1. Should Depersonalization Disorder remain in the DSM-5 DDs section, or should it be moved to another section of the DSM-5? (such as a symptom of anxiety disorders, personality disorders or psychotic disorders). What is the relationship between symptoms of depersonalization and derealization. 2. Should Dissociative

Amnesia continue to be conceptualized as a DD, or should it be included in another section such as Acute Stress Disorder or Posttraumatic Stress Disorder. 3.Does the data support Dissociative Fugue as a separate diagnostic category ? 4.Should the diagnostic criteria for Dissociative Identity disorder be changed? (monothetic/polythetic form?) 5.Should Dissociative Trance Disorder be conceptualized as a specific DD in DSM-5? 6.Reviewing the recent neurobiological data to support the diagnostic categories of the DDs. **Reference:** 1. Spiegel D et al.: Dissociative disorders in DSM-5. *Depression And Anxiety* 28:E17-E45 (2011). 2.American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders DSM-5*. 5th editor. Washington DC: American Psychiatric Press;2013. 3.American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR*. 4th editor. Washington DC: American Psychiatric Press;2000.

W03-2

Substance-Related and Addictive Disorders

物質相關及成癮障礙症

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Substance use disorder is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems. Substance-related disorders encompass 10 separate classes of drugs: alcohol, caffeine; cannabis; hallucinogens (phencyclidine and other hallucinogens); inhalants; opioids; sedatives, hypnotics and anxiolytics; stimulants (amphetamine-type substance, cocaine, and other stimulants); tobacco; and other (unknown) substances. All drugs that are taken in excess have in common direct activation of the brain reward system, which is involved in the reinforcement of behaviors and the production of memories. They produce such an intense activation of the reward system that normal activities may be neglected. The substance-related disorders are divided into two groups: substance use disorders and substance-induced disorders (intoxication, withdrawal, and other substance/medication-induced mental disorders). There are several major revisions on DSM-5. The major change is combining

substance abuse and dependence into one disorder. This disorder is a problematic pattern of substance use leading to clinically significant impairment or distress, as manifested by at least two criteria occurring within a 12-month period. There are 11 criteria including: taken large amount, persisted desire, time spending in substance, resulting failure in major role, continued use despite social or interpersonal problems, given up social or occupational or recreational activities, recurrent substance use in situations in which it is physically hazardous, continued use despite physical problems, tolerance, withdrawal, and craving. Second, gambling disorder is included into this chapter for reflecting evidence that gambling behaviors activate reward systems similar to those activated by drugs of abuse and produce some behavioral symptoms. This workshop, we will discuss the major change between DSM-IV and DSM-5, and compare these with ICD-10-CM.

W03-3

Personality Disorders

人格障礙症

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Although a lot of efforts have been made, the APA Board of Trustees designated the proposed model as an “Alternative DSM-5 Model for Personality Disorders” by the APA DSM-5 Task Force, to be placed in Section III (“Emerging Measures and Models”) of DSM-5, allowing time for additional research and for clinicians to become familiar with this new diagnostic approach¹. In the process of revision, a broad consensus has evolved that the personality disorders might better be conceptualized dimensionally, as extremes on a continuum with non-pathological personality traits, rather than as discrete illnesses defined in the language of the medically familiar categorical disease model. As a result, a hybrid categorical-dimensional model that represented personality disorders as combinations of core personality dysfunctions and various configurations of maladaptive personality traits. As a matter of fact, in an article² published recently, 337 mental health clinicians were asked to compare criteria of personality disorders between DSM-IV-TR and DSM-5. Results

demonstrated that diagnostic rules could be derived that yielded appreciable correspondence between 2 editions—correspondence greater than that observed in the transition between DSM-III and DSM-III-R personality disorders. However, Livesley suggested³ that an adequate system should have an explicit and coherent conceptual structure, be based on the best available scientific evidence, possess clinical utility, and be as parsimonious as possible. The DSM-5 proposal did fail to meet these criteria. To resolve the dilemma, the following two questions should be considered: (1) what diagnostic information best predicts prognosis and outcome, and (2) what information do clinicians need to identify treatment targets and select treatment methods? Livesley claimed that future revisions need to follow a more rigorous and systematic process. First, the problems with the existing classifications need to be analysed and documented along with relevant evidence. Second, alternative ways to address these problems should be formulated, each supported by documented evidence. Third, the basic assumptions, principles and models that guided the formulation of alternative classifications should be specified. Fourth, the revised classification should be specified along with documentation of the evidence and arguments used to make critical decisions. **Reference:** 1. Oldham J: Personality Disorders and DSM-5. *J Psychiatr Pract* 2013; 19:177. 2. Morey LC, Skodol AE: Convergence between DSM-IV-TR and DSM-5 Diagnostic Models for Personality Disorder: Evaluation of Strategies for Establishing Diagnostic Thresholds. *J Psychiatr Pract* 2013;19:179-93. 3. Livesley J: The DSM-5 personality disorder proposal and future directions in the diagnostic classification of personality disorder. *Psychopathology* 2013; 46:207-216.

W04-1

DSM-5, What Changes Mean?

DSM-5，新的改變帶來的新思維？

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DSM-5 makes some changes in the diagnostic concept in child psychiatry, one of the most highly debated changes include the elimination of Asperger's syndrome. DSM-5 groups

all of the subcategories of autism into a single category known as autism spectrum disorder (ASD). This move effectively eliminates previously separate diagnoses of autism — including autistic disorder, Asperger’s disorder, childhood disintegrative disorder and pervasive development disorder “not otherwise specified” (PDD-NOS). In DSM-5, the diagnosis of autism is based on a sliding scale concept, meaning the patient will be diagnosed somewhere along the autism spectrum, given the personal severity of the patient. In the past, there are three categories of symptoms associated with ASD: language problem, social problem, and restricted and repetitive behavior. In DSM-5, language and social deficits will be combined into one category. Language and social deficits are not separable and sometimes indistinguishable. It is hoped that with these new criteria, the diagnoses of ASD will be more specific, reliable and valid. The new diagnostic concept will refine the way clinicians diagnose autism, by recognizing the difference between patients, rather than generalizing them into four categories. Should the sliding scale concept extend beyond ASD patients? Is there also a sliding scale type of difference between “normal/ abnormal” and “mentally challenging / mentally healthy” people?

W04-2

DSM-5 Mild Neurocognitive Disorder

DSM-5 輕型認知障礙症

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In the formal version of DSM-5, there are several major changes for the cognitive disorders in the DSM-IV-TR (delirium, dementia, and amnesic disorders), including (1) dropping the term “dementia” entirely, (2) adding a new diagnostic category titled “mild neurocognitive disorder (MND),” (3) explicitly categorizing the syndromes of psychosis and depression previously described for Alzheimer’s disease but not mentioned in the DSM-IV, and (4) provision of assessment techniques for the specific cognitive domains of impairment in great details.

“Age-related cognitive decline (ARCD)”, appearing in DSM-IV “other conditions that

may be a focus of clinical attention”, would now appear under MND in the DSM-5. Terms such as ARCD, cognitive impairment not dementia, mild cognitive impairment (MCI), amnesic MCI, and non-amnesic MCI—which have variable criteria but are often considered a prodrome of dementia—would now be listed as a MND. Identifying MND as a DSM diagnosis reflects a growing consensus that MCD is often the early phase of dementia (now renamed as “major neurocognitive disorder”). The recent scientific advancement of biological markers in Alzheimer’s disease (AD) lends support to a new diagnosis, MND, reflecting prodromal phase of dementia.

A diagnosis of MCD can be subcategorized into different etiology, such as AD, vascular disease, fronto-temporal lobar degeneration, Lewy body disease, traumatic brain injury etc. However, many people considered to have MCD never develop major neurocognitive disorder. Many people now oppose the MND diagnosis for the fear that the DSM-5 diagnosis could lead doctors to prescribe medication to older patients experiencing the normal age-related decline in mental ability.

In this talk, I will review the historic background of the concept of MND, its proposed diagnostic criteria, and then discuss related issues including the pros and cons related to this diagnosis.

W04-3

New Diagnosis of Major Neurocognitive Disorder in DSM-5

DSM-5 新診斷：認知障礙症

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In the formal version of DSM-5, there are new concepts raised for the major neurocognitive disorders (NCD) in the DSM-5, including (1) dropping the term “amnesic disorders” in “delirium, dementia, and amnesic disorders” category in DSM-IV and merging amnesic disorders with major neurocognitive disorder, (2) adding new neurocognitive domains comprising “complex attention”, “executive function”, “learning and memory”, “language”, “perceptual motor”, and “social cognition” (3) widening of major NCD concept

in comparison with dementia in DSM-IV or ICD-10 due to decline of any 1 domain is sufficient to make major NCD diagnosis, (4) amnesia is not the core symptom in major NCD, and (5) adding new diagnostic criteria of “major NCD with Lewy body” and “major frontotemporal NCD in addition to major NCD due to Alzheimer’s disease, major vascular NCD, major NCD due to traumatic brain injury, substance/ medication-induced major NCD, and major NCD due to HIV infection, prion disease, Parkinson’s disease, Huntington’s disease, another medical condition, and multiple etiologies.

In this speech, the further impact of major NCD in DSM-5 about clinical services, research and public health polices about how to prevent and manage persons with dementia will be discussed.

W04-4

Catatonia: a New Independent Diagnostic Subclass in DSM-5

緊張症：DSM-5 一個新獨立次診斷群

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Background: Catatonia is categorized as a new independent diagnostic subclass in DSM-5. In Taiwan, the cases reports and systematic study of catatonia is rare, Therefore, we hope to investigate the following 3 important issues associated with catatonia: 1-Why does catatonia is categorized as an new independent diagnostic class in DSM-5 ? 2-How could we approach catatonia via the principles of brain science and medicine ? 3-What impact will it take place after Catatonia is categorized as an new independent diagnostic class in DSM-5?

Methods: We collected the documents of DSM-V Psychosis Work Group reference associated with catatonia, and then organized final reports for the above 3 important issues.

Results and Conclusions: 1-More than 135 years after its birth, catatonia is now recognized as an identifiable and treatable syndrome. Its characteristics are well defined, a simple test verifies the diagnosis and the treatments of high-dose benzodiazepines and ECT are remarkably effective and safe. Therefore, Catatonia is categorized as a new independent diagnostic subclass in DSM-5; 2-Catatonia is defined by the presence of three or more of 12

psychomotor features; 3-The essential features of catatonia is a marked psychomotor disturbance that may motor activity, decreased engagement during interview or physical examination, or excessive and peculiar motor activity; 4-The 12 clinical pictures of catatonia include: stupor, catalepsy, waxy flexibility, mutism, negativism, posturing, mannerism, stereotypy, agitation(not influenced by external stimuli), grimacing, echolalia, echopraxia; 5-The manual recognizes 3 types of catatonia: a) catatonia associated with another mental disorder, b) catatonic disorder due to another medical condition, c) unspecified catatonia; 6- We believe the incidence of catatonia will increase because of the establishment of catatonia, and the treatment modalities also will raise up after catatonic cases amplify.

W04-5

The Variant of Schizotypal Personality Disorder in DSM-5 and ICD-10

準精神分裂症在 DSM-5 與 ICD-10 中版本的差異

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A a early as 1904, Kraepelin has notified the eccentric personalities associated with the patients with dementia praecox and their relatives. In 1911, Bleuler took the vignette of monograph on schizophrenia, and mentioned a light form of schizophrenic syndrome. Later on, Paul Meehl first introduced the term of “schizotaxia” in 1962. He proposed that schizotaxic individuals would eventually develop either schizotypy or schizophrenia, depending on genetic predisposition to schizophrenia and/or subsequent environmental insults. The category of schizotypal disorder was introduced into classification in 1980 (APA DSM-III) and in 1992 (WHO ICD), although the concept of subclinical forms of schizophrenia coexisted with itself from its emergence with various designations. There is one problem confronting clinical practices, that the concept of schizotypal disorder is ambiguous in its entity and dose not always come to medical attention. Nowadays, schizotypal (personality) disorder, SPD, B01, in DSM-5 is considered within the schizophrenia spectrum disorder, though its full description is found in the frame of a specific personality disorder. Particularly in response to stress, individuals with SPD may experience transient psychotic

episodes, which lasting minutes to hours. In SPD, the duration of psychotic symptoms is not warranted the presence of criteria for brief psychotic disorder or schizophreniform disorder. Therefore, the concept of SPD in DSM-5 became associated with the premorbid, neurobiological substrate of schizophrenia, not with a clinically meaningful syndrome, but an aspect of a vulnerability reflected by genetic and environmental liability. In the contrary, individuals with ICD-10 schizotypal disorder, StD, F21.0, represent a syndrome similar a milder, less psychotic, variant of schizophrenia but no clear-cut division between the two disorders. StD may present an occasional, transient quasi-psychotic episodes, known as “latent schizophrenia”, as well as converted into a gradually full-blown schizophrenic entity. The purpose of this illustrative is twofold: (a) to presents detailed psychopathological profiles of individuals with schizotypal disorder; (b) to compare the ambiguous entity of schizotypal disorder between two divergent disease classifications, DSM-5 and ICD-10. **Reference:** 1. Rajiv Tandon and William T. Carpenter, Jr, DSM-5 Status of Psychotic Disorders: 1 Year Prepublication, *Schizophrenia Bulletin* 38 (2012) no. 3, 369-370. 2. Jeffrey S. Bedwell, Reesa S. Donnelly, Schizotypal personality disorder or prodromal symptoms of schizophrenia? *Schizophrenia Research* (2005), 80, 263- 269. 3. Ming T. Tsuang, William S. Stone, Stephen V. Faraone, Schizophrenia: vulnerability versus disease, *Dialogues in clinical Neuroscience* (2000), vol 2, No3, 257-66. 4. Peter Handest, Josef Parnas, Clinical characteristics of first-admitted patients with ICD-10 schizotypal disorders, *British Journal of psychiatry* (2005), 187 (suppl.48), s49-s54.

W05-1

Sleep-wake Disorders in DSM-5

DSM-5 的睡醒障礙症

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The DSM-5 classification of sleep-wake disorders is intended for use by general mental health and medical clinicians. It represented an effort to simplify sleep-wake disorders classification. Now, we acknowledge the need for dimensional assessments of sleep-wake

disorders, to capture severity, as well as behaviors that may contribute to the genesis and persistence of sleep-wake disorders. The DSM-5 will continue the journal of the DSM-IV to a simpler and more clinically useful approach to diagnosis. DSM-5 change the sleep disorders to the sleep-wake disorders, and it encompass 10 disorders or disorder groups: insomnia disorder, hypersomnolence disorder, narcolepsy, breathing-related sleep disorders, circadian rhythm sleep-wake disorders, non-rapid eye movement (NREM) sleep arousal disorders, nightmare disorder, rapid eye movement (REM) sleep behavior disorder, restless legs syndrome, and substance/medication-induced sleep disorder. Individuals with these disorders typically present with sleep-wake complaints of dissatisfaction regarding the quality, timing, and amount of sleep. Resulting daytime distress and impairment are core features shared by all of these sleep-wake disorders. In DSM-5, the DSM-IV diagnoses named sleep disorders related to another mental disorder, other sleep disorders have been removed, and instead greater specification of coexisting conditions is provided for each sleep-wake disorder. The diagnosis of primary insomnia has been renamed insomnia disorder to avoid the differentiation between primary and secondary insomnia. DSM-5 distinguishes narcolepsy (now known to be associated with hypocretin deficiency) from other forms of hypersomnolence disorder. Throughout the DSM-5 classification of sleep-wake disorders, pediatric and developmental criteria and text are integrated where existing science and consideration of clinical utility support such integration. Breathing-related sleep disorders are divided into 3 relatively distinct disorders: obstructive sleep apnea hypopnea, central sleep apnea, and sleep-related hypoventilation. The subtypes of circadian rhythm sleep disorders are expanded to include advanced sleep phase type and irregular sleep-wake type, whereas the jet lag type has been removed. The use of former “not otherwise specified” diagnoses in DSM-IV have been reduced by elevating rapid eye movement sleep behavior disorder and restless legs syndrome to independent disorders. Substance/medication-induced sleep disorder, other specified insomnia disorder, unspecified insomnia disorder, other specified hypersomnolence disorder, unspecified hypersomnolence disorder, other specified sleep-wake disorder, and specified sleep-wake disorder are the new terms in DSM-5.

W05-2

Somatic Symptom and Related Disorders—an Introduction

簡介「身體症狀及相關障礙症」

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Somatic symptom disorder and other disorders with prominent somatic symptoms constitute a new category in DSM-5 called somatic symptom and related disorders which include the diagnoses of: 1. Somatic symptoms disorder, 2. illness anxiety disorder, 3. conversion disorder (functional neurological symptom disorder), 4. psychological factors affecting other medical conditions, 5. factitious disorder, 6. other specific somatic symptom and related disorder and 7. unspecified somatic symptom and related disorder; all these disorders share a common feature: the prominence of somatic symptoms associated with significant distress and impairment. The DSM-IV term somatoform disorders was confusing and is replaced by somatic symptom and related disorders which emphasizes diagnosis made on the basis of positive symptoms and signs (distressing somatic symptoms plus abnormal thoughts, feelings and behaviors in response to these symptoms) rather than the absence of a medical explanation for somatic symptoms. However, medically unexplained symptoms remained a key feature in conversion disorder and pseudocyesis (other specified somatic symptom and related disorder). Furthermore, approximately 75% of individuals previously diagnosed with hypochondriasis are subsumed under the diagnosis of somatic symptom disorder whereas about 25% of whom have high health anxiety in the absence of somatic symptoms constitute the DSM-5 diagnosis of illness anxiety disorder. The essential feature of psychological factors affecting other medical conditions is the presence of one or more clinically significant psychological or behavioral factors that adversely affect a medical condition by increasing the risk of suffering, death, or disability. Factitious disorder (both imposed on self and imposed on another) embodies persistent problems related to illness perception and identity. Other specified somatic symptom and related disorder and unspecified somatic symptom and related disorder include conditions of which some, but not all, of the criteria for somatic symptom disorder or illness anxiety disorder are met, as well as

pseudocyesis.

W05-3

New Features and Chinese Translation Issues of DSM-5 Diagnoses for Sexual Dysfunctions, Gender Dysphoria, and Paraphilic Disorders DSM-5 對「性功能障礙、性別不安、與性偏好症」的診斷新貌及 中文版議題

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Diagnostic and Statistical Manual of Mental Disorders (DSM) developed by American Psychiatric Association (APA) has been adopted by Taiwanese Association of Psychiatry (TAS) for nearly half century. The draft of coming DSM-5 (already released in May 2013) has been available and its Chinese translation work is on-going by a taskforce organized by TAS. The DSM-5 diagnostic criteria of sexual dysfunctions, gender dysphoria, and paraphilic disorders present some new features, as compared to DSM-IV-TR: (1) Break down into separated chapters, (2) Re-naming of the diagnostic entities, (3) New duration and severity in criteria A, (4) "Clinically significant distress or impairment" in criteria B. The rationale for the revision of diagnostic criteria and the issues relevant to the Cultural Formulation Interview are reviewed through literature search. In the process of Chinese translation of the DSM-5 draft, the TAS task force members and allied professional members and mental health providers and consumers are expected to make consensus concerning the wording and linguistic appropriateness in Chinese culture. Relevant issues such as the translation of the words, "disorder", "distress", "dysphoria", "paraphilia", and "self", etc., need to be addressed furthermore.

四、壁報展示

A01

Leading Causes of Sudden Deaths among Severely Mentally Ill at a Large Psychiatric Hospital in Eastern Taiwan

台灣東部某大型精神專科醫院嚴重精神病患猝死原因調查

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Objective: Unpredictability is the most formidable challenge of mental health care. Physical problems of severely mentally ill are often neglected either because of impaired cognitive function or increased pain threshold thanks to antipsychotic. Lack of warning signs sometimes led to delayed medical attention and even in sudden death. This study collected epidemiological data of sudden death and explored the details of accidental sudden death of severely mentally ill at a large psychiatric institution in eastern Taiwan.

Methods: Medical records were reviewed to register the numbers, average age of death, diagnosis of mental, physical illness, and mortality from Jan. 2005 to Dec. 2008. Leading causes of death were ranked by percentage. Sudden death was defined by World Health Organization that the patient died within 24 hours when there were clinical symptoms or signs.

Results: In total, there were 216 death from Jan., 1, 2005 to Dec., 31, 2008. Most of them suffered from schizophrenia (93.5%, N= 205). The percentage of death was 73.6% (N = 159) for male and 26.4% (N = 57) for female respectively. The average age of death was 61.48 and 60.81 years old for male and female. The percentage of sudden death was 42.6% (N= 92). Leading causes of sudden death were accidents (25.0%, N= 23), infection with sepsis (22.8%, N= 21), cardiac disease (13.0%, N= 12), and hypovolemic shock (7.6%, N= 7). Being choked by food is the major cause of accidental sudden death (73.1%, N= 20).

Conclusion: This study showed shocking figure of sudden death among severely mentally ill living within a large psychiatric institution. Food choking, which seemed reversible and preventable, must be emphasized in priority for mental health care.

A02**The Effects of Exercise Therapy on Walking Performance in High-Fallen Risk Adults with Mental Disorders - A Trans- disciplinary Model**
跨專業合作運動治療模式對高跌倒危險屬性精神疾病患者之行走復健成效研究

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Objective: This was a quasi-experiment of the before- and after- design. The aim of this study was to investigate the effects of Exercise Therapy by A Trans- disciplinary Model in regaining abilities of balance and ambulation for High-Fallen Risk residents with Mental Disorder in long-term care facilities.

Methods: Twenty-nine High-Fallen Risk residents with mental disorder were engaged in multi-component and trans-disciplinary exercise training program for 13weeks (60-90mins, 2-3times a week). Each subject was evaluated by a blind evaluator in before-, after-training and follow-up 3months. Walking function was assessed using the Timed 10 Meters Walk Test (10MWT) and 2-Minute Walk Test (2MWT). Balance was measured using the Berg Balance Scale (BBS). In the meantime, cognition and mental status was evaluated before intervention by psychological therapist using the Mini-Mental State Examination (MMSE) and the Brief Psychiatric Rating Scale (BPRS), respectively.

Results: The residents participated in the training program showed significantly more improvement not only in 10MWT, 2MWT and the total score of BBS from baseline to posttest, but 2MWT and the total score of BBS also from posttest to follow-up and baseline to follow-up. No significant difference from posttest to follow-up and baseline to follow-up was observed on 10MWT.

Conclusion: High-Fallen Risk residents with mental disorder, as defined by restricted in wheelchair for six months, showed significant in balance and walking function after a 13-wks multi-component and trans-disciplinary exercise training program in long-term care facilities.

A03

The Prevalence of Skin Conditions and Associated Factors in Institutionalized Patients with Schizophrenia

—精神照護機構之慢性精神分裂症病人皮膚疾病之盛行率及相關因子之研究

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Objective: Skin diseases are commonly observed among chronic psychiatric patients, but the prevalence of various skin disorders and associated factors in schizophrenia remain unclear. To examine the epidemiology of cutaneous diseases in schizophrenic patients and to explore the association between skin disorders and related factors.

Methods: A total of 337 patients were recruited from the therapeutic community unit of a psychiatric hospital in July, 2011. All patients were administered a detailed skin examination and psychopathological assessment. Clinical and demographic data were collected from medical records. Logistic regression by forward selection was used to calculate the odds ratio of associated factors.

Results: A total of 97.6% of the participants had at least one skin problem. Fungal infection (61.4%) and dermatitis (46.9%) were the most commonly observed skin disorders. Participants who were aware of skin problems had increased risk of dermatitis. Patients treated with non-clozapine atypical antipsychotics had elevated risk of pilosebaceous disease; however, users of clozapine had a lower risk of fungal infection. Patients with higher scores of psychopathology had decreased risk of hyperkeratotic disorders. Overweight and obese patients were more likely to have fungal infection, while schizophrenic patients with diabetes had increased risk of bacterial infection and pilosebaceous disease.

Conclusion: Our findings suggest that the prevalence of skin disorders in schizophrenic patients is high while awareness of skin disorders is poor. To improve quality of care, cooperation between psychiatrists and dermatologists is necessary to ensure regular check-up of skin conditions, early counseling, and referral for treatment.

A04**Prevalence of Hypertension in Patients with Anxiety Disorders: a Population-Based Study****焦慮性疾患患者高血壓盛行率之分析研究**

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Objective: We carried out this population-based study to determine the prevalence and associated factors of hypertension in Taiwanese patients with anxiety disorders.

Methods: The National Health Research Institute provided a database of 1000,000 random subjects for health service study. We obtained a random sample of 766,427 subjects 18 years or older, in 2005. Study subjects who had at least one service claim during 2005 for either outpatient or inpatient care, with at least two primary or secondary diagnosis of anxiety disorders and with a primary or secondary diagnosis of hypertension combined with antihypertensive drug treatment, were identified.

Results: The 1-year prevalence of hypertension in patients with anxiety disorders was higher than that in the general population (37.9% vs 12.4%; odds ratio, 2.76; 95% confidence interval, 2.67-2.85) in 2005. Compared with the general population, patients with anxiety disorders had a higher prevalence of hypertension in all age groups; among men and women; among all insurance amount groups; among those living in all regions; and among residents living in urban, suburban, and rural areas. A higher prevalence of hypertension in patients with anxiety disorders was associated with increased age, with diabetes and with hyperlipidemia.

Conclusion: Patients with anxiety disorders had a higher prevalence of hypertension than that in the general population. We must monitor the blood pressure of patients with anxiety disorders on a regular basis and pay attention to early prevention and detection of developing hypertension in patients with anxiety disorders.

A05

Vitamin B12 Deficiency and Atypical Psychosis after Subtotal Gastrectomy

次全胃切除後之維生素 B12 缺乏與不典型之精神異常疾患

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Background: Curative resection for locally confined gastric cancers is associated with vitamin-B12 (Vit-B12) deficiency, which could manifest as a wide range of neurologic and psychiatric symptoms. Oral or even intramuscular (IM) injections of Vit-B12 may be helpful quickly. We report a case with atypical psychosis well treated with vitamin B supplementation.

Case Report: Mr. L is a 58-year-old man who was admitted due to depressed mood, poor memory, anxiety, auditory hallucinations (AH) with voices of his past-brother for 5 years, and suicidal ideation for 1 week. He used to be a businessman with no diagnosis of mental illness before 2007. He received subtotal gastrectomy in 2003 for adenocarcinoma of stomach. Oral Vit-B12 had been provided monthly for around 2 years afterwards. After moving to China for work in 2007, he suddenly stopped the supplementation. He quitted his job as a consultant in 2008 due to anergia, insomnia, multiple somatic discomforts, AH and persecutory delusions. He regularly followed up at other psychiatric OPDs from 2008 to 2013 with no full remission, and was diagnosed as schizoaffective disorder, bipolar type. He had been admitted for 5 times before visiting us. After admission, we used aripiprazole up to 10mg and doxepine up to 100mg. His sleep improved but AH and mood lability persisted. Comprehensive biochemistry profile checkup disclosed Vit-B12 deficiency (184, suggestive range: 180-914 pg/mL); psychological test supported psychosis due to organic causes. We thus provided oral supplement of iron, and IM injection of mecobalamin 1000µg daily for one week and then weekly due to failed oral supplement of Vit-B12 for 3 weeks (serum level: 172 pg/mL). Interestingly, his AH subsided dramatically after 1st dose of 1000µg of Vit-B12 IM injection, with subsequent improvement on mood, sleep and somatic symptoms; serum Vit-

B12 level was parallel to the improvement (>1500 pg/mL). We titrated off doxepine before discharged, and titrated down aripiprazole to 2.5mg at OPD. The aforementioned symptoms did not relapse.

Discussion: Surgical resections are the only curative treatment for locally confined gastric cancers, but can cause Vit-B12 deficiency and subsequent neurologic and psychiatric manifestations, including dementia, delirium, mood disorders, personality change, acute or chronic psychosis, and even obsessive compulsive disorder. Parenteral (8 to 10 loading injections of 1000µg of Vit-B12, followed by monthly 1000-µg), or high-dose oral treatment (1000 to 2000µg daily) have been suggested, and it may take more than 1 month to correct the lab data and longer time for the symptoms. Cobalamin participates in the synthesis of monoamine neurotransmitters by increasing tetrahydrobiopterin synthesis in the brain, which partially explains its association with psychosis. There is no highly evidence-based literature so far concerning the optimal supplementation regimen. Further studies are needed to examine the hypothesis and provide further suggestions for cobalamine deficiency-related mental illnesses.

A06

Psychiatric Comorbidity and Its Impact on Mortality in Patients of Paraquat Suicide

巴拉刈自殺的精神共病與其對死亡率的影响

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Objective: Paraquat intoxication is a lethal method of suicide around the world. Although restricting its accessibility had been widely discussed, the underlying psychopathology and its association with mortality have not yet been explicitly evaluated.

Methods: We included all patients admitted after Paraquat suicide from 2000 to 2010 in a tertiary general hospital. Diagnoses were made based on DSM-IV upon psychiatric

consultation. Demographic and laboratory data were compared to those of accidental intoxication. Risk of mortality was calculated by logistic regression with different mental or medical covariates.

Results: One hundred fifty-seven patients of Paraquat suicide were assessed by the consultation-liaison psychiatry team. No contributory demographic differences were found comparing to the accident group (22 patients). Mood disorder (54.0%), including dysthymic disorder (26.7%) and major depressive disorder (24.7%), was the most common diagnosis among them. Among the suicide group, eighty-seven (58.0%) patients died, and dysthymic disorder (OR= 8.40, 95% CI: 1.62-42.73, $p < 0.05$) significantly increased the mortality risk, after adjustment for relevant medical variables.

Conclusion: Awareness of the comorbid psychiatric illness, especially dysthymic disorder, could not only prevent the subsequent suicide but may also improve the outcome of the treatment of Paraquat intoxication.

A07

Case Report: Inhalation Heroin Induced Diffuse Leukoencephalopathy 濫用海洛因所導致的急性大腦白質病變

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Background: Acute leukoencephalopathy is a rare complication of inhalation of heated heroin vapour, so-called “chasing the dragon”. The MRI findings are considered pathognomonic, making MRI important for diagnosis. This is important in busy urban emergency departments where all kinds of patients may present obtunded, unable or unwilling to provide a useful history.

Case Report: Mr. C, 32-year-old male, has been addicted to amphetamine and heroin with irregular methadone therapy for 14 years. On October 2011 he presented sudden dropped cognitive function and incontinence just after massive inhalation of heated heroin vapor (chasing the dragon) massively for 72 hours. His brain CT revealed unremarkable findings but

the brain MRI showed diffuse, symmetric, bilateral periventricular white matter hyperintensity. Finally his symptoms diminished under supportive treatment. MR findings of spongiform leukoencephalopathy secondary to chasing heroin persisted despite apparent abstinence of the drug and during clinical improvement process.

Discussion: MRI is necessary for drug abusers with significant dysautonomia even the brain CT is normal at emergent department. Incontinence should be viewed as a key for complete work up which include rare virus infection (such as HTLV, HIV..etc), neuropathy and auto-immune disease.

A08

Case Report: Betel Intoxication Induced Diffuse Abdominal Pain, and Catatolic Presentation in a Male of Schizophrenia with Paranoid Subtype 一位檳榔中毒的妄想型精神分裂症患者，以急性腹痛以及緊張型症狀表現

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Background: The Betel nut (*Areca catechu* Linn) is the fourth most used drug in the world after nicotine, ethanol and caffeine. This plant contains nine alkaloids with muscarinic and nicotinic action, which could have an antipsychotic effect. The peripheral effects and time course of the effects of betel quid chewing such as tachycardia, hypersalivation and facial blood vessel vasodilatation and skin temperature increase have been documented and are attributed primarily to the cholinergic agonist properties of arecoline.

Case Report: A 34-year-old male of schizophrenia had poor drug adherence and overwhelmingly positive symptoms for 16 years. He ingested lots of betel nuts, and then refractory diffuse abdominal cramping pain, extreme thirst, tachycardia, cold sweating, and especially mummy-like appeared. He was admitted to a medical center for 72 hours but no definite diagnosis was found. He was transferred to our emergency room with mutism and uncooperative attitude. He told his ingestion of betel nuts after amytal interview. During

hospitalization process, his symptoms demonstrated significant improvement with supportive intravenous lorazepam therapy and secondary generation antipsychotic treatment of low potency.

Discussion: Overdose of betel nut may induce strong effect of anti-psychotic and cholinergic agonist. The patient present the quasi-NMS symptoms in the whole course. Therefore we obeyed the treatment principles of NMS and acquired adequate outcome.

A09

Mental Health of Patients Seeking Obesity Treatment: A Longitudinal Study

減重治療病人：心理健康——一追蹤研究

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Objective: Obesity is a disease composed of multiple components which includes various physiological and psychological factors. Most patients seeking for professional assistance in clinic have more psychopathology like bulimia, depressive disorder. Among one Taiwan pioneer research, the rate of having any mental disease lifelong surpasses 40% (Lin HY et al 2013). This research focuses on the change of mental health changes of patients after bariatric surgery and aimed to explore: (1) whether patient's mental health improve after surgery, (2) relationship between mental health improvement and weight reduction effectiveness, (3) correlation between physical targets improvement and mental health, and (4) how mental health can predict the weight reduction effectiveness.

Methods: The bariatric surgery candidates visiting the obesity center of a university hospital should complete pre-operation survey including 2 psychiatric questionnaires, Taiwanese Depression Questionnaire (TDQ) and Chinese Health Questionnaire (CHQ), to screen possible mental disorders at their first visit. Referral to psychiatrists for further evaluation will be suggested if higher scores were found. We recruited patients after bariatric surgery at least one year later, and followed their CHQ, TDQ and body weight after surgery.

Results: The life-time prevalence of any one psychiatric disorder was above 40%, the top three disorders were mood disorders (23.9%), anxiety disorders (17.7%), and eating disorders (7.1%). After bariatric surgery, not only the body weight and BMI were significantly improved, but also TDQ scores and CHQ scores significantly decreased than before surgery. The patients with any psychiatric disorder compared to the patients without psychiatric disorder, there were no differences of BMI and ESWL% after surgery between 2 groups. With linear regression model, after adjusting for age, sex, marriage, and education level, pre-OP CHQ could predict ESWL% , but pre-operation TDQ could not.

Conclusion: Among all patients having bariatric surgery, more than 40% of them have at least one psychiatric disorder which suggests that patient's mental health is issue of importance. Patient who has significant weight reduction after bariatric surgery also shows marked mental health improvement. However, psychiatric disorders do not significantly impact the efficiency of weight reduction from bariatric surgery. Even having psychiatric disorder, bariatric surgery can be conducted after proper evaluation with the teamwork from psychological professionals. Patients' with higher CHQ score showed better weight reduction efficiency. It is likely that patients with higher CHQ score concern more about physical situation and life style, exercise after surgery. The after surgery BMI with negative correlation with TDQ predicts that patients with higher BMI value will have less improvement in depression situation.

A10

A Case of Depressed-hyperthyroidism Complicated with Dangerous Psychosis Showed Dramatic Improvement after Combined Treatment 合併出現嚴重憂鬱以及急性精神症狀的甲亢患者接受強制住院後之治療經驗

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Background: For over 200 years, the relationships between neuroendocrine systems and mental illness have been studied. Researches has focused in substantial part on mood disorders and thyroid axis function. Thyroid-related psychoses continue to pose diagnostic and treatment challenges for psychiatrists.

Case Report: A 38-year-old male had alcoholism with progressive alcoholic withdrawal symptoms for 12 years. He had depressive symptoms of low mood, poor appetite, social withdrawal, insomnia, and guilty feeling for more than one year. Jealous delusion about his wife's extra-marital affairs developed for 7 days. In turn he was sent to our emergency room for extreme violence to his wife. Forced admission was executed and legally permitted for his impulsive plan to suicide just after killing his wife. Hyperthyroidism was found in admission screen. His mood and reality recovered rapidly due to combination treatment of anti-thyroid medication (carbimazole), beta-blocker (propranolol), second generation antipsychotics (olanzapine) for 7 days.

Discussion: The case who developed episodic psychotic depression during hyperthyroid states is presented. This case illustrates the clinical interaction between an endocrine disorder and psychologic illness for an affective disorder. The patients clinical course demonstrates the critical importance of expert clinical attention to both the psychologic and neuroendocrinologic factors involved. Successful management requires a integrated treatment plan as well as cross specialty knowledge. This case offers information about that complex interaction between the limbic and endocrine systems.

A11**The Impact of Depression on Disability Is Not Inferior to Pain Indices among Patients with Chronic Low Back Pain****憂鬱對慢性背痛病患的失能影響不亞於疼痛指標**Ching-I Hung¹, Chia-Yih Liu¹, Tsai-Sheng Fu²洪錦益¹、劉嘉逸¹、傅再生²¹ Department of Psychiatry, Chang Gung Memorial Hospital at Linko² Department of Orthopedics, Chang Gung Memorial Hospital at Keelung¹ 林口長庚醫院精神科 ² 基隆長庚醫院骨科

Objective: The study aimed to compare the impacts of pain indices, depression, anxiety, and somatic symptoms on disability among outpatients with chronic low back pain (CLBP).

Methods: Consecutive orthopedics outpatients with CLBP in a medical center were enrolled. The Oswestry disability index (ODI) and physical functioning (PF) and role limitations-physical (RP) of the Short Form 36 were used as disability indices. The Hospital Anxiety and Depression Scale (HADS) and the Depression and Somatic Symptoms Scale were employed. Pain intensity was rated using a visual analogue scale. Multiple linear regressions were used to determine the impacts of these independent factors related to disability.

Results: Among 225 participants (122 M, 103F) with CLBP, patients with major depressive disorder and associated leg symptoms of CLBP had higher disability indices. A tendency was noted that depression (HADS-depression) had the highest correlation to the three disability indices, followed by pain intensity, anxiety, and somatic symptoms. After controlling for demographic variables, HADS-depression explained the highest variance of disability, followed by pain intensity.

Conclusion: Depression was the most powerful factor predicting disability of CLBP among depression, anxiety, and somatic symptoms. The impact of depression on disability was not inferior to pain intensity. Therefore, psychological factors should be screened and managed during treatment of CLBP.

A12

Gender-Specific Association between Nerve Growth Factor Polymorphism (rs6330) and Cardiac Vagal Activity in Healthy Subjects 神經生長因子基因多型性 (rs6330) 與心臟迷走神經的活性強度在健康受試者中呈現相關性且存在性別差異的影響

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Objective: A recently described non-synonymous nerve growth factor (NGF) genetic variant (rs6330) has been implicated in anxiety, which is associated with cardiac vagal withdrawal and/ or sympathetic activation and increased risk for cardiovascular diseases. This study aims to investigate whether this functional variant plays a role to modulate cardiac sympathovagal dynamics.

Methods: A total of 367 healthy Han Chinese subjects (243 male, 124 female, aged 33.8 ± 8.327 years) were recruited for NGF genotyping (C/C: 268, 73%, and T allele carriers: 100, 27%). Mood and anxiety status were assessed by the Beck Depression Inventory- II (BDI-II) and the Beck Anxiety Inventory (BAI), respectively. Power spectral heart rate variability (HRV) was used to evaluate autonomic nervous system (ANS) functions.

Results: A significant NGF-by-sex interaction effect was found on HRV high frequency power (HF), an index of parasympathetic activity. Male subjects bearing T allele showed significantly lower scores on HF and a trend increase in diastolic blood pressure compared to C/C homozygote carriers. Females, however, showed an opposite but nonsignificant pattern. In addition, score of BAI, especially for panic subscale, was negatively correlated with HRV measurements.

Conclusion: Our results suggest that the studied NGF polymorphism is associated with reduced parasympathetic control to the heart in a gender-dependent manner. By extension, our findings may represent a possible genetic contribution linking these comorbid conditions among anxiety, HRV abnormality and cardiovascular vulnerability.

A13**The Associated Factors Related to Neuroticism— A Study of Incoming University Students****針對大學新生神經質性格之相關影響因子**

Wei-Hung Chang, Yen-Kuang Yang, Yi-Ching Yang, I-Hui Lee, Kao-Chin Chen

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Objective: Neuroticism may have great impacts on mental and physical health. The aims of this study were to explore the relationship between neuroticism scores and personal lifestyle, psychological and physical status in a population of incoming university students under gender differences.

Methods: Over 4,266 incoming students were included in this study. The test battery comprised a self-administered structured questionnaire, including items related to personal medical history and lifestyle habits, the neuroticism subscale of the Maudsley Personality Inventory, the 12-item Chinese Health Questionnaire (CHQ-12), the Chinese Internet Addiction Scale-Revision (CIAS-R), the Measurement of Support Functions (MSF), and the Pittsburgh Sleep Quality Index (PSQI).

Results: Multivariate logistic regression showed that higher PSQI scores (OR= 2.73, $P < 0.001$) higher CIAS-R scores (OR=3.66, $P < 0.001$) and higher CHQ-12 scores (OR= 6.68, $P < 0.001$) were significantly correlated with neuroticism in both genders, but lower perceived routine support-MSF scores were associated only with the male groups (OR=1.61, $P < 0.001$). No significant difference was found in BMI and other physical status.

Conclusion: Individuals with poorer mental health and poorer personal lifestyle had higher neuroticism scores, and gender effects may influence the scales of perceived social support in neuroticism groups. However, the lack of association between neuroticism scores and physical status may be due to the recruitment of younger participants in this study.

A14

Reliability and Validity of Clock Drawing Test as Screening Tool for Delirium

畫鐘測驗作為篩檢譫妄之臨床工具：信效度研究

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Objective: Delirium affects 10%~30% of hospitalized patients, and makes up one of the leading causes of psychiatric consultation requests in general hospitals in Taiwan. Since treatment relies on a timely diagnostic evaluation, handy screening tools will be of great clinical value. In this study, we aim to evaluate the validity and reliability of Clock Drawing Test (CDT) as a screening tool for detecting delirium in patients seen in psychiatric consultation services.

Methods: We perform CDT in patients seen in consultation service. Each patient then had to complete MMSE (Mini-Mental State Examination), and receive a diagnostic interview conducted by psychiatrists who diagnosed delirium based on DSM-IV criteria. Two scoring systems of CDT had been tested, including Manos (1994) and Spreen (1991). We analyze the correlation of CDT scores and MMSE results, and their utility in screening delirium.

Results: Both scoring systems had fair correlation with MMSE results. However, in distinguishing delirium, dementia, and psychosis, CDT has relatively poor specificity.

Conclusion: CDT is a relatively simple and sensitive method for detecting cognitive function impairment in the clinical setting. It is generally easy to carry out, yet patients with motor disability or those who are in critical conditions may not be able to perform it. However, we found that CDT can be used as a screening tool for delirium. It is also of note that Manos scoring system outdoes Spreen scoring system in sensitivity and specificity.

A15**Dramatic Dissociation and Severe Amnesia after Electro-Convulsive Therapy in a Case of Bipolar Disorder**

一位躁鬱症女性患者在經歷電氣痙攣後，出現嚴重解離以及失憶症狀

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Background: Electroconvulsive therapy induces postictal disorientation, as well as both anterograde (AA) and retrograde amnesia (RA). The AA is time limited. However, RA is temporally-graded and most dense for events that occur closest in time to the treatment. Furthermore, RA (characterized by loss of recall for information known before the ECT course) usually persists for months, and some degree of RA is often permanent. For both patients and their families, RA is the most bothersome side effect of ECT. This case showed severe RA but recovery shorter than 3 days.

Case Report: Ms. A, a 35-year-old female with childhood in mainland china, had numerous self-harm behaviors, such as drug overdose, cutting wrist since adolescence. She migrated to Taiwan for marriage. The stress of economic, child bearing, and caring the elderly frustrated her and precipitated emergence of bipolar disorder accompanied with progressive severity of suicidal behaviors. She ever held a new and sharp knife to kill the head nurse of psychiatric for mis-interpretation. In turn she showed limited response to medication during forced admission in August 2012. Subsequent electroconvulsive therapy induced postictal disorientation and severe amnesia (both retrograde and anterograde). Even she could not recall her name. Her cognitive symptoms diminished by conservative treatment and 24-hours family care in two days of abstinence all medication.

Discussion: The presumption underlying these various approaches of articles is that concentrating current density in PFC regions (thereby voiding the left and/or right temporal lobes) reduces cognitive side effects while preserving efficacy. Ultimately, determining the neural pathways associated with the cognitive side effects.

A16

The Association between Pain and Anxiety Symptoms in Adolescents and the Moderating Effects of Sex and Age

青少年疼痛和焦慮症狀的關連性以及性別與年齡之調節效果

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Objective: The aims of this study were to examine the association between pain and anxiety symptoms and the moderating effects of sex and age on the association in adolescents by controlling for the effect of depression.

Methods: A total of 5,007 adolescents in southern Taiwan completed the research questionnaires without omission. The three items on the Pain subscale of the Taiwanese Quality of Life Questionnaire for Adolescents (TQOLQA) were used to measure adolescents' subjective suffering from pain. The Taiwanese version of the MASC (MASC-T) was used to measure the four domains of anxiety symptoms, including physical symptoms, harm avoidance, social anxiety, and separation/panic. The Mandarin Chinese version of the Center for Epidemiological Studies-Depression Scale (MC-CES-D) was used to measure the severity of depression. The association between pain and four domains of anxiety symptoms and the moderating effects of sex and age were examined by using multiple regression analysis to control the effect of depression.

Results: The results found that after controlling for the effects of age, sex and depression, all four domains of anxiety symptoms were positively associated with the severity of pain suffering. Sex and age had moderating effects on the association between pain and some domains of anxiety symptoms.

Conclusion: All four domains of anxiety symptoms had significant association with the severity of pain in adolescents independent to the effect of depression. Anxiety symptoms should be routinely surveyed in adolescents with pain problems.

A17

Tea-drinking Habit in Incoming University Students: Associated Factors
大學新生的喝茶習慣: 相關因子探討

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Objective: Tea-drinking is highly prevalent in Asian countries. The aim of this study was to investigate the prevalence of tea-drinking and to explore the correlated factors on tea-drinking in incoming university students using a validated self-reported questionnaire.

Methods: This was a cross-sectional study of 5,936 incoming university students in Taiwan. It comprised a self-administered structured questionnaire, including items related to personal medical history and lifestyle habits, the Pittsburgh Sleep Quality Index (PSQI), and the 12-item Chinese Health Questionnaire (CHQ-12). Anthropometric measurements and laboratory tests were also performed.

Results: In total, 2,065 (36.1%) students were defined as the tea-drinking group. The results of the multiple logistic regression showed the following factors to be significant predictors of tea-drinking: post-graduate students ($P < 0.001$), coffee-drinking ($P < 0.001$), alcohol-drinking ($P < 0.001$), minor mental morbidity ($P = 0.009$), poorer sleepers ($P = 0.037$), higher BMI ($P = 0.004$), and sugar-sweetened beverage consumption ($P < 0.001$).

Conclusion: Our data showed tea-drinking to be correlated with a higher BMI, which was contrary to the findings of a previous study. In clinical practice, perhaps we could consider more tea-related factors when we suggest tea consumption.

A18

Diagnostic Psychiatric Interviews Should be Regularly Performed in the Screening of HIV Associated Neurocognitive Disorder (HAND), a Preliminary Study

精神科診斷會談是否應常規使用於愛滋神經認知疾患(HAND)的臨床篩檢？

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Objective: Neurocognitive complaints are common within HIV infected patients, with prevalence rate ranging from 20-50% worldwide determined by different screening tools introduced, mostly without structured psychiatric interviewing. The diagnosis of HAND, according to the criteria proposed by Antinorri et al in 2007, include four major parts: Cognitive impairment, Dysfunction of everyday life, Exclusion of dementia or delirium, and Exclusion of other pre-existing causes such as major depression or substance use. Therefore, psychiatric evaluations are very crucial in the screening of HAND.

Methods: We have enrolled male HIV infected patients between ages 20 to 65 in 2012-2013 with no current active opportunistic infections. We have performed a full neurological testing battery which included: Montreal Cognitive Assessment (MOCA), International HIV Dementia Scale (IHDS), WMS-III Faces Test (FT), Digit Symbol Test (DST), Trail making test A/B (TMT-A/B) and Grooved Peg board test (GPT). We have also performed a full structured interview by psychiatrists basing on Mini International Neuropsychiatric Interview (MINI). The patients signed informed consents which were verified by the Institutional Review Board of VGHTPE.

Results: Results: A total of 30 male patients were enrolled, with their mean age 31.1, in which 9 (30%) fulfilled the neurocognitive impairment and everyday life dysfunction criteria for HAND, while 2 were possible asymptomatic neurocognitive impairment (ANI), 6 were possible mild neurocognitive disorder (MND), and 1 was possible HIV associated

dementia (HAD). However, after thorough psychiatric evaluations of these 9 patients, we have made the final diagnosis of 1 MND. The 8 patients were excluded due to evident pre-existing psychiatric causes of neurocognitive dysfunction including: 2 active mixed substance abuse (MDMA and Ketamine), 1 active major depressive disorder, 1 schizophrenia, 1 low education which resulted in lower neurological testing results, 1 attention deficit and hyperactivity disorder, 1 Pervasive developmental disorder (Aspergers disorder), and 1 to have HBV related organic brain syndrome.

Conclusion: Conclusion: Cognitive complaints are commonly seen in HIV infected patients. Several Neurological testing devices were introduced for HAND screening. However, due to the high comorbidities of psychiatric illnesses such as depression, substance use disorders, or other major psychiatric diseases, psychiatric evaluations should be regularly performed in the HAND screening.

A19

Recognition of Demented Patients in Psychiatric Consultations: Is it Different among Referral Departments?

在照會精神科的失智症患者中，非精神科醫師對於失智症患者的辨識是否有科別的差異？

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Objective: The aim of this study is to exam the recognition of demented patients in psychiatric consultation service and to see if any difference between internal medicine, surgery or other departments.

Methods: We reviewed all the psychiatric consultations in past five years and collected those that the final psychiatric diagnosis was Alzheimer's or vascular dementia. Data collection included demographic data, major referral reasons and referral departments, and the recognition was based on their referral reasons.

Results: There were 121 patients being diagnosed as dementia in past five years. Average age was 71.67(SD12.55) and 57% were male patients. Only 18.2% of the referral

reasons stated the cognitive problems correctly. The other referral reasons for demented patients included affective problems (16.5%), sleep problems (14%) and behavior problems (9.1%). There was no much difference in terms of recognition among the referral departments.

Conclusion: Most physicians still cannot recognize demented patients correctly in primary care. Postgraduate education regarding this field is necessary for all primary care physicians.

B01

Comparison Autonomic Symptoms Scale in Mild to Moderate Alzheimer's Disease and Dementia with Lewy Bodies and Normal Subjects in Taiwan

自律神經症狀問卷比較輕中度阿茲海默症路易士體失智症與正常老人之自律神經症狀表現

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Objective: Dementia with Lewy bodies (DLB) presents a higher risk of motor dysfunction, institutionalization, and mortality than Alzheimer's disease (AD). However, current clinical diagnostic criteria have low sensitivity in detecting DLB. Autonomic dysfunction is often present in DLB and is considered a supportive feature, but is not part of the core criteria for diagnosis. Part of the problem is that autonomic function testing in DLB lacks readily available screening tools to objectively quantify autonomic function. The Autonomic Symptoms Scale (ASS) is one of the rare convenient symptoms scales available for dementia cases. Higher ASS scores measured in DLB than in AD and normal subjects (NC) have been reported once but not in Taiwan yet. The aim of this study is to use the ASS

to compare autonomic function in AD and DLB and in normal controls (NC).

Methods: Twenty-nine AD, 25 DLB and 27 age-matched NC were included in the study. AD and DLB were diagnosed according to DSM-IV-TR, NINCDS-ADRDA, and the Consortium on Dementia with Lewy Bodies criteria. All NC, AD and DLB participants took the MMSE, IADL, Beck Anxiety Inventory (BAI), Geriatric Depression Scale (GDS), and the modified ASS assessment at the same time, and the latter two groups were also evaluated with the CDR. None of the NC participants showed evidence of neurological, psychiatric or any other severe systemic disease. The CDR ratings of the AD and DLB participants ranged from 0.5 to 2. None of AD or DLB participants showed any other severe systemic disease, either. The Cochran-Mantel-Haenszel tests and Mann-Whitney U test were used to assess the differences in participant demographic characteristics and to compare the differences of ASS among the groups.

Results: (1) The ASS total scales of the DLB group were significantly higher than those of the AD and NC groups ($p < 0.01$). The mean of the ASS total scales for DLB was 5.25, AD was 2.45 and NC was 2.11. (2) In each ASS item comparison, the DLB group had a greater ‘constipation’ problem than the AD and NC groups ($p < 0.05$). DLB patients had higher ‘loss of sweating’ ($p < 0.05$), ‘dry eyes’ ($p < 0.05$) and ‘seborrhea’ ($p < 0.05$) scores than AD patients. DLB patients had greater ‘fatigue’ ($p < 0.01$) and ‘urinary frequency’ ($p < 0.01$) than the NC group. AD patients had more ‘urinary frequency’ ($p < 0.05$) and ‘dry eyes’ ($p < 0.01$) than the NC group. (3) The sensitivity and specificity for DLB from NC are 50% and 88.9%, respectively, with the ASS total scale cut-off point 4.50; and for DLB from AD are 41.7% and 93.1%, respectively, with the cut-off point 5.50.

Conclusion: The ASS is helpful to in differentiating DLB from AD and NC. DLB patients had significantly higher ASS scales than the AD and NC groups, especially in the ‘constipation’ item.

B02

Suppression of Antipsychotic-induced Tardive Dyskinesia with Aripiprazole in an Old Age Patient with Bipolar I Disorder

使用 aripiprazole 抑制在一位老年雙相情感性疾患患者身上出現之抗精神病藥引起之遲發性運動不能

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Background: Aripiprazole has a lower risk of extrapyramidal syndrome (EPS) and can remit neuroleptic-induced tardive dyskinesia (TD). Here, we present a case with TD and the TD was suppressed by aripiprazole for a long period.

Case Report: This 71 year-old male is a patient with bipolar I disorder and had developed TD many times after several antipsychotic treatments. The lowest chlorpromazine equivalent dose among previous antipsychotic treatments was quetiapine 25mg/day. His TD always improved immediately after shifting to aripiprazole. However, his insomnia or other psychiatric symptoms worsened during the first three times of shifting to aripiprazole, making the transition a failure. Before the fourth attempt of aripiprazole transition, he was in a euthymic state but again developed TD under olanzapine 10mg/day treatment. During the fourth attempt of aripiprazole transition, his TD had remained in complete remission for more than one year after shifting to aripiprazole 10 mg/day. He again developed TD when we tapered the aripiprazole dosage to 5mg/day, and his TD again remitted when we restored his aripiprazole dose to 10mg/day.

Discussion: Whether atypical antipsychotics treat or just suppress TD remains controversial.¹⁰ Previous studies demonstrated contradictory results as to the effects of aripiprazole for TD. Some reported aripiprazole can improve TD but others reported it would worsen TD. We tapered aripiprazole dosage from 10mg/day to 5mg/day when he was free of TD for one year. Unfortunately, his TD reoccurred. We sustained the dosage for one and half years and the TD severity remained the same. His TD again improved when we restored his aripiprazole dose to 10 mg/day. This phenomenon could be explained by aripiprazole only suppressing rather than curing TD. Suppression means aripiprazole may only improve his TD

temporarily and the TD would reappear in the future. Previous reports of aripiprazole in treating neuroleptic-induced TD did not try aripiprazole tapering or discontinuation. Hence, we cannot be sure whether aripiprazole really cured TD or not from these reports. More studies investigating the effects of aripiprazole on TD are warranted. In conclusion, aripiprazole could be an effective drug in elderly bipolar patients with antipsychotic-induced TD while patients are in a euthymic status. However, aripiprazole may only suppress TD rather than treat it.

B03

Use Distress Thermometer to Screen for Distress Levels in Elderly Patients

以心理痛苦溫度計探討及篩檢年長者的心理痛苦指數

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Objective: Elderly patients are at increased risk for distress resulting from their physical illness or psychosocial problems. The social work services and suicide prevention center in Tzu Chi General Hospital, Hualien, Taiwan, recognized this issue, yet the referral rate to both services was extremely low. In an effort to improve the identification and management of psychosocial distress in elderly patients, the Distress Thermometer (DT), a distress screening tool, initially designed for cancer patients, was introduced as a pilot project with outpatient and inpatient elderly patients (age above 65 years old) of Tzu Chi General Hospital, Hualien, Taiwan.

Methods: The DT is a simple, self-report measure consisting of a line with a 0-10 scale anchored at the 0 point with “No distress” and at scale point 10 with “Extreme distress”. Patients are given the instruction, “How distressed have you been during the past week on a scale of 0-10”? As a pilot project, patients scoring 5 or above were regarded as requiring intervention. The DT includes a problem checklist. The patient is asked to identify those problems from the checklist which are contributing to their score.

Results: In a 3-month study period (April ~ June, 2013), we screened 4701 outpatient and inpatient elderly patients. Patients who scored 5 or above were 380 over total screened patients (8%; 161 male and 219 female). The top 5 departments with high distress level patients were seen in Psychiatry (41%; 79 over 193 screened patients), General Internal Medicine (74%; 23 over 31 screened patients), Neurosurgery (31%; 8 over 26 screened patients), Occupational Medicine (71%; 15 over 21 screened patients), and Radiation Oncology (33%; 6 over 18 screened patients). These patients who scored 5 or above would be reviewed by the social work and then try to resolve their psychosocial needs.

Conclusion: Assessment of elderly patients distress levels in a structured and planned manner with DT works very effectively in this pilot study. However, the choice of DT cut-off point still needs to be validated. Further studies are warranted to address this issue.

Bo4

Different Patterns of Gray and White Matter and Volumetric Data by Using Diffusion Tensor Imaging in Depression with Alzheimers Patients 經大腦擴散張量磁振造影所呈現之不同灰白質及體積模式於阿茲海默氏症合併憂鬱症狀患者

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Objective: Depressive symptoms are commonly seen in patients with Alzheimer's disease (AD) Compare to conventional magnetic resonance imaging (MRI) which focused on morphology, size and particular region of brain, diffusion tensor imaging (DTI), permits examination of the white matter integrity of brain tissue macrostructure. Fractional anisotropy (FA) and mean diffusivity (MD) are the two major neuroimaging indexes of the DTI which high FA and low MD typically are generally characteristic of healthy white matter. However,

no neuroimaging study has investigated abnormalities of brain integrity together with volume morphometric patterns in dementia with depression. The aim of this study was to further evaluate architectural differences of the brains in patients of Alzheimer's disease with and without depression by using DTI.

Methods: 26 patients with AD and 20 subjects AD with depression and 15 healthy controls subjects were recruited to geriatric psychiatric department from 2012 April 2013 June. All participants underwent cognitive assessment such as MMSE, MoCA, FAB and brain MRI for acquisition of DTI and volume morphometry. The Chinese version of Geriatric Depression Scale-Short Form was applied for data collection on depressive symptoms. Patients with AD were met the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria for Alzheimer's disease. Depressive symptoms were evaluated using the Geriatric Depression Scale (GDS). Exclusion criteria included were a history of seizures, head trauma, major psychiatric disorder, substance disorder.

Results: Relative to healthy controls, both AD and AD with depression subjects showed statistically significant decrease FA and increase MD in both of white matter and gray matter, there was no statistical difference of brain volume in specific brain area between these groups. While compared to AD without depression, there were increase FA and reduce MD and higher brain volume in groups of AD with depression in the bilateral temporal ($p < 0.05$) of both gray and white matters. AD with depression groups also showed lower score in cognitive performance.

Conclusion: The different DTI and volume morphometric patterns in AD with and without depression might correlate to the different neuro-pathological mechanisms. The high FA and low MD values and high volume of temporal lobe in AD with depression groups might indicate the possibility that depression may impair the performance on cognitive examination as compared to the counterpart of patients without depression and depression might be an early reaction to cognitive decline in AD with better brain integrity.

B05

Development and Verification of a Screening Instrument for Community Family Caregiver Burden in Taiwan

台灣社區家庭照護者負荷篩檢工具的發展與驗證

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Objective: Earlier studies have verified the Chinese version of the Zarit Burden Interview (ZBI), which has been most widely used in North America and Europe. However, there is limited nationally representative information regarding the screening of family caregiver burden in Taiwan community. The Four-factor, 15-item measurement structure inventory (CBS-15), mainly for primary community family caregivers, has been developed and verified. The aim of this study was to develop a strong evidenced-based and easy-to-use screening instrument to assess family caregiver burden based on the 4 factors, namely, burden of time, relational burden, financial burden, and emotional burden.

Methods: We used the nationally representative interview data, on individuals over 50 years of age who needed long term care and on their primary family caregivers, from the Assessment of National Long-Term Care Need in Taiwan (ANLTCNT). The four main loaded questions of each extracted factor from CBS-15 were selected as Caregiver Burden Screen Instrument (CBSI-4; 0: never, 1: seldom, 2: sometimes, 3: always) for verification. High level caregiver burden was operationally defined as the weighted CBS-15 sum score that was above the 75th percentile. The internal consistency (Cronbach alpha) coefficients, the concurrent validity coefficient between the sum score of CBSI-4 and the weighted sum score of CBS-15, and the accurate analysis of the receiver operator characteristic curve (ROC) would be checked.

Results: There were 9,963 primary family caregivers among the 12,748 recipients in the need of long-term care. The CBSI-4 was constituted as a 4-item screening tool (“Unable to go on a trip?”, “Worse relationship with family members?”, “Being frugal?”, “Feeling guilty?”). The Cronbach’s alpha coefficient of the 4 items of CBSI-4 was 0.73. The concurrent

validity coefficient between the sum score of CBSI-4 and the weighted sum score of CBS-15 was 0.93. High level caregiver burden was operationally defined as above 5.8939 from weighted sum score of CBS-15. A cut-off total CBSI-4 score of 5/6 generated by the accurate analysis of the ROC yielded a sensitivity of 0.89 and specificity 0.87 (AUC: 0.949, 95% CI: 0.945-0.953).

Conclusion: The short, reliable, and valid 4-item CBSI-4 will facilitate the administration of the screening instrument for assessing family caregiver burden in Taiwan community.

B06

The Different Presentations of Cognitive Function in Older People with Major Depression and Bipolar Disorder in Relatively Stable Mood

老年躁鬱症和老年憂鬱症情緒穩定時認知功能差異之研究

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Objective: In acute stage, patients with geriatric bipolar showed poor performance in Mini-Mental State Examination (MMSE), and initiation-perseveration and memory test. Euthymic patients with BPD showed persisted cognitive impairment, especially in executive function, attention and verbal memory. This study use aim of this study is to compare the cognitive function and homocysteine levels between euthymic older people with major depressive disorder (MDD), those with bipolar disorder (BPD) and healthy comparators.

Methods: The inclusion criteria of enrolled older people were as follows. Subjects with the Mini-Mental State Examination (MMSE) score < 17 were excluded. Older people ≥ 60 years with a history of BPD and current euthymic state, defined as the score of 17-item Hamilton Depression Rating Scale (HDRS) ≤ 10 and Young Mania Rating Scale ≤ 7 for 4 consecutive weeks, were enrolled from outpatient services. Data of euthymic older people with a history of MDD (the score of 17-item HDRS ≤ 10 for 4 consecutive weeks), matched

by age and gender with those with BPD, were extracted from our dataset. Elder controls, no history of psychiatric illness by a screen interview and no severe physical problems, were recruited from the Department of Health Examination at Taipei City Hospital. All of them had received the assessment of clinical variables, laboratory examination (including homocysteine, folate, vitamin B12, and lipid profiles), and a series of cognitive tests. Cognitive function was compared between the three groups.

Results: Eighty five persons in BPD and MDD groups, and 23 healthy comparators were collected for analyses. Eight cognitive test parameters, selected by factor analysis, were compared between the three groups. Older people with BPD and MDD had poor performance in the attention and executive function, episodic memory, verbal frequency, and visuospatial speed compared to controls. Participants with BPD further showed poor performance than those with MDD in attention and verbal frequency.

Conclusion: In euthymic state, older people with BPD had poor attention and verbal frequency compared to those with geriatric depression. Further studies to investigate the cognitive changes between older people with BPD, MDD, and controls prospectively are warranted.

B07

Evaluating Cognitive Abilities of the Elderly Demented Patients from Psychiatric Clinic of a Medical Center

評估年老失智患者的認知功能——依據某醫學中心精神科門診統計資料

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Objective: The research of dementia and cognition is becoming critically important issue, but few studies are available about different population in Taiwan. This study is the first one to investigate cognitive function of the elderly demented patients referred from psychiatric clinic in a medical center in the eastern part of Taiwan, where has higher percentage of aboriginals.

Methods: We analyzed the data from 2003 through 2009 comprising 121 individuals 65

years old and older with dementia, who was referred for cognitive function assessment. Dementia was diagnosed by the psychiatrists according to the Diagnostic and Statistical Manual of Mental Disorders-IV-Text Revision (DSM-IV-TR) criteria. Individuals were screened with the Cognitive Abilities Screening Instrument (CASI) (score range, 0-100), which provides quantitative assessment of attention, concentration, orientation, short-term memory, long-term memory, language ability, visual construction, list-generation fluency, abstraction, and judgment.

Results: Table 1 summarizes results of cognitive evaluation. The final sample was 121 patients, 54 males and 67 females, with mean age 76.83 ± 6.38 years (range: 65-92 years). The mean CASI score of total subjects was 45.82 ± 26.33 , and 52.24 ± 26.01 for men compared with 40.63 ± 25.59 for women. The mean CASI score of these patients were 48.67 ± 27.18 , 46.40 ± 24.17 , and 32.40 ± 28.85 for the age groups of 65-74, 75-84 and 85-95, respectively. The mean score decreased with the mean age group. And ANOVA showed significant difference between female and male groups.

Conclusion: These results suggest that cognitive function of demented patients referred from psychiatric clinic declined with age and difference between female and male groups compared to previous studies. Further analysis is necessary to evaluate variables related to these demented patients.

Bo8

The Prevalence of Diabetes and Predictors of Poor Glycemic Control in Older Adults with Schizophrenia

中老年慢性精神分裂病患者之糖尿病盛行率及血糖控制不佳的預測因子

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Objective: Several evidences showed that schizophrenia is not only associated with impaired glucose tolerance as well as increase prevalence and incidence of diabetes. It is estimated that the prevalence of diabetes among schizophrenic patients ranges from 8.8% to 22%, much higher than general population. Older patients with schizophrenia seemed to have

lower rate of diabetes. The purpose of the present study was to elucidate the prevalence of diabetes as well as the predictors of poor glycemic control in older adults with schizophrenia.

Methods: In this cross-sectional study, we recruited 226 schizophrenic patients older than 50 years from our therapeutic community. Apart from the registration of demographic data, we also collected data as follow: body mass index (BMI), smoking history, family history of diabetes, duration of hospitalization, serum total cholesterol, triglyceride, HDL, HbA1C, fasting glucose and types of antipsychotic. Means and frequencies described the study sample. Multivariable linear regression models were performed with HbA1C as a dependent (outcome) variable, age, sex, education, BMI, smoking history, family history of diabetes, duration of hospitalization, serum total cholesterol, triglyceride, HDL and types of antipsychotic as independent variables.

Results: A total of 226 patients with schizophrenia were included in this study. The mean age was 59.8 years (S.D=6.4), males comprised 74.8% of schizophrenics. The mean education in this sample was 9.1 years, while duration of hospitalization was 18.9 years. Other clinical characteristics were as follow: BMI \geq 25 included 39.8%, smoking and family history of DM comprised 44.7% and 1.8%, respectively. In terms of serum biochemistry, serum cholesterol \geq 220 mg/dl was 2.7%, serum triglyceride \geq 150 mg/dl was 15.9%, HDL (female $<$ 50 mg/dl, male $<$ 40 mg/dl) was 73.5%, fasting glucose \geq 126 mg/dl was 5.8, HbA1C \geq 6.5% was 8.8%. A total of 78 (34.5%) were receiving conventional antipsychotic, and 147 (65%) were receiving any one of atypical antipsychotic. Overall, the prevalence of diabetes was 38.5% (N=87). The linear regression models showed that only types of antipsychotic ($\beta = 0.250$, $p=0.042$) was significant factor for poor glycemic control.

Conclusion: In this cross-sectional clinical study of a population of older adults with schizophrenia, we found an overall prevalence of diabetes of 38.5%, significantly higher as compared to any other studies. In terms of factors associated with poor glycemic control, atypical antipsychotic was significantly associated with poor glycemic control compared to conventional antipsychotic. When treating older adults with chronic schizophrenia, clinicians should be vigilant for emergent of diabetes and consider switching older adults with schizophrenia who had diabetes from atypical antipsychotics to conventional antipsychotics when satisfactory glycemic control can't be achieved.

B09**Atypical and Typical Antipsychotic Agents for the Treatment of Agitation/ Psychosis in Dementia: Which to Prescribe or Not to Prescribe? A Cost-effectiveness Analysis and Cost-utility Analysis**

對於失智症的急性激動或精神病症，傳統的抗精神病或新一代抗精神病藥物好？或是不用藥好？一個成本效果分析及成本效用分析

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Objective: Physicians frequently face complex clinical problems or even dilemmas in pharmacological treatment of patients in daily practice. These problems may involve not only efficacy and safety, but also cost, quality of life and others. Cost-effectiveness analysis (CEA) and cost-utility analysis (CUA) may be helpful in this regard because these methods can take into consideration all relevant factors. In this study, we aimed to apply the CEA and CUA method to help solve one important clinical question: “Atypical and typical antipsychotic agents for the treatment of agitation/ psychosis in dementia: which to prescribe or not to prescribe?”

Methods: We searched relevant information from literature regarding the antipsychotic treatment of agitation/ psychosis in patients with dementia, and performed Markov decision model, CEA and CUA on 3 different strategies: typical antipsychotic treatment, atypical antipsychotic treatment and placebo (assumed to be equivalent to non-pharmacological supportive care).

Results: The results showed that the 2 antipsychotic treatments were very similar in total survival life-years in one-year follow-up, but the survival life-years were shorter than those in the placebo group. However, the 2 antipsychotic treatment groups also spent much less money than the placebo group (assuming that each patient of the placebo group needs a

full-time caregiver to help take care of him). CUA showed that both atypical antipsychotic treatments and placebo treatment were dominated by typical antipsychotic treatment. After one-year follow-up, the placebo group had worst quality of life and biggest expenditure.

Conclusion: Although the placebo group had lower risk for CVAs, it also had higher risk for agitation (higher probability of “non-response”), which would impair the quality of life significantly. In contrast, typical antipsychotic group dominated the other 2 groups in CUA because of its efficacy for the treatment of agitation/ psychosis and lowest cost.

B10

Clinical Correlates of Zolpidem-associated Complex Sleep Behaviors:

Age Effect

Zolpidem 引起複雜睡眠行為之相關因子：年齡之影響

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Objective: Complex sleep behaviors (CSBs), including sleepwalking, sleep eating, and sleep conversation and so on, are associated with hypnotics use, especially zolpidem. Age

effect on occurrence of CSBs has been reported. This study was aimed to investigate and compare clinical correlates of CSBs between adults (aged 20-55) and the elderly (aged over 65) who were taking zolpidem.

Methods: A total of 253 adults and 64 elders who were administering zolpidem for at least three months were enrolled from the psychiatric outpatient clinics. The sociodemographic characteristics of participants, the dose of zolpidem and CSBs were collected. Logistic regression analysis was used to examine main and interaction effects of clinical correlates on CSBs.

Results: Dose of zolpidem use did not differ between two groups (12.3 ± 6.2 mg in adults vs. 12.0 ± 6.8 mg in elders; $p=0.70$). Totally, there were 62 (24.5%) of adult group and 11 (17.2%) elders with CSBs, however, the difference did not achieve statistical significance. Among those with CSBs, adults presented more common mixture of CSBs than did elders (56.5% vs. 9.1%, $p=0.04$). Logistic regression analysis showed that there was main effect of zolpidem dose (≥ 10 mg with $OR=2.8$, $p=0.038$), but not sex and age group. There was interaction effects of age group and zolpidem dose ($p=0.043$), indicating that higher dose of zolpidem was associated with CSBs only in the adult group but not in the elderly group. Adults with CSBs used higher dose of zolpidem than adults without (15.4 ± 6.8 mg vs. 11.3 ± 5.7 mg), whereas elders with CSBs did not use higher dose of zolpidem than elder without (12.2 ± 5.4 mg vs. 11.9 ± 7.0 mg).

Conclusion: Clinical correlates of zolpidem-associated CSBs differ between adult group and the elderly group. Less frequent and less complicated CSBs found in the elderly, although dose used in the elderly was not lower than that in the adult group. Higher dose of zolpidem was correlated with CSBs only seen in adult group but not in the elderly group. Future studies investigating the age-difference effect on CSBs will be suggested.

B11

Caregiver Depression Associated with Behavioral and Psychological Symptoms of Dementia (BPSD) in Taiwanese Elderly

老年失智症照顧者憂鬱與行為精神症狀的相關性

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Objective: Previous studies had reported rates of dementia caregiver depression were around 30% to 83%. All of these results are higher than the prevalence of depression in the general population. This finding indicates that caregiver depression associated with care of dementia patients is an important topic that warrants further study. The purpose of this study was to investigate caregiver depression associated with BPSD in Taiwanese people.

Methods: The study recruited 276 pairs patients with dementia and their caregivers who visited the memory clinic of a medical center from July 2001 to October 2008. The BPSD were assessed using the neuropsychiatric inventory (NPI); caregiver depression was evaluated using the Center for Epidemiologic Studies depression scale (CES-D). Demographic data on the patients and caregivers along with patients' cognitive functions and clinical dementia ratings were collected. In addition to descriptive statistics, we analyzed the relationship between each parameter and caregiver depression using binary correlation.

Results: The results showed a statistically significant negative correlation between patients' IADL, ADL, MMSE, and the CES-D score. It also showed positive correlation between CDR, NPI-D score and the CES-D score. Female caregiver had the higher CES-D. The highest caregiver depressive state was presented when the patient's clinical dementia stage is three (CDR=3). For individual BPSD, caregivers who cared patients with delusions, hallucinations, agitation/aggression, anxiety, irritability/lability, aberrant motor behavior, nighttime behavior disturbances, and eating abnormalities had statistically significantly higher CES-D score.

Conclusion: These findings suggest that caregiver depression is higher when the patients with certain BPSDs. To appropriate management of these BPSDs may be important in attenuating severity of caregiver depression.

B12**The Evaluation, Management and Clinical Dilemmas of Vascular Depression in an Elder Man with Multiple High Risk Suicide Attempts**
高自殺風險血管性老年憂鬱症患者之評估,治療與臨床困境：個案報告

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Background: Late-life depression is a common psychiatric disorder in old age. Previous studies have revealed that clinically significant depressive syndromes can be found in 8-16 % of community-dwelling, about 25 % of primary care, and 23 % of hospitalized older adults who aged over 60 years or over. Its presence has been consistently associated with more medical comorbidity, greater disability and increased mortality. In addition, a first episode of depression after 65 years of age has long been associated with both severe macrovascular and small microvascular pathology. We reported an elder man who developed first episode of depression in his late life with function declined soon, multiple suicide attempts and poor response to treatment without initial significant neurological impression.

Case Report(s): The 73 year-old married male who maintained good health without major systemic disease but developed his first full blown depressive episode at his 70 years with symptoms including depressed mood, excessive worry and guilt, excessive anxiety with significant restlessness, paralogical negative thought and strong suicide ideas with multiple suicide attempts either by gasoline intoxication, head hitting or strangling. Cognitive impairment over judgment was noticed but no obvious memory deficit. There were no past depressive symptoms, manic/hypomanic episode or head injury can be traced and denied to have related family history. He was treated with Sulpiride 50mg/d with Mirtazapine 45mg/d initially and shifted regimen to Quetiapine or Olanzapine combined with antidepressants or mood stabilizer but he showed poor response to medication. During admission, we have done thorough medical workup and his brain MRI revealed old infarct in right frontotemporal lobes and white matter ischemia in the bilateral cerebral hemispheres but there was no previous visible neurological solid sign or specific precipitating metabolic factors. In addition, given to his high risk of suicide, families have to take care of him one by one carefully either at home

or at admission and the burden of the family members were considerable. The medical staff also needed to pay much attention on his risk of falling.

Discussion: Complete medical work up is important in elder people even there was no significant neurological finding, precipitating factors in history or in appearance. Reviewing literature, first episode of depression after 65 years of age has long been associated with both severe macrovascular and small microvascular pathology. The difference of pharmacokinetics, complicated medical comorbidity and susceptible to side effects in elderly all cause difficulty in pharmacotherapy and caring. In view of the increasing proportion of elderly, specific geriatric psychiatric care is bound to become increasingly important.

B13

Late Onset Psychosis Associated with Meningioma: A Case Report

晚發性精神病併腦膜瘤：一個案報告

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Background: The meningioma especially in the geriatric age group may frequently unfold a clinical picture, which by its very insidious onset and slow development may be even unrecognized during life. Frequently in these cases the tumor has been overlooked and wrongly diagnosed as a senile dementia or psychosis. Here we report one case of late onset psychosis associated with meningioma.

Case Report: This 56 year old female patient's premorbid personality was nervous, in recent four years she began to suffer from anxious and depressed symptoms gradually, then somatic delusion (worry about getting cancer). auditory hallucination flared up, besides she had homicide tendency (threaten to kill her husband) and suicide attempts for times. She was diagnosed with schizoaffective disorder and had poor response to several kinds of antipsychotic and antidepressant. Later titrating clozapine to 400mg per day made positive symptoms disappeared but negative symptoms were vivid. Last year she was hospitalized because of anxious. poor attention. avolition. loose daily life, especially personal activities of daily living function declined severely. During this admission brain computed tomography

was done for dementia survey, data showed meningioma over R't occipital lobe (4*3*1.5cm), however her neurological sign was not obvious. Then she was discharged to accept craniotomy for removal of meningioma. Now she still had residual anxiety and dementia like symptoms, but positive symptoms of psychosis were no more vivid.

Discussion: Consideration of brain imaging should not be limited to generalized or focal neurologic symptoms in psychiatric patients, but must also be considered for all psychiatric patients who present with atypical psychiatric symptoms, with late onset of psychiatric symptoms (>50 years of age), have unexpectedly poor response to psychopharmacologic treatment, or there is a change in clinical presentation of psychiatric symptoms. Past studies reported most patients who had meningiomas and had psychiatric symptoms had presented with affective symptoms taking the form of depressive illness or anxiety. Other studies had mentioned that patients with frontal lobe tumors presented with abulia, personality change, or depression, whereas those with temporolimbic tumors had auditory and visual hallucinations, mania, panic attacks, or amnesia.

B14

Elderly Caregivers of Peoples with Serious Mental Illness

重型精神病患的老年照顧者

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Objective: The purpose of this study is to evaluate the characteristics of elderly caregiver of serious mentally ill.

Methods: A total of 174 caregiver-patient dyads were recruited. These participants were referred by psychiatric acute ward to a rehabilitation ward for evaluating if their patient proper to transfer to an open-ward. According to age of caregivers, participants were allocated into three groups, those care-givers older than 65 year-old were allocated into the Elderly group (24.1%), younger than 45 year-old were allocated into the Youngest Group (22.4%), and between 45 and 65 year-old were allocated into the Middle age group. Following variables were compared to answer the study question: 1. Patient related: Social economic and disease

related variables (i.e. years of education, age at marriage, psychiatric diagnosis, age of onset, duration of illness, rehabilitation facilities utilization (eg. day hospital, rehabilitation ward, work shop and half-way house) and behavior problems (eg. violent, illegal, wandering-out, and sexual misbehaviors) were coded, and the Clinical Global Impression-Severity (CGI-S) and Global Assessment Functioning (GAF) were rated. In addition, the Life Quality questionnaire (WHOQOL-BREF, including four subscales: physical health, mental health, social relationship and environment) completed by patient; 2. Caregivers related: Caregivers registered socio economic data (gender, years of education, religious belief, as parent of patient), care-related variables (years of caring, caring hours per day), and Questionnaire of care-burden (including 5 subscales: objective burden, subjective burden, outside help, positive attitude, negative attitude, and two global self-rating of feeling of health and of happiness); 3. Relationship related: including living together or not, stability, containment, and quality of care-relationship. In addition, care-giver and patient rated the Global Assessment of Relational Functioning (GARF) separately.

Results: Among the three age groups, the Elderly Group had the less education years, and had the highest ratio with religious belief (Elderly Group 97.5%, Midlife Group 90.9%, and Youngest Group 66.7%; $X^2(2) = 19.124$, $P=.000^{**}$), as patient's parent (Elderly Group 97.6%, Middle age Group 64.5% and Youngest Group 10.3%; $X^2(2)=65.950$, $P=.000^{**}$), of caring male patient (Elderly Group = 69%, Middle age Group = 45.3%, and Youngest Group = 69.5%; $X^2(2)=8.921$, $p=0.012^*$), their patients had ever lived in half-way house (14.3%, Middle age Group = 4.3%, and Youngest Group 0%; $X^2(2)=8.390$, $P=.015^*$). The elderly caregivers bear the heaviest care burden, for they had the longest caring years but received the least out-side help.

Conclusion: The elderly caregivers endured long-term and heavy burden with less outside help, and the signs of breaking-down of care-relationship already revealed. These results implied that mending the support network and helping them to prepare the better place to dispose their patients are two directions worth our efforts.

B15**Antipsychotic Discontinuation in People with Dementia: A Systematic Review and Meta-analysis of Randomized Controlled Studies****抗精神病藥物於失智症患者的停藥研究：隨機分配有對照組研究的系統性文獻回顧以及統合分析**

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Objective: The effect size of antipsychotics in behavioral and psychiatric symptoms in dementia (BPSD) is only modest and antipsychotics have been reported to increase the risk of mortality. Patients with dementia may benefit from antipsychotic discontinuation but previous studies showed inconsistent results.

Methods: Double-blind or assessor-blind, randomized, parallel-group, clinical controlled studies to compare the effects of antipsychotic discontinuation and antipsychotic continuation in people with dementia were included in this review. MEDLINE, EMBASE, PsycInfo, Cochrane Library and CINAHL were searched until 30, April, 2013. The severity change of BPSD from baseline to endpoint was the primary outcome used in the meta-analysis.

Results: Ten studies were included in the systematic review and 9 studies were included in meta-analysis. The primary outcome showed antipsychotic discontinuation group did not have significant difference in BPSD severity change compared with the antipsychotic continuation group (standardized mean difference: 0.19, 95% CI: -0.20 to 0.58). The antipsychotic discontinuation group had a significantly higher proportion of subjects whose BPSD severity worsened compared to the continuation group (risk ratio: 1.78, 95% CI: 1.31-2.41). There were no significant differences between the groups in the other secondary outcomes including mortality rate and the proportion of study early termination.

Conclusion: This meta-analysis showed the antipsychotic discontinuation group did not have a significant difference in BPSD severity change but had a significantly higher

proportion of subjects with BPSD worsening compared with the antipsychotic continuation group. We must pay attention to this phenomenon and closely monitor the BPSD progress when antipsychotics discontinuation for patients with dementia.

B16

Repeated Mania Induced by Hyponatremia Secondary to Psychogenic Polydipsia in an Elderly Schizophrenia

老年精神分裂症病人因性過度飲水導致低血鈉誘發重複性躁症

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Background: Hyponatremia has widely caused psychiatric and neurological symptoms, especially in patients suffering from psychogenic polydipsia. Among those symptoms, three cases of hyponatremia induced mania had been reported in the literature. However, none of them were having diagnosis of schizophrenia. We now present a 69-year-old schizophrenic male who experienced repeated mania induced by hyponatremia secondary to psychogenic polydipsia.

Case Report: A 69-year-old divorced male with schizophrenia had his first psychotic episode at age of 32. He had never had manic episode or depressive episode before. He had admitted twice due to psychotic relapsed during his fortieth. He was stabilized with supride 400mg/day and follow-up at outpatient clinic. He had been admitted at age of 65 owing to disturbance of consciousness, falling down, along with prominent manic symptoms of elated mood, psychomotor agitation, grandiose delusion, decreased sleep desire and disruptive behavior. Initial biochemistry results reported nothing abnormality other than plasma sodium of 119.4 mmol/L (normal 135-145 mmol/L). All possible organic factors were excluded including a brain CT scan, chest X-ray and urinalysis. A diurnal variation in body weight (67kg at 6 a.m. and 71.5kg at 6 p.m.), water-restriction test, as well as history from informants indicated primary polydipsia. He was treated with restricting fluid intake, monitoring body weight and behavior modification. Supride was switched to haloperidol decanoate 50mg/ml intramuscularly along with clotiapine 20mg/day. After three weeks hospitalization, his plasma

sodium level was raised to 137.5 mmol/L and his manic episode had been under control. We then changed to quetiapine 100mg/day during outpatient visit because of extrapyramidal symptoms. Three years later, he had experienced manic episode again along with hyponatremia at age of 68. We therefore increased quetiapine to 300 mg/day and added valproate acid 1000mg/day. After introduction of restricting fluid intake and cognitive behavior therapy, his plasma sodium level returned to normal and manic symptoms improved concurrently. There was no recurrence of hyponatremia or psychogenic polydipsia at follow-up visit.

Discussion: This elderly schizophrenic patient who had never had manic or depressive episode before had experienced repeated manic episodes concurrent with hyponatremia in his late life. Mania episodes subsided soon after correction of hyponatremia with fluid restriction. Such a cause-and-effect relationship suggested that manic episode most likely due to hyponatremia secondary to psychogenic polydipsia. Three previous cases of mania induced by hyponatremia have been reported previously; these describe patients with proven SIADH whose symptoms resolved with normalization of plasma sodium levels. In our case, the hyponatremia was caused by psychogenic polydipsia instead of SIADH. The mechanism of hyponatremia induced mania remained unknown. This case provided evidence that manic episodes may be caused by hyponatremia. Investigation of patients with late-onset mania must include screening for this important but potentially easily reversible cause.

C01

“Alcoholism Potential Cases – Drunk Driving” Background Correlation Analysis – Samples from the Hsinchu City Drunk Driving Offenders Taking Life Education Courses for Drunk Driving Offenses Against Public Safety Ordered by the Hsinchu District Prosecutors Office

『酒癮潛在個案－酒駕者』背景相關分析——以新竹地檢署審理新竹市接受酒駕——公共危險罪生命教育個案為例

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Objective: This study aims to understand the correlation of drunk driving recidivism and other background factors for drunk drivers committing Offenses Against Public Safety. Our expectation is to effectively analyze the background factors for alcoholism potential cases - drunk driving, so high risk groups can be filtered out for targeted priority related advocacy, counseling and medical care in the future.

Methods: The study group is the Hsinchu City drunk driving offenders taking Life Education Courses for Drunk Driving Offenses Against Public Safety ordered by the Hsinchu District Prosecutors Office. Each offender participated in three courses. The background factor correlation analysis is based on the basic information form each participant filled out. T-test analysis is used to determine the presence or absence of differences of gender, employment status, age and other variables concerning drunk driving recidivism. ANOVA (Analysis of Variance) is used to judge the difference of years of education related to drunk driving recidivism. Pearson Product-Moment Correlation Coefficient Analysis is used to analyze the correlation of drunk driving recidivism and age, years of education (divided into 0-6 years, 7-9 years, 10-12 years, 13 years and above) and gender. Multivariate Logistic Regression Analysis is used to find the most effective predictive factor in relation to drunk driving recidivism.

Results: During the one-year process of case study (from June, 2012 to May, 2013), a total of 711 cases (632 males, 79 females) participated in Life Education Programs.

Descriptive statistics show the highest drunk driving recidivism falls in the age group of 35-40 (122/711, 17.16%), followed by the age group of 40-45 (116/711, 16.32%). T-test analysis finds no significant difference in drunk driving recidivism for different genders, employment status or ages. ANOVA analysis shows significant drunk driving recidivism differences related to years of education ($F = 3.004$, significant $p = .03$). There are significant differences between 0-6 years of education group and the 13 years and above group. There are significant differences between 7-9 years and 10-12 years, 13 years and above groups. Pearson Product-Moment Correlation Coefficient Analysis finds that the number of years of education and drunk driving recidivism has a significant negative correlation ($r = -.102$, significant $p = .007$). Multivariate Logistic Regression Analysis shows that the most effective factor to predict drunk driving recidivism is the number of years of education,

Conclusion: This study shows that in terms of gender, age, years of education, employment status and other variables, years of education is the easiest factor we can use to predict drunk driving recidivism and it shows a negative correlation. Multivariate Logistic Regression Analysis also has a similar result. This indicates current alcoholism potential cases (drunk drivers) may be behind the population's general level of education, thus Life Education Courses should be effectively designed to target this group. Moreover, the age group of 35-45 (33.47%) could be classified as the priority for drunk driving prevention education and alcoholism high-risk case screening in the future and they should be given proper advocacy, counseling and medical care

C02

Trend Analysis on Proportional Change of Categories of Forensic Psychiatric Evaluation – One Hospital Experience

司法精神鑑定案件類別比例之趨勢分析——單一醫院經驗

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Objective: The use of forensic psychiatric evaluation constitutes an important part in the trial regarding cases related to the mentally ill. The field of forensic psychological grew

exponentially over the past 20 to 30 years. The frequency of trial competency evaluation also increased in the US over the past 30 years. However, the status of usage of forensic psychiatric evaluation in Taiwan remains unknown and publications related were scarce. We start from evaluating the trends of change over the past 6 years in out hospital.

Methods: This study is a retrospective trend analysis of case numbers and percentages of different categories of forensic psychiatric evaluation. We calculated the annual cases of forensic psychiatric evaluation during 2007-2012 in a psychiatric hospital in Kaohsiung, and the cases were categorized into 4 types: civil cases, criminal cases, domestic violence/sexual abuse and judicial interdiction. We evaluate the trend of the percentages changes of different categories with linear regression. We also estimated trend of annual amount of cases undergone trial in the local court and across the country during 2007-2012 (data available on the website of Judicial Yuan, Taiwan, ROC) and compare them with the trend of case amount in the hospital.

Results: In our hospital, the proportion of cases of judicial interdiction increased over the past 6 years. Civil and criminal cases remained the same, and cases of domestic violence and sexual abuse decreased. When considering the annual cases amount of local court, there is also minimal change in trends of civil and criminal case. Cases of family courts also showed trend of increasing cases, with the same trend of cases of judicial interdiction in our hospital. However, cases of restrain order increased substantially over the past 6 years, which is different to that of our hospital.

Conclusion: The analysis showed increasing cases and increasing need of evaluation for judicial interdiction. However, the cases of evaluation of domestic violence or sexual abuse were decreasing, which is the opposite to the increasing trend of restrain orders increased over the past several years. More emphasis may be required to the increasing need on such cases. There are several limitations in our survey. Cases that require evaluation of multiple specialties may be limited in our hospital due to lack of resources. This survey also only reflected regional characteristics of cases, not across the country. We also need more precise data to correctly interpret the trends of annual change in specific categories of trials. Legislation changes may also have impact on amount of annual cases in the court. A broader range of study involving judicial agencies and more hospitals may be needed to reflect the actual trend of forensic psychiatric evaluation usage in the court across the country.

D01

A New Challenge: Insurance Benefits as an Adverse Factor for Patient's Rehabilitation in Psychiatric Day Care

一個新挑戰：保險利益成為精神科日間病房復健治療的不利因子

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Background: The purposes of this case report are made to illustrate how insurance benefits affect illness behavior, to discuss related ethical issues, and to make suggestions to deal with this new challenge.

Case Report: A 38-year-old male patient has been diagnosed of bipolar affective disorder for 11 years. Reviewing his disease course, he has been hospitalized for more than 15 times, while many of those admissions were motivated by financial benefits from commercial health insurance. He was admitted to day care for rehabilitation in March, 2012, but revealed reluctant to recover.

Discussion: Insurance benefits significantly influence illness behaviors and induce ethical dilemmas. Early detection, limitation set-up, organizing a task-force committee, and active involvement of insurance company could be the practical solutions for this new challenge.

D02

Processing the Concept of Anti-Stigma by Implementing Recovery Model in a Psychiatric Day-care Program

反烙印：以精神科日間留院復元模式的運用為例

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Objective: Recovery model plays an important role in contemporary psychiatric

rehabilitation, which stresses on patients involvement and patients empowerment. Day care, as a treatment design to rehabilitate patients with severely chronic mental illness, is definitely an excellent field to implement recovery model. Furthermore, through the model, processing the concept of anti-stigma is a significant step to build patients self-esteem and foster a positive self-image.

Methods: In 2011, we introduced a new project in our psychiatric day care in two ways. The first is to modify the idea of “user experience” by offering the previous day-care patients to make a speech for current day-care patients. The speakers shared their experience of mental illness and coping process at the beginning, and then followed by an interactive session with audiences. This scheme is held every three month routinely. Also, we pay the speakers lecturer fee as the professionals. The second is to increase the involvement of patients in treatment activities. Patients are invited to prepare, organize, and lead therapeutic activities. These activities are performed on a weekly base, and one hour for each session.

Results: Subsequently, the adding of these new elements in day care results in a higher patient attendance rate and better patient satisfaction. In August 2012, the patient attendance rate increased up to 93.3%. Besides, the annual customer satisfaction survey conducted in June 2012 showed that 95.9% of patients were satisfied with our day-care program. Moreover, the process itself is a therapeutic learning experience. Not only the instructors and speakers are empowered, but also the audiences who are day-care patients become more spontaneous and optimistic by learning from the peers.

Conclusion: The survey showed that 19.6% of patients felt ex-patient speeches did not benefit them. Furthermore, the same survey revealed that 11.2% of patients disagree with the possibility to learn from peers. There are two primitive implications for this phenomenon. Firstly, recovery model is new to them. It may take some more time for them to realize the core value of recovery model. Secondly, the day-care patients have a range of social function. Some low-functioned patients may have difficulties in experiencing these benefits. However, this phenomenon may deserve further explored. “Recovery” should be defined as a journey of healing and transformation which enables a person with mental illness to live a meaningful life in community of his or her choice while striving to achieve his or her full potential. In the future, the range of speakers should be added variety in order to enrich the spectrum of “recovery journey”.

D03

Could the BSRS-5 be Used as an Efficient Screening Instrument for Predicting a Second Suicide Attempt in Previous Attempter Following Case Management Service?

在自殺未遂者的個案管理服務中，BSRS-5 是否可以用來當預測再次自殺的有效工具？

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Objective: Suicide attempts constitute a serious clinical problem. People who have attempted suicide are at an elevated risk for additional suicide attempts, but there is limited evidence regarding using the 5-item Brief Symptoms Rating Scale (BSRS-5) to assess the suicidality in previous suicide attempters following case management services. The goal of this study is to assess whether the BSRS-5 can be used as an efficient screening instrument for predicting a second suicide attempt in previous attempters following case management services.

Methods: 508 subjects with a recent suicide attempt referring from medical and non-medical organizations were consecutively recruited from July 2011 to February 2012 and completed the BSRS-5 questionnaires. The suicide prevention center of Kaohsiung City provided case management services. The logistic regression analysis was conducted to test whether the BSRS-5 could be used to predict suicide reattempt in one-month and three-month follow-up.

Results: Sum of BSRS-5 could predict suicide reattempt not only in one-month follow-up (OR = 1.11; 95% CI = 1.05-1.17), but also in three-month follow-up (OR = 1.13; 95% CI = 1.07-1.20).

Conclusion: BSRS-5 could be used as an efficient screening instrument for predicting a second suicide attempt in previous attempter following case management service.

Do4

The Model of Cultural Sensitive Collaborative Treatment for Major Depressive Disorder in General Medical Care: A Randomized Trial

文化敏感的合作照顧治療模式對一般醫療的憂鬱症療效評估：隨機分配試驗研究

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Objective: Depression is a prevalent high-impact illness in general medical care. There has been substantial evidence demonstrating that providing multifaceted collaborative care improves depression outcomes in general medical care. However, there has been no data for efficacy of collaborative care in Taiwan. A comprehensive approach using the Culturally Sensitive Collaborative Treatment (CSCT), a collaborative care model, was designed for treating depressed patients in general medical care. This study was a randomized controlled trial to test whether CSCT would improve the outcome of depressed patients visiting non-psychiatric settings in Taiwan.

Methods: The subjects were recruited via face-to-face interview for screening depression in non-psychiatric clinics. They were randomly assigned to usual care or CSCT. A blinded interviewer assessed the subjects every month for 6 months after enrollment. Patients in usual care were treated as usual. The CSCT included consultation to depressed patients by a psychiatrist trained in cultural sensitivity to introduce the concept of depression, treatment of depression by general medical doctors based on established guidelines, and care management by a care manager under the supervision of a psychiatrist. The psychiatrist in CSCT played the role of being a mental health specialist. The goal of consultation was to engage patients into treatment of depression. The psychiatrist also provided consultations to primary care physicians (PCPs) and supervised the care manager both on cultural and clinical issues. The care managers were the link between patients, the PCPs and the consulting psychiatrist to coordinate care, coach behavioral change, and monitor adherence to treatment.

Outcome measures included HAMD-17, PHQ-9, CGI, adherence scale, and quality of life scale. Primary analyses were by intention-to-treat (ITT) after randomization. ANCOVA and GEE were used in the analyses.

Results: Between January 2009 and March 2012, 26419 patients completed the PHQ-9 and 3238 (12.2%) patients' screened positive for depression (PHQ-9 score was 8 or above). Among the patients who screened positive of PHQ-9, 2568 received the interview with HAMD-17 and 886 were positive (HAMD-17 score was 15 or above). Of 886 patients who were positive of HAMD-17, 487 patients were diagnosed as having major depressive disorder with SCAN by mental health professionals. A total of 280 patients agreed to participate, provided informed consent and completed randomization. Of 280 patients, 141 patients randomized to usual care group and 139 randomized to CSCT. The randomized groups were well balanced for demographic characteristics. Women predominated (85%), the mean age was 47.4 (S.D.=14.6), and the mean educational level was 10.7 years (S.D.=4.3). The results of adherence of treatment and medication, severity of depression and quality of life among CSCT group were all significantly better than usual care group.

Conclusion: The findings indicate that CSCT can significantly improve the outcome of depressed patient in general medical care.

D05

Personal Lifestyle and Personality Trait in Incoming University Students with Higher Level of Social Anxiety Symptoms

大學新生之個人生活型態與特質和社交焦慮之關聯

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Objective: The aims are to explore 1) the relationship between personal lifestyle and the severity of social anxiety symptoms (SAS); 2) the association between social support/

internet addiction and the severity of SAS; 3) the correlation between the trait of altruism and severity of SAS in incoming university students.

Methods: The test battery examined personal lifestyle, the social phobia inventory, the measurement of support functions, the brief symptoms rating scale, the Pittsburgh Sleep Quality Index, the Chinese Internet Addiction Scale-Revision, and the altruism subscale.

Results: The significant predictors for higher levels of SAS are being an undergraduate student, non-smoker, poorer sleeper, poorer social support, less altruistic behavior, higher Internet addition score, and more emotional disturbances. Since social anxiety, poor social support, and an unhealthy personal lifestyle are all risk factors for various physical and mental disorders, more attention needs to be paid to university students with higher levels of SAS.

Conclusion: In this study, we found that 23.7% of the university students had higher levels of SAS. Individuals in the higher level of SAS group were more likely than the lower level group to be undergraduate students, non-smokers, and poorer sleepers, and have poor social support, a tendency to Internet addiction, psychiatric morbidity, and a lower level of the altruistic trait.

EO1

Psychodynamic – supportive Therapy for a Borderline Patient with Enmeshed Family

一例糾結家庭關係之邊緣型人格障礙病人的動力——支持性心理治療經驗報告

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Background: The article is to report the psychosocial characteristics of a 29-year-old female patient with borderline personality disorder, including parenting skills and sibling interaction, and the psychotherapeutic interventions given accordingly.

Case Report: The patient's father is a patient with bipolar disorder under regular medication control at a local psychiatric clinic. Although the father-daughter relationship was very close, conflicts existed due to corporal punishment often used by the father. The patient'

s mother was altruistic and overcautious socially but showed high expressed emotion and affectionless control in the family. The character of patient's elder sister was similar to the mother. The patient started to have unstable mood, self-harm and homicide idea since she was 16-year-old. There were also intermittent psychotic symptoms, including dissociative symptoms, idea of being possessed and auditory hallucination. She received high-dose antipsychotics treatment for several years in another hospital but the tense family relationship and frequent family arguments persisted. She visited our hospital since the end of 2012. After comprehensive evaluation, besides symptom-targeted medication treatment, psychodynamic-supportive individual psychotherapy, alternating with family therapy she and family was also arranged. The treatment goal was to modify enmeshed family relationship, to improve parenting skills and to decrease the need of antipsychotics. From December 2012 to July 2013, she has received twenty sessions of individual psychotherapy and six sessions of family therapy. The individual part was based on supportive techniques with psychodynamic approach in due course. After treatment, she was found to have relatively stable mood, better ego function, decrease self-harm and homicide ideation. The family conflicts and inappropriate interactions were also decreased, the father's overinvolvement in medical decision decreased, the mother's willing to make change increased. And, the dosage of antipsychotics was decreased without psychotic symptoms exacerbation.

Discussion: Patients with borderline personality disorder often grow up in the invalidating family environment. Their two core symptoms, poor impulse control and unstable mood, are often ignored and masked by other comorbid psychiatric disorder. The enmeshed family relationship can be a negative predicting factor of clinical course. In this case report, we shall discuss that in addition to symptom-targeted pharmacotherapy, appropriate psychosocial intervention(s) should be combined to achieve clinical success.

E02

Grand-parenting, Borderline Personality Disorder, and Attachment-focused Psychotherapy

隔代教養、邊緣型人格障礙、與聚焦於依附的心理治療

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Background: This article asserts that the grand-parenting phenomenon may have become a concerning factor in personal identity and attachment development. Consequently, it may lead to the onset of borderline personality disorder in this presentation. However, using appropriate psychotherapeutic intervention, the psychopathology resulted can be corrected.

Case Report: A 28-year-old Taiwanese female with Borderline personality disorder who was mostly raised by her grandparents, resulted in anxious-preoccupied attachment pattern¹, exhibited: unstable self-esteem issues, mood swings, in securities with her partner, self-harming behaviors and a history of Ketamine misuse. She presented with childish attitude, testing behaviors, unclear interpersonal boundaries and a reduced ability to self regulate and a lack of early psychological bonding and mental containing. Splitting and extreme emotions as well as other acting out symptoms were also observed. Beside symptom-targeted pharmacotherapy², the authors used attachment-focused psychotherapy³, with the purpose of deconstructing the attachment patterns of the past, and constructing new ones in the present. Began with establishing a new secure relationship, regulated unstable emotions, and increased patient's reflecting ability that not developed yet. After 32 sessions, the patient acknowledged her underlying fear of being abandoned and fought through the separation anxiety with the therapist before the termination of psychotherapy.

Discussion: Early grandparent-raising relationship might fulfill young children's physical needs but, in many cases, not the psychological demands which are significant in mental health development. In this case report, resulted in Borderline personality disorder with anxious-preoccupied attachment pattern. If grandparent-raising is inevitable, balancing physical & psychological care should be provided to help promote normal personality development and maintain good mental health. Reference: 1. Bartholomew K, Horowitz LM : "Attachment styles among young adults: a test of a four-category model". J Pers Soc Psychol 1991; 61: 226-44. 2. American Psychiatric Association : Practical Guideline for the Treatment of Patients with Borderline Personality Disorder. Washington DC: American Psychiatric Press, 2001. 3. Wallin DJ: Attachment in Psychotherapy. New York, Guilford Press, 2007.

E03**The Study of Motivation in Psychotherapy : Psychodynamic Approach**
心理治療中的動機研究：精神動力取向

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Objective: There is a force called motivation in all living things driving them to the fulfillment of needs. The needs may originate from specific physical, psychological, social or spiritual needs. When motivation is a psychological feature that arouses one to act towards a desired goal, it can be considered as a driving force that compels or reinforces an action. In dynamic psychotherapy, diagnostic and prognostic criteria are necessary in order to determine the kind of therapy best suited to a patient's idiosyncratic needs. Motivation for dynamic psychotherapy implies a desire for change and not for relief of symptoms. While others said that, the concept of motivation for treatment is of little practical value, principally because motivations are inseparable from the patient's infantile conflicts and defenses. They proclaimed that, a decision concerning therapy would be much better based on the patient's needs and capacities. Therapists must pay attention to the concept change of motivation. For example, in the past 20 years, there has been a change in the treatment of addiction, with the emphasis shifting from confrontation toward enhancing motivation for change and building the skills to effect those changes. Enhancing motivation is difficult in part because motivation can be evanescent. Being motivated is a state rather than a trait. Increasing the motivation to change in a variety of different patient population and in different contexts is necessary in clinical practice today. This article will pay significant attention to psychodynamic understanding of motivations in different psychoanalytical theories and patients.

EO4

A Case Report: A Woman Who Was Disallowed to Feel Angry

個案報告：一個不能生氣的女人

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Background: In this case, a psychodynamic approach was adopted drawing on the theory of containment and dynamics of transference and counter-transference. The therapist used her own counter-transference to help understand and contain the patient's unspeakable feelings since the patient often spoke of having forgotten everything and feeling calm without being angry.

Case Report: Mrs H is a married 56-year-old housewife. She learnt of her daughter's rebellious act from her daughter's teacher at a vocational school. Since then, she has become anxious and restless. She developed dissociative state and could not recognize some persons. Her brother and her husband therefore brought her to the psychiatric hospital for treatment. She has been receiving once-weekly individual psychotherapy since September 2012. She complained to the therapist that she felt restless, anxious and emotionally unsteady. She also felt humiliated to seek for psychiatric service because of the fear of being stigmatized. She found it extremely difficult to express her feelings and face the reality. Thus, this research focused on an understanding of Mrs H's unconscious fears of losing control and of something coming from the Third World (hit by Yin in Chinese folk belief), which reflected her suppressed anger and aggression.

Discussion: Through supervision, the therapist has learned more about the concept and dynamics of transference and counter-transference and has been more able to use it as a tool to contain the patient's anxieties and to understand the patient's unconscious communication. It is important to promote the professionalism and the quality of service through supervision., Therefore, the necessity of supervision within mental health service must be truly implemented.

E05

Case Report: Sandplay Process of a Homosexual Adolescent Girl

同性戀青少年之沙遊歷程：一例報告

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Background: To report the sandplay process of a homosexual adolescent girl and to see the transformation of the symbols of her identities.

Case Report: A 16 years old girl, relatively male-like dressed in appearance, consulted to our clinic for her depressed mood and insomnia problems. She had noticed her own homosexuality since late childhood. However, this is extremely unacceptable to her parents. Thereafter, she incorporated the blaming and developed self-devaluation and guilty feelings. The most recent stressor was the breaking up with her girlfriend and the social stresses from others. Before our intervention, she had tried oral consultation and art therapy. We tried some antidepressant and anxiolytics with some effects, but she a lot of issues waiting to be solved. After our initial treatment, she was enrolled to our sandplay research program. During the two courses, 20 sessions sandplay therapy, she started with self-blaming, chaos, and many trays were full of fighting and tension. By the end of the first course, her identity seemed to condense into a fox. During the second course, the symbol of her identity evolved more prominently from a fox to an astronaut. In the last tray, the astronaut sought for balance in the coming exploration. After the treatment, she finished her high school education. Though she still suffered from being homosexual, she hopefully wished to a new start.

Discussion: In her first trays, fox has come as a wolf and astronaut come as a knight. Struggling between the masculine and feminine powers could be considered. After a period of fight and struggling, some of the self-identities condenses and focuses into a beautiful fox, which may symbolize the femininity and erotic instinct. Gradual evolution into an astronaut represents the wild instinct into humanized social role. However, an astronaut may still represent the strong defensiveness to the world or the feelings of alienation. The process of sandplay sometimes help client to develop symbols of self-identity thus helps therapist to monitor the progression and to develop the images about the client.

E06

Humanistic Approach Art Therapy Applied in Clinical Field

人本取向藝術治療在精神科臨床與實務之應用

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Objective: The patient with dysthymic disorder is usually followed with depression, gloomy and miserable. It often combined with showing symptoms and sings of the diversity of the body. According to the Garai's theory, the purpose of "art therapy" is not entirely in the elimination of anxiety, pain or other emotions, and also in helping the patients to transform into a true expression through the emotional stress by the art products. We describe the curative effect and the experienced process of "humanistic approach art therapy", which involved in the psychological treatment of dysthymic disorder.

Methods: The object of the study was to use art therapy intervention with a 27-year-old male patient who was diagnosed as dysthymic disorder suffering from difficulty in attention, lethargy, and sleeping, and referred to the Department of Neurology Teaching Hospital of southern Taiwan. In retrospect, the case showed the above conditions for 12 years due to the pressure of academic examinations. However, the symptoms and signs were mild and he did not accept any treatment during this period. After retired from military, he served for the other psychiatric clinic and began to accept medication. He eventually ended up the treatment due to his serious condition such as dizziness. The totals 32 sessions of art therapy were conducted every week during the period from Aug 27, 2012 to Apr 29, 2013. The art therapist afforded the supportive as well as the developmental environment. For visual and verbal expressions.. Moreover, the humanistic approach art therapy is to integrate the patient's inner experience, help him self-development and improve his interpersonal social adaptation. In this study, the qualitative research was approached and the outcome measurements were assessed by Beck Anxiety Inventory (BAI), Beck Depression Inventory-II (BDI-II) and Questions on physical

symptoms scale for evaluating his mood status.

Results: The BAI scores measured was 4 points (normal level of anxiety) at pre-therapy, indicating that the patient did not feel obvious anxiety but sometimes with tremor and indigestion when he was in poor sleep. The BAI scores measured was 2 points (normal level of anxiety) at post-therapy. The BDI-II scores measured was 4 points (normal level of depression) at pre-therapy, appearing that the patient did not feel obvious depression but only with poor sleep quality. The BDI-II scores measured was 2 points (normal level of depression) at post-therapy. In the case of subjective self-assessment questions on physical symptoms scale, the symptoms were relieved from 0 points at pre-therapy to 6 points at post-therapy.

Conclusion: Using the humanistic approach art therapy, there are positive effects on elevating the levels of the emotional characteristics and improving the psychological status of the patient. Moreover, from the statement of Carl Rogers's philosophy, it is important for the therapist to obey the basic principle of humanistic approach art therapy. And, the principle is the progressive as well as empathic treatment and acceptance to the patient. According to our findings, humanistic approach art therapy is worth being utilized and promoted to involve in the psychological treatment of the patient with dysthymic disorder.

F01

The Impact of Supportive Groups on Social Function and Quality of Life among Chronic Mental Disorders Patients

支持性團體對慢性精神疾患的社會功能及生活品質之研究

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Objective: The aim of this study is to assess the social function and quality of life improvement among mentally ill cases through structured support groups. Through group sharing, to help mental illness patients under rehabilitation phase to strengthen their social function and to find supportive power. Furthermore, to promote their quality of life and to help them to find life goals of self-value, instead of being socially marginalized because of their

mental illness.

Methods: This study was conducted in a psychiatric hospital in the southern Taiwan. The enrolled cases were from daytime hospitalized patients and were randomly assigned to experimental (21 subjects) and control groups (11 subjects) through quasi-experimental design with nonequivalent control group. From 2012/11/27 to 2013/02/19, the experimental groups have one-hour supportive groups section every week (ten times in total), while the control groups attend other activities arranged by the hospital. A structured questionnaire was used to collect data and the analysis contents include Social Functioning Scale (SFC), including seven dimensions: social / withdrawal, interpersonal communication, independence / competence, independence / performance, entertainment, socialization, and career / employment; Quality of life scale (WHOQOL-BREF Taiwan Condensed Version), containing physiological, psychological, social relations, and environmental aspects.

Results: There were totally 32 enrolled subjects with 18 male cases and 14 female cases. Nonparametric independent statistics (Wilcoxon rank sum test) was used according to study design. The result revealed significant improvement in Social Functioning Scale ($p < .05$), especially among independence / performance, entertainment, and socialization domains. In addition, the result also showed statistical improvement in Quality of life scale ($p < .05$), especially in psychological and social relations aspects. As a result, supportive group could effectively enhance mentally ill patients' social function and quality of life.

Conclusion: According to our study, support groups can improve mental disorders patients' perception of their social functioning and quality of life. During the support group sections, they support and encourage each other through experience sharing. Through the process, they enhance social function, promote social connection, and further promote quality of life. In the future, we may consider creating member-self-help groups on the road to recovery.

F02**To Evaluate the Effectiveness of Family Health Educational Group in a Day-care Wards of Psychiatric Hospital****某精神專科醫院日間病房家屬衛教團體之成效探討**

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Objective: Due to the stigmatization of mental illness from the past, families of mental illness patients are lack of knowledge or have wrong perception of these mental illness. Under this condition, patients with mental illness showed no improvement after returning home which leads to repeated hospitalization. . However, on the process of rehabilitation for mental illness patients, not only medical members in the health care facilities but also family members play a crucial part in that process.. As a result, the main purpose of the study is to help the families to build correct medical concepts of mental illness through group education. Furthermore, we could also offer emotional outlets for the families which would promote mental illness patients to return to the community and solve family as well as social issues.

Methods: The study subjects were recruited from families with mental illness patients of a day-care ward of psychiatric hospital, through freedom of registration. From 2012/01 to 2012/12, every two months a time (total six times), physicians, nurses, social workers, and occupational therapist held health education group for enrolled family members. And the health education subjects included understanding of mental illness, how to communicate with mental illness patients, towards the road to recovery, crisis management, and other related topics. In every group section, before it started and ended, experience sharing and satisfaction survey were carried out.

Results: Before the first health educational group began, the overall satisfaction survey showed 63.64% replied with 38.18% satisfaction and 36.36% no opinion. After six times health educational groups, the last time overall satisfaction survey presented 96.80% replied, with 33.17% increase comparing to the first time, accounting for 56.80% satisfaction and 2.40% no opinion. The result showed that patients families attending health educational groups have a significant affirmation for the program. In the last experience sharing group, the

majority of the families represented they understand the impact of mental illness on the patients and they could apply relevant care as well as communication skills to interact with the patients, including: communication tips, to encourage patients' expression, remain open minded, sincere accepted, trust, and support. Besides, they also have new vision about rehabilitation. Last but not least, through bearer questionnaire, 89% of the families also agreed to have psychological support through this group which helps to relieve the long-term care pressure.

Conclusion: Based on the study result, family health educational group could provide correct medical care concepts and offer emotional outlet for families. As a result, in order to prompt mental illness patients to have continuous care after returning home, the implementation of family health educational group is necessary.

F03

Mindfulness-based Cognitive Therapy (MBCT) for Patients with Schizophrenia : First MBCT Randomized Case-control Study for Schizophrenia

精神分裂症內觀認知治療的療效比較分析

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Objective: Mindfulness-based cognitive therapy (MBCT) has been used and tested with good efficacy for patients with major depressive disorder and the anxiety disorder. There are few studies focus on using this kind of treatment method to patients with schizophrenia. There are good evidences to use cognitive behavior therapy (CBT) to help patients with schizophrenia to manage their symptoms. The study would like to test if the MBCT offers better efficacy than treatment as usual group.

Methods: 40 patients recruited from community mental health rehabilitation center in the randomized into two groups to receive eight weeks of mindfulness-based cognitive

therapy with one and half hour per session. Measurement of positive and negative symptoms (PANSS), personal and social function (PSP) before and after the treatment to compare the differences between intervention group and the treatment as usual group.

Results: After comparison the baseline score and a test is there any between group significant differences, mindfulness-based cognitive therapy showed significantly better improvement of positive and negative symptoms and the social and the personal function scale. The effect size shows moderate effect (0.7).

Conclusion: This is the first randomized control study of mindfulness-based cognitive therapy for patients with schizophrenia. Further large scale study are warranted if researchers want to generalize this result to a larger population.

F04

Existing within Chaos – the Twelfth Year Experience of An Outpatient Group Psychotherapy for Patients with Borderline Personality Disorder 立於混沌間——某醫學中心之邊緣型人格障礙團體心理治療第十二年經驗

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Objective: It was unusual that members with borderline personality disorder (BPD) had low dropout rate and high attendance rate in the 12th year of this group psychotherapy. The authors try to analyze how it occurred and to interpret how patients with BPD could find the meaning of their some sort of chaotic life when feeling positive connected with group.

Methods: Commenced in March 2001, this long-term outpatient group was based on Object relations theory and taken a psychodynamic-interpersonal-existential approach, and emphasize the improvement of mentalization ability finally. This group was designed to be heterogeneous to buffer the characteristic tension of the group purely composes of patients with BPD (Hulser, 1958; Horwitz, 1977). The authors used qualitative analysis to examine group file dated from October 2012 to June in 2013. All group sessions were tape-recorded, transcribed verbatim, and analyzed by method of case study research. The mechanisms of

change were interpreted with concepts of psychodynamic and existential psychotherapy (Frankl, 1959; Yalom, 1980; Gabbard, 2005).

Results: There were three seasons during this study, both three members with BPD and non-BPD members attended over two seasons, the attendance rate of members with BPD was over 90% at each season. There were some major changes in group format, including all the facilitators changed after seasons, the members' sitting position were mandatorily changed, and the group often discussed here-and-now issues, such as different point of view and intentionality hold by each other, even that group members protested for several times. At the final season, members with BPD showed more self-disclosure than before about what they felt during these seasons. Although they still found no major change, but having better emotion-regulation ability, and they were willing to keep on searching by attending next season.

Conclusion: The increased rates of accomplishment and attendance, and the focus on mentalization issues might imply that group members persistently try to express what were in their mind and their uniqueness. Also, members with BPD seemed to have higher tolerability for uncertainty than before. These phenomena could be the representations of the development of self and mentalization (Gabbard, 2005). Moreover, they were trying to take the responsibility of their lives based on positive and trustful connection with others in the group (Frankl, 1959; Yalom, 1980). References: 1.Frankl, V. E. (1959). *Man's Search for Meaning*. Boston, Massachusetts: Beacon Press. 2.Gabbard, G. O. (2005). *Psychodynamic Psychiatry in Clinical Practice*: Amer Psychiatric Pub. 3.Horwitz L : *Group therapy of the borderline patient*. In: Hartocollis P eds. *Borderline Personality Disorders*. New York: International Universities Press, 1977: 399-422. 4.Hulser W : *Psychotherapy with ambulatory schizophrenic patients in mixed group*. *Arch Neurol Psychiatry* 1958; 79:681-87. 5.Yalom, I. D. (1980). *Existential psychotherapy*: Basic Books.

F05**Application of Horticulture Therapy as Supportive Treatment of Schizophrenia****運用園藝輔助治療於一位精神分裂症之個案報告**

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Background: To show how horticulture therapy promoted self-achievement and eventually improved passivity in interpersonal interaction in a schizophrenia patient.

Case Report: Patient is a 44 years old schizophrenia male, separated from his wife, technology college graduate, who is gentle and introverted. Patient was 30 years old when he started to experience volatile hot temper, auditory hallucination, persecutory delusion, frequent negative thoughts and insomnia. He had previous hospitalizations at various psychiatric institutions but would have recurrent symptoms shortly after discharged. Drug compliance was fair. He barely had any interpersonal interaction because of suspiciousness. He believed that co-workers set him up hence was unable to hold down a job. When he was 42 years old, he cut himself with a knife hence was admitted to our acute ward. Upon discharge, he was referred to our daycare. Patient attended daycare regularly but was passive in interpersonal interactions. Later, patient started horticulture therapy with regular attendance. He is able to give appropriate attention and care to the plants, including observing their growth and making detailed notation. After some coaxing, he agreed to assume the role of manager in horticulture therapy class. He took this role diligently and would voluntarily ask for help in caring for the garden. He would even buy books on planting and discussed what he had read with our horticultural therapist. Once when our peas were infested with insects, on his own volition, he tried to search for possible causes in his books and this earned him admiration and appreciation from his peers. With regards to planting, he happily expressed: "I had never thought that I would be able to plant anything that would grow and now this gives me much sense of accomplishment which in turn makes planting more and more interesting." Since then, patient had been training at our sheltered coffee shop. With regards to social

interaction, he now greets workers or peers spontaneously on the street.

Discussion: Horticultural therapy requires a lot of energy input to bring about change. The hopes, expectations and joys of having the fruits of ones own labor create a sense of accomplishment and mental sustenance. Throughout the therapy, our patient changed from being passive, pessimistic, and a man-of-few-words to one who is involved, takes initiative and shares thoughts. When he was able to experience being involved in the process of curing the infested peas and to see the plants grow, he was then able to appreciate himself which in turn lead to improvement of his passive attitude with regards to interpersonal interactions and at the same time, persisted in his job training.

F06

The Effect of Group Interpersonal Psychotherapy on Facial Emotion Recognition among Schizophrenia: A Pilot Study

人際心理治療團體對精神分裂症病患的臉部表情辨識效果初探

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Objective: Impairment of facial emotion recognition has been evidenced in patients with schizophrenia. This deficit impairs interpersonal and social functioning and has been shown to be a crucial predictor of clinical outcome. Research has shown that group interpersonal therapy (IPT) is effective in the treatment of mood disorder and other psychiatric disorders, but little is known concerning the effect of such treatment on facial emotion recognition performance among schizophrenia.

Methods: In this study, we aimed to compare the effect of IPT with treatment as usual (TAU) on facial emotion recognition performance among schizophrenic patients. Thirty patients with schizophrenia were recruited from in a community mental health center affiliated to a medical center hospital, and they were randomly allocated to single-blind treatment with 8-wk IPT or TAU. Performance (measured as correct response rate) on Chinese Facial

Emotion Recognition Database (CFERD) was assessed at baseline, and after 8-wk treatment.

Results: A total 30 subjects completed the trial (15 in the IPT group, 15 in the TAU group). There were no significant between-group differences on baseline demographic data or clinical correlates. There was no significant difference of performance on CFERD between the baseline and after treatment in IPT group. The CFERD performance did not show significant difference between the two groups after treatment.

Conclusion: The present study suggests that IPT as well as TAU seemed have no significant effect on facial emotion recognition performance among schizophrenia. Larger sample size and modified psychotherapy content with more specific to facial emotion recognition will be needed to draw a conclusion in the future.

G01

The Effects of Batterer Intervention Program on Domestic Violence with a Different Assessment

家庭暴力加害人團體處遇之成效評估～以不同評量方式為例

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Objective: To investigate the effects of batterer intervention program (BIP) with a different assessment questionnaires in Taiwan.

Methods: 30 cases were assessed with the Interpersonal behavioral questionnaires (IBS) after completion of BIP 7 months later. All participants were divided into intimate partner violence (IPV) and non-IPV group according to patterns of violence. Group records and modeled domestic violence related factors were reviewed and statisti zed with variable estimation and logistic regression.

Results: There were 73% of IPV completers and 27% of non-IPV completers enrolled for our study. Completing a BIP reduces the scores of IBS. (159.7 to 154.4) Older age cases of IPV (Mean age:44.6) than non-IPV (Mean age:52.2, $p = .045$) reported great improvement in aggressiveness and hostile attitude in IBS ($t=2.80, p < .009$), especially in IPV group ($t=3.21, p=.004$) No differences in education level, occupation, or lived together or not.

Significant factors after multivariate modeling was age.

Conclusion: By IBS evaluation, the BIP was proved significantly reduced aggressiveness.

G02

A Borderline Personality Disorder Claimant Encounters an Alcoholic Offender Domestic Violence Counseling When Both Are with Personality Problems

當邊緣性人格家暴聲請人遇上酒癮相對人——雙方都有人格問題 家暴諮商

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Background: This article is the study of a domestic violence case when the two sides have personality problems (the claimant-borderline personality disorder, the offender - alcoholism). Compared to the average person, the offender is exposed to much greater psychological pressure, so the counseling process requires more empathy and care in the relationship building phase. It's also more difficult to handle the offender's emotions because he, as an alcoholic, has cognitive dissonance. He is an offender but also a victim of emotional interaction. The therapist needs to have high level empathy, educate the offender with borderline personality disorder knowledge, assist him to have more self assurance, help him to find ways to relieve stress, and enhance his abilities to get along with the claimant.

Case Report: The offender is a 40-year-old shipping company courier. He was sentenced to amphetamine rehabilitation before serving the army but he claimed the he had no more drug abuse since he was released from army duty. He started drinking when he was at junior high school. Before the occurrence of this domestic violence case, he drank about six bottles of beer or a bottle of Ginseng Deer Antler Wine daily, which led to the couple having lots of arguments about his drinking problems. The offender admitted in domestic violence awareness group that he is still drinking. He is trying to moderate alcohol consumption, but was unable to stop completely. The offender's spouse, the claimant is from a Southeast Asian

country and they have three sons and one daughter. The claimant stated the offender showed irritability, sexual urges, and utter disrespect for the claimant's unwillingness to have sex after the offender had consumed alcohol, resulting in the claimant's severe depression. The claimant had attempted suicide many times by overdosing on pills during the period when the domestic violence happened. The counseling sessions were terminated because the claimant failed to comply with a non suicide agreement. When hospitalized in the acute ward, she used suicide attempts to be manipulative, which made it harder to care for her. The improvement of her emotional behavior was poor. The talks with the offender started with empathy and affirmation of his efforts to care for his wife during her hospitalization. Then, it was the discussion of the conflicts between the offender's behaviors now and before. It's an attempt to guide the offender to discover the gap between his internal wants and external manifestations, and make him realize the adverse effects he caused. The offender constantly mentioned his love and attachments toward the claimant during talks, but also complained about the pressures from his marriage. His mother was intolerant of his wife so he was caught between a rock and a hard place. The therapist educated the offender with borderline personality disorder knowledge and helped him to find alternative ways to relieve stress. The offender had good feedback and said his ability for self control was significantly improved after twelve counseling sessions.

Discussion: It often happens in domestic violence counseling that there is no clear and absolute line for who is right or who is wrong. Both the claimants and the offenders suffer from the other's personality tendencies. When the one who is physically or mentally stronger can not relieve his or her emotions, he or she becomes the offender, and the other party becomes a claimant. Psychotherapy needs to help the clients systematically. Although the therapists may not necessarily have the means to carry out couples or family therapies, it will have good results if they can guide the clients to have deeper understanding of what happens to the other and focus on the demands of clients, accompanied by appropriate listening, caring, empathy, and the willingness to assist. The offenders are often those really in need of assistance.

H01

Impact of Executive Function on Social Functions in Youth with ADHD

執行功能對注意力不足過動症兒童的社會功能之影響

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Objective: To investigate the role of executive function (EF, visuo-spatial working memory and planning) on school and peer functions in youth with attention-deficit/hyperactivity disorder (ADHD).

Methods: The sample consisted 551 youth with persistent DSM-IV ADHD and 142 non-ADHD controls without EF deficits. All participants were interviewed by the K-SADS-E to confirm their previous and current ADHD status and other psychiatric diagnoses. Their neuropsychological functions were measured by Spatial Working Memory (SWM) and Stocking of Cambridge (SOC) from the Cambridge neuropsychological test automated battery. Parents of the participants completed the Social Adjustment Inventory for Children and Adolescents (SAICA). We compared the subscale of school function and peer relationships of the SAICA among 4 groups: (1) ADHD with SWM and SOC deficits (n=110); (2) ADHD with SWM or SOC deficit (n=180); (3) ADHD without SWM and SOC deficits (n=221); and (4) non-ADHD controls without SWM and SOC deficits (n=142).

Results: All the three ADHD groups, regardless EF deficits, had lower school grade, poorer attitude toward school work, poorer school interactions, more behavioral problems at school, and more severe problems in peer relationships social functions than non-ADHD controls without significant group differences among the 3 ADHD groups. In univariate analysis, impaired school and peer functions were related with ADHD diagnosis, worse performance in SWM and SOC, and psychiatric comorbidity. In multivariate analysis controlling for confounders, there were still positive association between performance in SWM and school and peer functions, and between performance in SOC and peer interactions. In multivariate analysis within the ADHD group, performance in SOC, but not SWM, was associated with school and peer functions. Such associations were stronger in male and older

youth with ADHD than their counterparts.

Conclusion: Our findings suggest that EF such as visuo-spatial working memory and planning may be associated with school and peer functions and planning may even play an important role in youth with ADHD with regards to their school and peer function.

H02

Very Early Onset Schizophrenia : Case Report

極早發性精神分裂症：個案報告

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Background: Although schizophrenia has been diagnosed in children, this group of disorders has received too little attention in the clinical and research literature. A greater frequency or severity of genetic and nongenetic risk factors could result in the early onset of schizophrenia. Preliminary data suggest that very early onset schizophrenia (VEOS) tends to have a worse outcome than adult onset schizophrenia, and seems to be related to a greater familial vulnerability, due to genetic, psychosocial, and environmental factors.

Case Report: The patient was 15 years old when he was hospitalized for a relapse of a suspected childhood-onset schizophrenia. Significant mental disorder was found in his family history: his mother was treated for major depression. Demonstrable impairments were already present in his premorbid development: from the age of 9, he showed significant manifestations of behavioral inhibition and separation anxiety. At the age of 10, he suddenly showed auditory and visual hallucinations associated with delusions. Their content included filiation, somatic, and persecutory themes. Grossly disorganized behavior was also observed. Negative symptoms (eg anhedonia, affective flattening, and social withdrawal) were noted. Because the diagnostic of childhood-onset schizophrenia was suspected, a neuroleptic treatment, risperidone 2 mg/day, was tried. After a partial remission during a few months period, he showed a relapse leading to his hospitalization. As soon as the diagnostic of childhood-onset schizophrenia was confirmed, he was administered the same antipsychotic agent, risperidone, at dose of 3 mg/day. Treatment with risperidone is going on, without any significant

undesirable clinical effects.

Discussion: Although schizophrenia has been diagnosed in children, this disorder has received too little attention in the clinical and research literature. A greater frequency or severity of genetic and nongenetic risk factors could result in the early onset of schizophrenia; VEOS provides an opportunity to look for the relationships between genetic and environmental factors, neurodevelopmental abnormalities, and premorbid indicators of schizophrenia. Schizophrenia is actually considered to be a neurodevelopmental disorder: abnormalities in brain development and maturation seem to begin prenatally, but continue through childhood, and the changes observed over the time have consequences for neuronal circuitry and connectivity. Recent research has focused on the premorbid indicators of schizophrenia, in order to improve the diagnostic and therapeutic interventions in the prodromal phases of the illness. In fact, early detection and precocious treatment of the first episode of schizophrenia could modify the outcome. Very early onset schizophrenia is a chronic condition, lasting through adulthood. Because of this, VEOS in children requires lifelong treatment, even during periods when symptoms seem to have subsided. There is no sure way to prevent very early onset schizophrenia. Early identification and treatment may help get symptoms under control before serious complications develop.

H03

Does Earlier Age of Initiation of Substance Use and Criminal Behavior Matter? Survey of Mental Health Problems among Taiwanese Male Juvenile Delinquents

愈早使用非法物質與違法對台灣男性青少年罪犯的精神健康影響

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Objective: The purpose of this study was to explore the relationship between earlier age of initiation of substance use and criminal behavior and later delinquency and psychiatric comorbidity among male juvenile delinquents in Taiwan.

Methods: We recruited a sample of 52 participants from northern Taiwan. All of the

participants completed a two-phase assessment: a self-administered questionnaire, and a diagnostic interview of K-SADS-E (Chinese version).

Results: The average age of initiation of use of soft illicit drugs was approximately 14 to 15 years old among male juvenile delinquents. The mean age of all kinds of substance use was significantly lower in the group of earlier age of initiation of illicit drug use and criminal behavior. Adjusting for age, those participants who commenced using illicit drug use and committing crime at an earlier age showed a greater chance of having attention deficit hyperactive disorder (ADHD), sleep disorder, alcohol use disorder or betel nut use disorder, of committing crimes involving sex, of alcohol and marijuana use, or of having a biological father who used illicit drug and had a criminal record and a biological mother who used readily-available substances and illicit drugs, and had a criminal record.

Conclusion: Participants who started using substances and exhibited criminal behavior at an earlier age had a greater chance of escalating into illicit drug use and later delinquency. The relationship between earlier age of initiation of illicit drug use and criminal behavior in this group might be useful in intervention and further research.

H04

The Effects of Theory-of-Mind and Social-Skill Teaching Program for Children with Autism Spectrum Disorder on the Social Interactive Behaviors

自閉性類幼兒心智理論能力發展及訓練之社會技能效果研究

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Objective: Children with Autistic spectrum disorders (ASD) demonstrate impairment in the following functions: (1) social interaction, (2) verbal and nonverbal communication, and (3) restricted repetitive behaviors. or interests. They are strongly associated with impairments of Theory of Mind skills. Following the great number of studies that have established this impairment, interventions have been developed worldwide. to improve the

Theory of Mind skills of individuals with autism. Many studies generally recommended to treat children as young as possible. However, few studies have shown evidence for their effectiveness. The current study to test the effectiveness of treatment effect of a Theory of Mind training for ASD, to enhance the quality of early intervention services.

Methods: Participants were 13 children with ASD, aged 3-6 years old (M=5; 0), inclusion criteria were a clinical diagnosis within the Autism Spectrum (Autism, Asperger Syndrome or PDD-NOS), and IQ scores within the normal range (70 or above), and 13 children with healthy controls (M=4; 9). All participants were administered the administered the Wechsler Preschool and Primary Scale of Intelligence Revised, Chinese Edition (WPPSI-R, 2000) and theory-of-mind scale. Parents in the group both before and after completing the social communication, the Child attachment inventory, Vineland Adaptive Behavior Scale (VABS). Each participant accepts 10 times the group treatment of theory of mind training intervention. The obtained data was analyzed by descriptive statistics.

Results: All Participants go through group therapy after some of the improvement in the socialization (80%), play skills (83%), communication (60%). Parents for the Theory of Mind training intervention of children invites to 90% of satisfaction.

Conclusion: From the results of the study, it suggests that theory of mind training intervention intervention for ASD was effectively. After receiving group therapy, patients were shown to some of the improvement in the socialization, play skills, communication.

H05

The Association between Suicidality and Internet Addiction and Activities in Taiwanese Adolescents

台灣青少年網路成癮及活動與自殺之關連性

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Objective: The aims of this cross-sectional study were to examine the associations of suicidal ideation and attempt with Internet addiction and Internet activities in a large representative Taiwanese adolescent population.

Methods: 9,510 adolescent students aged 12-18 years were selected using a stratified random sampling strategy in southern Taiwan and completed the questionnaires. The five questions from the Kiddie Schedule for Affective Disorders and Schizophrenia were used to inquire as to the participants' suicidal ideation and attempt in the past one month. The Chen Internet Addiction Scale was used to assess participants' internet addiction. The kinds of Internet activities that the adolescents participated in were also recorded. The associations of suicidal ideation and attempt with Internet addiction and Internet activities were examined using logistic regression analysis to control for the effects of demographic characteristics, depression, family support and self-esteem.

Results: After controlling for the effects of demographic characteristics, depression, family support and self-esteem, Internet addiction was significantly associated with suicidal ideation and suicidal attempt. Online gaming, MSN, online searching for information, and online studying were associated with an increased risk of suicidal ideation. While online gaming, chatting, watching movies, shopping, and gambling were associated with an increased risk of suicidal attempt, watching online news was associated with a reduced risk of suicidal attempt.

Conclusion: The results of this study indicated that adolescents with Internet addiction have higher risks of suicidal ideation and attempt than those without. Meanwhile, different kinds of Internet activities have various associations with the risks of suicidal ideation and attempt.

H06

Prevalence of Allergic Rhinitis in Patients with Attention Deficit

Hyperactivity Disorder: a population-based study

過敏性鼻炎在注意力缺失過動症患者的盛行率研究

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Objective: Allergic rhinitis (AR) is common in children. Characteristic symptoms of AR may result in daytime inattention, irritability, and hyperactivity, which are also components of ADHD. Conflicting data in previous studies exist regarding the relationship between ADHD and AR. The aim of this study was to examine the prevalence and risk of AR in ADHD patients in Taiwan.

Methods: The study subjects included 469 patients who received psychiatric care for ADHD in 2005 and the general population (n = 220,599). Distributions of age, gender, and living areas as well as allergic diseases in the general population and in the ADHD group were examined by χ^2 tests. Multivariate logistic regression models were used to analyze the risk factors of AR.

Results: The prevalence of AR in ADHD group and the general population was 28.4 and 15.2 %, respectively. The prevalence of asthma was 9.6 % in ADHD group and 6.4 % in the general population. Both the prevalence of AR ($p < 0.001$) and asthma ($p = 0.008$) was significantly higher in ADHD group than the general population. The multivariate logistic regression analysis showed that ADHD patients had an increased rate of AR than general population (OR = 1.83; 95 % CI = 1.48-2.27; $p < 0.0001$), and asthma was strongly associated with AR (OR = 9.28; 95 % CI = 8.95-9.63; $p < 0.0001$).

Conclusion: Our data showed that ADHD patients had an increased rate of AR. Therefore, psychiatrists should be more aware of the comorbidity of AR when treating ADHD patients.

H07

Gender Difference in Sleep Trajectories of Junior High School Students 國中生睡眠發展軌跡之性別差異

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Objective: Sleep problem is one of the most frequent mental health concerns in adolescents but a substantial number of studies on adolescent sleep has focused on epidemiology rather than sleep pattern trajectories. The objective of this study is to explore gender difference in sleep trajectories of adolescents.

Methods: Data from 2,422 students followed from the 7th to 9th grade (from 2007 to 2009) as part of the Child and Adolescent Behaviors in Long-term Evolution (CABLE) Project were used for analysis. The weekday and weekend total sleep time of 7th to 9th graders were calculated by time of awaking and time of going to bed respectively. The sleep debt was calculated by difference of total sleep time between weekend and weekday. Firstly, annual gender differences of sleep patterns were tested by independent t test. Secondly, annual sleep parameters differences (total sleep time on weekdays, total sleep time on weekends, and sleep debt) were tested by repeated measurement of general linear model stratified by gender. Thirdly, different sleep debt trajectories of different gender were illustrated according to Bayes Factor as a guide to compare model fit (Latent Class Growth Model, LCGM). We selected the most parsimonious model and part of this decision included the relative size of each resulting profile so that, ideally, no one cluster held less than approximately 5% of the total sample.

Results: There were 1158 females and 1160 males enrolled. The result of independent t tests revealed gender differences in weekday total sleep time, weekend total sleep time, and sleep debt among the 7th, 8th, and 9th graders (all $p < 0.001$). There were also significant gender differences of weekday total sleep time, weekend total sleep time, and sleep debt from 7th to 9th grade (all $p < 0.001$) even though the interaction of sleep parameters and sex were not significant. The best LCGM for female sleep debt identified 2 latent classes, the Moderate class (75.4%) and the High class (24.6%). The best LCGM for male sleep debt identified 3 latent classes, the Negative class (10.1%), the Moderate class (71.6%) and the High class (18.3%).

Conclusion: Gender difference does exist in the sleep trajectories of this sample. There should be still rooms for exploration of the detailed mechanism of sleep trajectories among junior high school adolescents.

Ho8

Impact of ODD/CD on Neuropsychological Functions in ADHD

對立反抗症／行為規範障礙症對注意力不足過動症神經心理功能之影響

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Objective: To evaluate the neuropsychological functions in adolescents with attention-deficit/hyperactivity disorder (ADHD) and ADHD comorbid with oppositional defiant disorder (ODD) or conduct disorder (CD)

Methods: We recruited 463 adolescents who were clinically diagnosed with ADHD 4 to 5 years before this study and 270 non-ADHD controls aged between 10 and 18 years at ascertainment. All participants were interviewed by the K-SADS-E to confirm their previous and current ADHD status and other psychiatric diagnoses. Neuropsychological functions were measured by Cambridge Neuropsychological testing automated battery (CANTAB) and compared among 4 groups: ADHD without ODD/CD (ADHD alone), ADHD with ODD (ADHD+ODD), ADHD with CD (ADHD+CD) and controls.

Results: Adolescents in the ADHD+ODD and ADHD+CD groups had more severe symptoms of inattention and hyperactivity/impulsivity than those in the ADHD alone group both at present and baseline, except similar severity of inattention between ADHD alone and ADHD+CD at present. Comorbid with CD was correlated with more mood disorders, especially bipolar disorders than other three groups and comorbid with ODD correlated with more specific phobia. ADHD itself was associated with EF deficits, including spatial working memory, spatial planning, and low EF deficits, such as vigilance, spatial short term memory and visual recognition memory. Comorbid with CD was associated with less impairment in vigilance and activation and comorbid with ODD was similar to ADHD.

Conclusion: ADHD+CD might be a distinct disease entity different from ADHD alone while ADHD+ODD had similar neuropsychological profile with ADHD.

H09

Relationship of Teacher Bullying and Domestic Physical Abuse with Peer Bullying Involvement and Their Association with Mental Health

Problems in Adolescents

青少年遭受教師霸凌、家庭身體虐待與涉入同儕霸凌的關係以及與精神病理之關連性

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Objective: This study aimed to examine the relationship of experiences of teacher bullying and domestic physical abuse with peer bullying involvement in adolescents. This study also aimed to examine the association of experiences of teacher bullying and domestic physical abuse increase with depression, anxiety, suicidal risk, alcohol drinking and low self-esteem in adolescents with peer bullying victimization and perpetration, respectively.

Methods: 6,160 students of junior and senior high schools completed the questionnaires. The experiences of teacher bullying and domestic physical abuse were measured. Peer bullying involvement was assessed by using the Chinese version of the School Bullying Experience Questionnaire. The Mandarin Chinese version of the Center for Epidemiological Studies-Depression Scale, Taiwanese version of Multidimensional Anxiety Scale for Children, the 5-item suicidality-related questionnaire from the epidemiological version of the Kiddie-Schedule for Affective Disorders and Schizophrenia, CRAFFT alcohol abuse screening test and the Rosenberg Self-Esteem were applied to assess depression, anxiety, suicidal risk, alcohol drinking and low self-esteem, respectively. The relationship of experiences of teacher bullying and domestic physical abuse with peer bullying involvement and the association of experiences of teacher bullying and domestic physical abuse with mental health problems in adolescents with peer bullying victimization and perpetration were examined by using logistic regression analysis model.

Results: The results found that after controlling for the effects of age and sex, the experiences of teacher bullying and domestic physical abuse were significantly associated with peer victimization and perpetration of bullying. Except for anxiety in perpetrators, the

experiences of teacher bullying and domestic physical abuse were significantly associated with depression, anxiety, suicidal risk, alcohol drinking and low self-esteem in adolescents with peer bullying victimization and perpetration, respectively.

Conclusion: The results of this study indicated that adolescents with teacher bullying and domestic physical abuse may have a higher risk to involve in peer bullying involvement. Meanwhile, teacher bullying and domestic physical abuse may further compromise mental health conditions of adolescents with peer bullying victimization and perpetration.

H10

School Dysfunction in Youths with Autistic Spectrum Disorders

泛自閉症障礙青少年之就學障礙

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Objective: Patients with autistic spectrum disorder (ASD) have poor social interactions and school performance, but the relationship between school performance and subtypes of ASD, parental educational levels, and presence of attention-deficit hyperactivity disorder (ADHD) remains unclear. This study examined school functions in youths with ASD as compared to typically developing (TD) youths stratifying by the subjects characteristics.

Methods: The sample consisted of 160 youths with ASD (male, 87.5%, aged 8-18) and 160 age- and sex-matched TD youths. In the ASD group, there were 44 with typical autism (TA), 55 with high-functioning autism (HFA), and 61 with Asperger's Disorder (AD); there were 79 with ADHD and 81 without ADHD. Our analyses were stratified by age group (8-11 and 12-18), ASD subtypes, parental educational levels as college, and the presence of ADHD. School functions including academic performance, attitude toward schoolwork, school interaction, and school behavioral problem were assessed based on parents' reports.

Results: In general, the ASD group had poorer school functions in all the domains assessed herein than the TD group, regardless of the subject characteristics with the following exceptions that there were no differences in academic performance for parents' education as senior high or below, youths with HFA, and absence of ADHD. There were no ASD subtype

differences except poorer academic performance but better attitude toward school work in TA than HFA and AD. The presence of ADHD was associated with increased severity of all the domains of school dysfunctions except the performance in social science and natural science.

Conclusion: Our findings lend evidence to support impaired school functions in several domains except the academic performance in youths with ASD, regardless of ASD subtypes and the presence of ADHD. Youths with HFA and ASD youths without ADHD did not have academic underachievement. Our findings of the impact of ADHD on overall school function indicate the importance of treatment for ADHD to offset impaired function at school for ASD youths with ADHD.

H11

Serotonin-Norepinephrine Receptor Inhibitor (SNRI) Associated Mixed Episode in an Adolescent with Schizoaffective Disorder~ a Case Report

SNRI 相關的混合型躁鬱症症狀在情感性精神分裂症青少年的表現：個案報告

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Background: To our knowledge, there had only been one report on ultra rapid cycling associated with duloxetine in an adolescent with bipolar disorder. Here we report a mixed episode switch associated with duloxetine in an adolescent with schizoaffective disorder.

Case Report: Miss A, a 17 year-old female adolescent with juvenile rheumatoid arthritis (JRA) and schizoaffective disorder (depressive type) was hospitalized for depressed

mood, visual/auditory hallucination, delusion of being occupied and suicide attempt for 4 months. She was treated with selective serotonin receptor inhibitor (fluoxetine) 30mg per day (mg/d) and risperidone 6mg/d for her depressive and psychotic symptoms, and prednisolone 6mg/d for her JRA-associated joint pains. However, she had persistent low mood, insomnia, hopelessness, suicide ideation/plan, impaired attention, and worthlessness despite improvement in her joint pain and psychotic symptoms after two months of treatment, and hence her antidepressant was switched to duloxetine 30-60mg/d. After 2 months of duloxetine treatment, she became irritable and talkative, had increased goal-directed activities, multiple planning, decreased sleep need, and aggression along with subjective low mood, suicide ideation, worthlessness. Duloxetine was discontinued immediately and clonazepam 8mg/d and lamotrigine 100mg/d were added for her mixed episode, which was resolved after 3 weeks.

Discussion: This is the first report of duloxetine-associated mixed episode in an adolescent with schizoaffective disorder. Although duloxetine was reported as having low incidence of association with treatment-related hypomania or manic symptoms, our report illustrates that careful measures should be taken when duloxetine is prescribed in adolescents with risk for bipolarity.

H12

Mother-Child Relationship in Siblings of Adolescents with Attention Deficit Hyperactivity Disorder

注意力不足過動症青少年與其手足之母子關係

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Objective: Rate of ADHD in siblings of probands with ADHD is 7 times higher than in

general population and impaired mother-child relationship in ADHD probands had been reported. However, there is sparse research on the mother-child relationship in siblings of ADHD adolescents. This work examined mother-child relationship in affected and unaffected siblings of adolescents with ADHD as compared to that of ADHD adolescents and non-ADHD school controls.

Methods: The study enrolled 122 probands, aged 10-16, with DSM-IV ADHD, 44 affected and 78 non-affected siblings, and 122 non-ADHD. Both participants and their mothers received the K-SADS-E interviews and reported on mother-child relationship and family function.

Results: Both reports revealed affected siblings and ADHD adolescents had less affection/care and more authoritarian control than unaffected siblings and non-ADHD adolescents. Meanwhile unaffected siblings and non-ADHD adolescents had less impaired mother-child relationship and fewer problems with parents than ADHD adolescents. However, siblings regardless of affected status and ADHD adolescents had lower perceived family support than non-ADHD adolescents. Both mothers and adolescents had similar views on reports of maternal overprotection and mother-child relationships, yet disagreed on reports of maternal affection and control, problems with parents and perceived family support.

Conclusion: The finding suggested that the presence of ADHD had impact on maternal parenting behaviors toward the children themselves; whereas, having a child with ADHD was associated with decreased perceived family support regardless of ADHD status in the same family.

H13

Trends of Hypnotics Use among Children and Adolescents in Taiwan 台灣兒童青少年安眠藥物使用之趨勢研究

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Objective: We used the population-based National Health Insurance database to investigate the trends of hypnotics use among children and adolescents in Taiwan during 1997 to 2005.

Methods: The National Health Research Institutes provided a database of 1,000,000 random subjects for study. We obtained a sample aged 18 years or younger for each year on July 1 from 1997 to 2005. Those subjects who were given at least one hypnotic drug mentioned above in either inpatient or outpatient setting were identified. The hypnotic drugs were classified into benzodiazepine derivatives (BZD), benzodiazepine related drugs(Non-BZD), barbiturates, and others according to the ATC classification system. Trends of the hypnotics use during the study period were investigated.

Results: The prevalence of hypnotics use among children and adolescences in Taiwan increased from 0.08% to 0.18% from 1997 to 2005. Among different hypnotics, the prevalence of benzodiazepine derivatives (BZD) use increased from 0.07% to 0.17% while the prevalence of other hypnotics remained stable. The increase in hypnotics use was observed in both genders. With regard to age, the prevalence of hypnotics use increased in those aged 0-5 and 6-11. Although the increase of hypnotics use was also observed in adolescent population, it was not statistically significant.

Conclusion: The hypnotics use among children and adolescents in Taiwan increased during 1997 to 2005. Such phenomenon was note in both genders. The increase was also observed in those aged 0-5 and 6-11 but not in the adolescents. Further studies such as the investigation of disease patterns in various age and gender groups, the analysis of distribution of psychiatric and non-psychiatric diseases, the comparison of different benzodiazepine derivates (BZD), and the assessment of prescription behaviors of clinical physician are warranted.

H14

Combination of Family-Based Treatment and Pharmacotherapy for Adolescents with Anorexia Nervosa: A Three Cases Study

合併家族治療與藥物治療於厭食症青少年之臨床經驗

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Background: Anorexia Nervosa (AN) is a difficult-to-treat disorder that disrupts normal development and causes major physical and psychosocial disability. The family-based intensive treatment, such as Maudsley method, has shown great promise for adolescents with AN in Western country. Here, we present our experience of treating three adolescent cases and compare it with the duration of phase I treatment of re-feeding and weight restoration in Maudsley method and the combination of pharmacotherapy.

Case Reports: [Case 1] The 14.8 years-old girl had developed strong will for thinner and her body weight (BW) decreased progressively for six months after significant interpersonal conflicts at the intake of our psychiatric clinic; with her BW being 31 kg, body mass index (BMI) 12.4, secondary amenorrhea and depression. It took 8 weeks for her BW to restore to 94% of ideal BW in phase I. The antidepressant monotherapy was applied from 2nd to 36th week. [Case 2] The 15 years-old girl had gradually decreased BW, amenorrhea, and rigid thoughts of keeping thin since past twelve months. The first evaluation showed 30.8 kg and 12.9 for the BMI. In her family, only her mother was available to join the treatment. The phase I took 12 weeks/sessions to 90% of ideal BW. The monotherapy of antidepressants was applied during the 13th to 24th weeks. [Case 3] The 16.4 years-old girl had gradually decreased BW, amenorrhea, and rigid thoughts of keeping thin since past six months. The first evaluation showed 29 kg and 12.5 for the BMI. Because of her mothers anxiety and the poor functioning parenting, she was admitted for further family therapy, diet management and pharmacotherapy in the hospital. The phase I took 5 weeks/sessions to 85% of ideal BW.

Discussion: The successful treatment of these two cases implies the effectiveness of family-based outpatient treatment for Taiwanese adolescents with AN also as which in western countries. Symptomatic treatment with psychotropics may offer additional help during the course of treatment.

H15

Case Report: Facilitated Communication (Supported Typing) in a Poor-Verbal Autistic Boy

個案報告：低口語打字溝通與心理輔導

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Background: We introduced the therapeutic progress in a autistic boy receiving facilitated communication(supported typing).

Case Report: This boy is a kindergartener. He was diagnosed with autism with presentation of speech delay and poor social reaction at age of 2 in CGMH. He received early intervention including occupational therapy, sensory integration, speech therapy, and interpersonal communication skill training. But he still has limited language expression and poor spontaneous speech continually. Because he has better language comprehension than expression, the therapist tried to help him express by supported typing. In the beginning the therapist held his hand to practice typing (ex: typing 『厂×ノ夕一セノ』 when showing him the picture of a butterfly). The therapist also educated his parent how to guide him to type. He had behavioral disturbance like knocking the floor, biting clothes, and leaving his position while practicing, especially when he couldnt do it well and felt frustrated. The therapist encouraged him to type why he did so and gave him positive reinforcement. And then he could type some daily events in his life like where he went, although sometime the message he typed was hard to understand. Latter he could express his feeling by typing, like he was angry he typed so slow, he felt tired whiling practicing typing, he was inferior to others, someone teased him... and so on. The therapist could perform cognitive behavioral therapy through facilitated communication and educated him to choose appropriate skills or strategies to cope with those problems he faced. Finally he had decreased self-stimulating and disturbing behaviors. He held the therapists hand for typing actively. Sometimes he could speak out some words along with typing. Facilitated communication did help him to express himself more.

Discussion: Many poor verbal autistic patients has difficulties on communicating with others due to their limited language expressive ability. Facilitated communication (supported

typing) is a technique to help these patients express themselves by typing. In this way they can alleviate their emotional disturbance and enhance their self-performance.

H16

Case Report: Counseling on a Child of Trichotillomania

個案報告：拔毛症兒童焦慮介入和心理輔導

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Background: We report how to intervene a child of trichotillomania with patient-centered play therapy through communication with her family/teacher and behavioral modification.

Case Report: This case is a 3rd grade girl with developmental delay since childhood. Her parents have the history of illicit substance abuse and got divorced when she was a toddler. Her father has been in a vegetative state due to an accident before she entered kindergarten. Her grandmother and aunt are her main caregiver and her grandmother educated her mainly based on punishment. She had continual pacifier sucking until 1st grade. She had finger sucking and hair pulling behaviors since 1st grade. These abnormal behaviors stopped after seeking medical help twice. However, hair pulling recurred and worsened at summer vacation before 3rd grade. So her grandmother brought her to our hospital for help. In the beginning of therapy she had strong resistance and tried to provoke the therapist continually. She tried to attack the therapist, destroy whatever she saw in the playroom and break all the rules on purpose. It is hard to establish rapport with her until 4th session. We tried to let her understand the purpose why she came here and set up the goal of 8 sessions in total. Thereafter we explored how she felt while facing separation and loss with her parent via projective role playing game. We established relationship with her through the playing progress, strengthened her positive interpersonal reaction, and educated her aunt and teacher how to communicate with her. The goal is to let her have secure attachment with her main caregiver. In the latter sessions she could step into the play room actively. No more hair pulling behaviors were found and the frequency of finger sucking decreased. She also had better interpersonal reaction and

academic performance at school.

Discussion: Trichotillomania in children has strong ties with environmental anxiety. It is highly related with loss, separation, and neglect with family in early childhood. This case we present was born in a high risk family with vulnerable attachment. She developed hair pulling and finger sucking behaviors to relieve her anxiety while facing relationship transition. It is hard to establish rapport with her. However, mediating by play, we approached her in a warm and firm way and played the role of another secure attachment object. She could develop a new ego to fight against stress in her life. It is effective to help children deal with their anxiety by play therapy and strengthening their positive behavioral mode.

H17

Different Level of Cognitive Flexibility between Youth with Autism and Asperger's Disorder

自閉症與亞斯伯格症青少年在認知彈性表現之程度差異

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Objective: Executive dysfunction has been widely explored in multiple psychiatric disorders. It involves a range of higher-order cognitive processes includes planning, working memory, mental flexibility, response initiation, response inhibition, impulse control, and monitoring of action. Among these, set-shifting and planning are perhaps the most reliably implicated in Autism Spectrum Disorders (ASDs). Previous studies also showed selective and specific relationships with restricted and repetitive behaviors. In this study, we aim to compare the different level of cognitive flexibility between youth with autism and Asperger's disorder and explore its relationship with clinical symptoms severity.

Methods: One hundred and eighty seven individuals with autism disorder (AD), 170 with Asperger's disorder (AS) and 123 controls were participated. Their demographic variables were matched for age (mean±SD; AD: 10.69±3.01, AS: 10.95±3.01, Control: 12.44.0±1.52), gender (Male%; AD: 86.6, AS: 86.5 Control: 70.7), Full-Scale IQ (AD:

97.99±16.96, AS: 108.70±14.44, Control: 106.56±11.08), Performance IQ (AD: 100.22±17.75, AS: 106.47±15.78, Control: 109.30±13.30), and Verbal IQ (AD: 96.41±17.91, AS: 109.81±14.98, Control: 103.72±10.12). All participants completed the Wisconsin Card Sorting Test (WCST), an assessment of several executive processes concerned with problem solving and cognitive flexibility. Scores for the numbers of category achieved (CA), numbers of response cards until the first category achieved (NUCA), total errors (TE), and perseverative errors (PE) were analyzed.

Results: Performances of CA, TE and PE in AD group were poorer than those in AS group, and ASD groups performed worsen than control group (CA; AS: 4.14±2.02, AD: 5.12±1.53, Control: 5.68±0.94, $p<0.0001$; TE; AS: 43.03±25.81, AD: 32.52±21.53, Control: 23.00±15.89, $p<0.0001$; PE; AS: 23.97±20.32, AD: 15.08±11.29, Control: 10.19±6.13.5, $p<0.0001$). Interestingly, AD group had less NUCA compared to both AS and control groups (NUCA; AS: 25.53±29.24, AD: 16.89±17.57, Control: 19.46±17.34, $p=0.0013$).

Conclusion: In this study, we measure cognitive flexibility in youth with ASD using WCST. Controlled with IQ and other variables, patients with ASD show more PE reflecting somewhat inability to adapt to the new situation. The PE severity has different level in AS and AD groups. At the same time, AD group has better NUCA implying better initial conceptualization ability, which may be underlying different mechanism to AS group or compensated cognitive function performance. With further studies, WCST could be a simple and robust neurocognitive endophenotype in ASD and help to build up better understanding of cognitive theory in ASD.

H18

Increased Risk of Depression Subsequent to a First Attack of Urticaria in Adolescence: A Nationwide Population-based Study

青少年首次蕁麻疹發作後增加憂鬱風險：全民健保資料庫研究

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Objective: Urticarial symptoms (e.g., unusual looking rash, limited daily activities,

recurrent itching) might contribute to develop depression in adolescents, but this potential link has not been studied. We aimed to investigate the risk of depression after urticaria using a nationwide population-based study.

Methods: This study used the Taiwan Longitudinal Health Insurance Database. A total of 5,755 adolescents (aged 13 to 18 years) hospitalized for a first-attack urticaria from 2005 to 2009 were recruited as a study group, together with 17,265 matched non-urticaria enrollees as a control group. Each patient was prospectively traced for one year to identify the occurrence of depression. Cox proportional hazards models were generated to compute the risk of depression between the study and control groups, making adjustments for sociodemographic characteristics. Depression-free survival curves were also analyzed. Finally, the risks of depression were analyzed between different age groups.

Results: Thirty-four (0.6%) adolescents with urticaria and 59 (0.3%) non-urticarial control subjects suffered a new-onset depression during this period. The stratified Cox proportional analysis showed that the crude hazard ratio of depression among adolescents with urticaria was 1.73 times (95% CI, 1.13-2.64) that of the control subjects without urticaria. Patients with history of asthma were more likely to suffer depression ($p < 0.05$). Finally, urticaria was determined to be a risk factor for depression only in adolescence and not in patients aged < 13 years ($n = 6,745$) or those aged between 19 and 24 years ($n = 7,185$).

Conclusion: Individuals who have a first-attack of urticaria during adolescence are at high risk of developing depression.

H19

Higher Risk of Developing Mood Disorders among Adolescents with Comorbidity of Attention Deficit Hyperactivity Disorder and Disruptive Behavior Disorder: A Nationwide Prospective Study

注意力不足過動症之青少年共病決裂性行為疾患之情緒疾患風險：全國性前瞻性研究

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Objective: Attention deficit hyperactivity disorder (ADHD), conduct disorder (CD), and oppositional defiant disorder (ODD) are frequently comorbid. Previous studies suggested that the comorbidity of CD and ODD in ADHD may increase the risk of a further development of mood disorder, but most studies had a small sample size.

Methods: Using a population-based prospective study design, a large sample composed of 1277 adolescents with ADHD-alone, 46 with ADHD+ODD, 87 with ADHD+CD, and 5640 age/gender-matched controls were enrolled in 2003. These cases were followed to 2010 to identify the cases developing unipolar depressive disorder and bipolar disorder.

Results: ADHD+CD groups exhibited a higher prevalence of unipolar depressive disorder (23.0% vs. 13.0% vs. 8.7% vs. 0.7%, $p < 0.001$) and bipolar disorder (3.4% vs. 2.2% vs. 1.3% vs. 0.2%, $p < 0.001$) than ADHD+ODD group, ADHD-alone group, and control group. Adolescents with ADHD+CD, those with ADHD+ODD, and those with ADHD-alone had a higher likelihood of developing unipolar depressive disorder (hazard ratio [HR]: 44.34, 95% confidence interval [CI]: 23.95~71.36; HR: 18.76, 95%CI: 7.87~44.71; HR: 13.01, 95% CI: 8.99~18.82) and bipolar disorder (HR: 14.39, 95%CI: 4.00~51.80; HR: 8.32, 95%CI: 1.06~65.32; HR: 5.24, 95%CI: 2.44~11.24) than the controls.

Conclusion: Adolescents with ADHD had elevated risks of unipolar depression and bipolar disorder in their later life, and especially, those with ADHD and comorbidity of CD or ODD exhibited the highest risk. Further study would be required to evaluate whether prompt intervention for ADHD and disruptive behavior problems would decrease the risk of developing mood disorder.

H20

Microstructure Disintegrity of Children with Attention Deficit/ Hyperactivity Disorders: A Diffusion Spectrum Imaging Study

兒童注意力不足過動症之大腦微結構不完整性：擴散頻譜造影研究

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Objective: Attention Deficit/Hyperactivity Disorder (ADHD) is a prevalent neuropsychiatric disorder with recent evidence of widespread brain abnormalities. Diffusion imaging studies have showed white matter microstructure disintegrity in several brain regions, including the frontostriatal tract, cingulum, superior longitudinal fasciculus, inferior longitudinal fasciculus, corpus callosum, corticospinal tract, etc. In this study, we aimed to examine the microstructure integrity using diffusion spectrum imaging (DSI) whole brain approach to identify the fiber tracts which can distinguish subjects with ADHD and healthy controls.

Methods: Fifty-three children with ADHD and fifty-three age-, sex-, handedness- and intelligence-matched healthy controls received psychiatric and DSI assessments. After acquisition of the DSI, whole brain tractography was made by template-based approach following by computing generalized fractional anisotropy (GFA) values along individual targeted fiber tracts to investigate alterations in microstructure integrity of these tracts.

Results: Our results show that children with ADHD had lower GFA in several fiber tracts than healthy controls. Significant group differences were found in right cingulum, both sides of superior longitudinal fasciculus, and three portions of corpus callosum, including superior temporal, middle temporal, and hippocampus. Moreover, three frontal related tracts, caudate to middle orbital frontal gyrus, caudate to inferior frontal gyrus triangular part, and putamen to precentral gyrus included, were found to be significantly different.

Conclusion: Our findings demonstrate widespread disturbance of white matter microstructure integrity among children with ADHD. White matter disintegrity could be found not only in the frontostriatal circuits, but also in the connections between corpus callosum to temporal lobe, and frontal lobe to parietal lobe as well.

H21

Neuropsychiatric Diagnosis, Emotional-behavioral Symptom, and Functional Outcomes in Adolescents Born Preterm with Very Low Birth Weight

極低出生體重早產兒於青少年期之神經精神診斷、情緒與行為症狀、生活功能之研究

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Objective: Very low birth weight (VLBW; birth weight ≤ 1500 g) children run a greater risk of neurodevelopmental disabilities. In this follow-up survey, we examined the emotional-behavioral symptoms, neuropsychiatric diagnosis and living condition in a group of geographically based 4-year birth cohort of VLBW adolescents born in 1996-1999 in Southern part of Taiwan.

Methods: The subjects were VLBW infants as registered in the Kaohsiung Medical University Hospital newborn registry from Jan 1, 1996 to Dec 31, 1999. In total 148 subjects were eligible. Prenatal, perinatal and postnatal conditions were retrieved from historical records. Psychiatric interview was arranged by child psychiatrist. Parents were asked to fill out the Child Behavioral Checklist (CBCL-Chinese version) and the Living Status Questionnaire. At follow-up, 37 subjects were confirmed death, and 61 subjects/families gave consents to participate in the survey. The participation rate was 55%.

Results: For children born with VLBW, our neonate survival rate was 75.7% (112/148). Of the 61 participants, the current average age is 13.4 years, and 52.4% of them are male. 13 of them were of birth weight less than 1000gm (Extremely Low Birth Weight, ELBW). In CBCL-Syndrome Scale, 17.3% of adolescents were reported to have emotional or behavioral problems above clinical cutoff. In the Living condition Questionnaire, 90.2% of the parents

worried about their children. 16.4% of the adolescents still received ongoing physical rehabilitation programs and/or medication; 26.2% of the adolescents were currently with individualized educational services as mandated by the Special Education Law. Regarding neuropsychiatric disorders we surveyed, 52.5% of the participants were diagnosed with one disorder, while 29.5% had two or more disorders. The most common three diagnoses were cerebral palsy (24.6%), followed by intellectual disabilities (21.3%) and attention deficit/hyperactivity disorder (19.7%). 32.8% of the participants was considered as Disability. Multivariate logistic regression analysis revealed that neonatal sepsis and having Grade III/IV intraventricular hemorrhage were most predictive for the disability prognosis in adolescence. Adolescents born ELBW showed more social problems in CBCL-symptom scales ($p=0.012$), and more diagnosis of ASD than the adolescents born with birth weight of 1000-1499 gm ($p=0.043$).

Conclusion: In the context of an Asian developing country, a substantial percentage of adolescents born VLBW were found to have parental-reported emotional-behavioral problems and confirmed neuropsychiatric diagnosis in need of clinical attention. We hope this finding will be of importance in the development of informed public policy and services for families and children born preterm with VLBW.

H22

Prediction of Childhood ADHD Symptoms to Quality of Life in Young Adults: Adult ADHD and Anxiety / Depression as Mediators

由兒童期注意力不足過動症預測年輕成人生活品質：以成人注意力不足過動症及焦慮／憂鬱為中介變項

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Objective: Childhood attention-deficit/hyperactivity disorder (ADHD) symptoms may persist, co-occur with anxiety and depression (ANX/DEP), and influence quality of life (QoL)

in later life. However, the information about whether these persistent ADHD and ANX/DEP mediate the influence of childhood ADHD on adverse QoL in adulthood is lacking. This study aimed to determine whether adult ADHD symptoms and/or ANX/DEP mediated the association between childhood ADHD and QoL.

Methods: We assessed 1382 young men aged 19-30 years in Taiwan using self-administered questionnaires for retrospective recall of ADHD symptoms at ages 6 to 12, and assessment of current ADHD and ANX/DEP symptoms, and QoL. We conducted mediation analyses and compared the values of mediation ratio (PM) by adding mediators (adult ADHD and ANX/DEP), individually and simultaneously into a regression model with childhood ADHD as an independent variable and QoL as a dependent variable.

Results: Our results showed that both adult ADHD symptoms and ANX/DEP significantly mediated the association between childhood ADHD and later QoL (PM = 0.71 for ANX/DEP, PM = 0.78 for adult ADHD symptoms, and PM = 0.91 for both). The significance of negative correlations between childhood ADHD and overall and four domains of adult QoL disappeared after adding these two mediators in the model.

Conclusion: Our findings suggested that the strong relationship between childhood ADHD and adult life quality can be explained by the presence of persistent ADHD symptoms and co-occurring ANX/DEP. These two mediators are recommended to be included in the assessment and intervention for ADHD to offset the potential adverse life quality outcome in ADHD.

H23

The Effect of Social Responsiveness on The Psychosocial Impairment among The Adolescents with Psychiatric Disorders

探討精神疾患青少年的社會反應對其心理社會功能缺損之影響

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Objective: Mental disorders will result in psychosocial functional impairment in several aspects. Besides the core psychopathology of different mental disorders, the characteristics of the social responsiveness also play some role in their social functions. This study is attempt to look about the condition of social impairment among adolescents with different mental disorders, and the relations between psychosocial impairment and their social responsiveness.

Methods: 112 Adolescents, aged 12-16 years, with ASD (25), schizophrenia/bipolar disorders (14), major depressive/anxiety disorder (32), and ADHD (40) had been recluded from the adolescent mental health clinic. 92 typical adolescents were recruited from local Junior high school as normal control. Their parents/main caretakers filled out SRS (Social Responsiveness Scale) and SAICA (Social Adjustment Inventory for Children and Adolescents) according to their condition. SRS is a rating scale to assess the components of social responsiveness. SAICA is a scale to assess the social adaptation status of adolescents.

Results: After Post-Hoc test, we found the adolescents with different psychiatric disorders had significantly impaired comparing to typical adolescents in school achievement, school perception, school adjustment, interaction with peers, problems with peer, and interaction with mother (All $p < 0.001$ - $p < 0.05$ by ANOVA with Bonferroni test). The adolescents with psychiatric disorders and no significant difference either in interaction with siblings or in interaction with father. However, there was no difference in all aspects of psychosocial adjustment subscales of SAICA among the four groups of adolescents with psychiatric disorders. The results also showed the social awareness, social cognition, social motivation, social communication and mannerism had different impacts on their psychosocial function among adolescents with different psychiatric disorders.

Conclusion: Besides the psychopathology of psychiatric disorders, the nature and the characteristics of adolescent social responsiveness also play some significant role in their psychosocial function impairment. The interaction effects between the psychopathology of psychiatric disorders and the characteristics of social interaction in adolescents need further investigation.

H24

The Relationships between Attention Deficit / Hyperactivity Disorder Symptoms and Quality of Life in Taiwanese Adolescents 台灣青少年注意力缺損過動症狀與生活品質的相關性

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Objective: The aims of this cross-sectional study were to examine the relationships between seven domains of quality of life (QOL) on the Taiwanese Quality of Life Questionnaire for Adolescents (TQOLQA) and Attention Deficit /Hyperactivity Disorder (ADHD) symptoms among Taiwanese adolescents in the community.

Methods: A total of 4817 adolescent students in southern Taiwan were recruited into this study and completed the questionnaires, including TQOLQA, Multidimensional Anxiety Scale for Children-Taiwanese Version (MASC-TW), Attention Deficit/Hyperactivity Disorder Self-Rated Scales (ADHDS), Center for Epidemiologic Studies Depression Scale (CES-D), and the questionnaire for socio-demographic characteristics. The associations between seven domains of quality of life and ADHD symptoms were examined by using multiple regression analysis by controlling for the effects of sex, age, depression and anxiety symptoms.

Results: After adjusting for the effects of sex, age, depression and anxiety symptoms, more severe inattentive symptoms were significantly associated with poor QOL on all seven domains of the TQOLQA. More severe hyperactivity/impulsivity symptoms were significantly associated with poor QOL on four domains of the TQOLQA, including pain, residential environment, social relationships, and family.

Conclusion: The study reminds the medical staffs should pay attention to the impacts of hallmark ADHD symptoms, especially inattentive aspect on QOL.

H25

Correlates for Maternal Stress among Children with Developmental Delay

發展遲緩兒童母親的壓力來源及相關因子探討

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Objective: This study aimed to describe potential causes for maternal stresses, and to investigate the associated factors for maternal stresses among women who had children with development delay.

Methods: One hundred and 10 women, who had children with developmental delay in one early intervention center, consented to this study and completed self-administered questionnaire including the self-awareness stresses scale (SSS), interpersonal social support evaluation list from family and others (ISSEL), Brief Symptom Rating Scale (BSRS-5), Parenting Stress Index Short Form (PSI-SF) and socio-demographic data. In addition, we also collected other relevant variables based on our detailed review of the medical records. We conducted multiple linear regressions models by treating SSS scores as the dependent variable and mother personal factors, children factors, and family factors as independent variables.

Results: Most of these mothers were married (84.5%), most children were boys (81.8%), the age was 49.5 ± 15.7 (Mean \pm SD), and the mean family size was 4.9 ± 2.3 . The mothers reported that their highest level of stress was derived from the burden of taking care of a child and couple difficulties. Numbers of children, BSRS-5 scores, ISSEL, and PSI-SF were associated with SSS scores. The model selection revealed that numbers of children and BSRS-5 scores were the most significant correlates for maternal distress.

Conclusion: Our findings demonstrated that several maternal factors were associated with maternal distress, particularly numbers of children and BSRS-5 scores, corresponding to

the results of child burden and couple difficulty as the key sources of maternal distress. Therefore, given having a child with development delay, increasing emotional support to the mother may reduce maternal distress.

H26

Mediation Effects of Psychiatry Comorbidity on Later Suicidality among Childhood Symptoms of ADHD: Comparing Self-harm, Suicide Idea and Attempt

兒童期過動症狀與未來自殺危險之共患疾患中介因子研究：區分自裁行為、自殺意念及自殺傾向之不同

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Objective: Despite some evidence showing the relationship between attention-deficient/ hyperactivity disorder (ADHD) and suicidality, no study has done to explore what mediates such relationship.

Methods: Using a community sample of 1674 male young adults, the authors explored specific mediation effects of oppositional symptoms, substance abuse and anxiety/depression on the pathway from childhood symptoms of ADHD to later suicidality. The participants reported about 12 DSM-IV ADHD symptoms at their ages of 6-12 years old followed by a wide range of psychopathology and three suicidal behaviors/ statuses assessed herein (current suicidal ideation, current deliberate self-harm behaviors, and past suicide attempt). Mediation analysis was used to identify significant mediators on the association between ADHD and suicidality.

Results: The results showed that suicidal behaviors, especially deliberate self-harm, were associated with childhood ADHD and current psychiatric symptoms. Mediation analyses revealed that the associations between childhood ADHD symptoms and later suicidality were, in general, mediated by substance abuse, anxiety/depression and oppositional symptoms. Further analyses showed that the presence of anxiety/depression and

substance abuse completely mediated both current suicide idea and past suicide attempt with predominant mediation effect from anxiety/depression. However, oppositional symptoms and anxiety/depression equally mediated deliberate self-harm. After counting these mediation effects, there was no significant association between childhood ADHD and later suicidality.

Conclusion: As the first attempt to identify the mediations that would explain the relationship between ADHD and suicidality, our findings imply that treating comorbid psychiatric conditions such as oppositional, anxiety/depression, and substance use among individuals with childhood ADHD symptoms may help offset suicidal risks among this population.

H27

The Association of CNS Patterning Genes and the Clinical Symptoms in Youths with Autism Spectrum Disorders

影響腦發育基因與自閉症臨床症狀之關聯研究

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Objective: The genetic variants of CNS patterning genes were shown to associate with the risk of autism. This study is aimed to evaluate whether these genetic variants can influence clinical psychopathology in autism.

Methods: The sample recruited 166 youths with autism spectrum disorders (aged 10.4 ± 3.1 years, males 90%), including autistic disorder and Asperger's disorder. The diagnosis was based on DSM-IV criteria and was confirmed by Autism Diagnostic Interview-Revised (ADI-R). The severity of clinical autistic symptoms was also measured by two questionnaires, Social Responsive Scale (SRS) and Social Communication Questionnaire (SCQ), reported by mothers. The tagging SNPs of two CNS patterning genes, WNT2 and EN2, were genotyped by using the method of matrix-assisted laser desorption/ionization-time of flight mass spectrometry. The associations between the genetic variants and the subscores of ADI-R, SRS,

and SCQ were examined by generalized linear model (statistical significance levels $p < 0.05$).

Results: Our preliminary analysis revealed that several SNPs of WNT2 and EN2 were associated with the severity of the core symptoms of autism. Specifically, the SNPs rs4727845, rs2896218, rs6950765 and rs10227271 of WNT2 were associated with the severity of stereotyped behaviors on ADI-R and SCQ. Besides, rs10949805 and rs2361689 of EN2 were associated with social impairment on ADI-R; while rs6460013 of EN2 was associated with social communication deficit on SCQ.

Conclusion: Our findings suggest that several SNPs of WNT2 and EN2 were associated with autistic psychopathology, particularly the stereotyped behaviors and social impairment, which implies that the CNS patterning genes, WNT2 and EN2, may not only contribute the risk of ASD but also influence the severity of autistic symptoms in youths with ASD.

I01

The Gender Specific Association of the 5-HTTLPR and DRD2 Gene Variants in Bipolar Disorder

5-HTTLPR 與 DRD2 基因變異性和雙極性疾患有性別特定相關性

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Objective: The study results of the association between the serotonin transporter-linked polymorphic region gene (5-HTTLPR), dopamine D2 receptor gene (DRD2) variants and risk for bipolar disorder were incongruent. Gender difference may exist in contribution of genetic factors to bipolar disorder and cause the inconsistencies in previous reports.

Methods: We aimed to examine the main effect and the gene-to-gene interaction between 5-HTTLPR and DRD2 in both bipolar I (BP-I) and bipolar II (BP-II) patients using gender as a grouping variable. We collected total of 425 patients with BP-I, 651 patients with BP-II, and 442 healthy controls from Han Chinese population. The genotypes of the 5-HTTLPR and DRD2 Taq-IA polymorphisms were determined using polymerase chain

reactions plus restriction fragment length polymorphism analysis.

Results: Logistic regression analysis showed a significant gender specific association of the DRD2 A1/A1 and 5-HTTLPR S/S, S/LG and LG/LG (S+) genotypes in male BP-I (P=0.002 and 0.007, respectively) and BP-II (P=0.008 and 0.026) patients, but not in female bipolar patients. Significant interaction for the DRD2 A1/A1 and 5-HTTLPR S+ polymorphisms were also found only in BP-I and BP-II male patients (P=0.002 and 0.01, respectively) and female bipolar II patients (P=0.02).

Conclusion: Our findings provided the preliminary evidence for the gender specific effect of 5-HTTLPR and DRD2 gene variants for the risk of both BP-I and BP-II. Interaction between 5-HTTLPR and DRD2 Taq-IA polymorphisms were also found, however, with the gender specific effect in BP-I patients.

I02

The Effects of Different Dosage of Antipsychotics to the Autonomic Activity

不同劑量之抗精神病藥物對自主神經功能活性的影響

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Objective: Antipsychotics have been associated with significant rates of cardiovascular adverse effects and instances of sudden death. Schizophrenia patients treated with antipsychotics manifest increased risk of sudden cardiac death by past review reports. We used the animal model, for detecting the changes of autonomic activity during the different dosage antipsychotics treated, for clarifying the dose effects of different antipsychotics.

Methods: Antipsychotics were given by intraperitoneal injection to male Wistar-Kyoto rats for 5 days. They were divided in five groups. Low dose haloperidol (1 mg/Kg), high dose haloperidol (10 mg/Kg), low dose risperidone (1 mg/Kg), high dose risperidone (10 mg/Kg), saline group. Electromyogram (EMG), electrocardiogram (EKG) signals were recorded at baseline, treatment period. Cardiac autonomic function was

assessed using heart rate variability (HRV).

Results: We analyzed the data of the HRV between the baseline and the final day, and found the HRV parameters were decrease in high dose risperidone group, no significant change in low dose risperidone group, high and low dose haloperidol group. By compared the heart rate change, the high dose risperidone group increase the heart rate most obviously.

Conclusion: Our results showed that haloperidol without obviously dosage effect to the autonomic activity, on the contrast, risperidone seems more suppressed effect to the autonomic activity in the higher dosage. By the results, we should used higher dose risperidone more carefully in patients with poor cardiovascular situation for preventing unpredictable accident.

I03

The Gender Difference of Dopaminergic Influence on P300 in Healthy Volunteers: A Challenge Test Study

多巴胺藥物對健康受試者之 P300 產生性別差異——一個激發試驗研究

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Objective: Some previous studies have examined the relationship between the dopaminergic system and P300 by challenge test. However, the results are inconsistent. We designed a dopamine challenge test and regarded gender as an important contributing variable in these healthy volunteers.

Methods: Forty-three volunteers were assigned to two groups, the haloperidol group (n=19) and the madopar group (n=19). The subjects in the madopar group took madopar (levodopa 100mg + benserazide 25mg) and a placebo; the subjects in the haloperidol group took haloperidol (1 mg) and a placebo before receiving even-related potential (ERP) recording.

Results: After separation by sex, a significant two-way interaction of drug and phase

was revealed in the latency of the central electrodes (Cz) in males ($p=0.02$). Post-hoc comparison showed that the change in the Cz latency of madopar in males was significantly lower than that of haloperidol ($p=0.04$).

Conclusion: This result implied that the P300 latency in the male participants was more sensitive to dopaminergic variability.

I04

Diagnosis and Treatment for Psychotic Depression Related to Left Thalamic Lacuna Infarction: A Case Report

精神病性憂鬱與左側丘腦小間隙梗塞之相關性——一診斷與治療之案例報告

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Background: Although neurologists mainly focused on the sensory-motor impairment, some mood or psychotic symptoms are also related to cerebrovascular accident. From the epidemiological study, psychosis as well as mania is more related to right brain infarction, while depression is more related to left brain infarction. As for the thalamus, it was previously viewed as a relay center. However, some case reports revealed that the left thalamic infarction might relate to some neuropsychiatric symptoms, including cognitive disturbance, mood change, or even hallucination as well as delusions.

Case Report: A 55-year-old woman, with hypertension, has no known previous psychiatric history. She was admitted to ward due to wrist cutting deep to tendon after a sudden onset of strong suicidal ideation. The patient was noted to have sudden onset low mood, loss of interests, anxiety, and even visual hallucination (deceased, and ground paved with ghost money) for 2 months before hospitalization. The symptoms aggravated gradually that she had self-talking, psychomotor retardation, catastrophic thinking, and even intruding repetitive thoughts about death. After admission, the laboratory study, including autoimmune profile, was performed and only elevated serum sugar was found. There was no newly onset psychosocial stress that could explain her mental illness, and her orientation had no

fluctuation before and after hospitalization, which implied that delirium was unlikely. In the mean time, brain MRI revealed a lacunar infarction at the ventral lateral nucleus of left thalamus, 0.45 x 0.35 cm in size, presenting as hyperintense T2 signal, but became hypointense on DWI and FLAIR images. There was no evidence of intracranial hemorrhage, and the ventricular size was normal. Neurologists were consulted but they preferred the symptoms were unrelated to the thalamic infarction, for there was no marked sensory-motor impairment. For symptom control we administrated antipsychotics (from Risperidone to Quetiapine, then to Olanzapine, and ever titrated up to 20 mg per day), antidepressants (Escitalopram 20 mg per day), and benzodiazepines (Lorazepam 1.0 mg per day). As the symptoms persisted without obvious improvement, we performed electroconvulsive therapy 28 days later after her hospitalization. After 12 courses of therapy with a total convulsion time 346 seconds, the mood and psychotic symptoms were much improved. No marked side effect or sequelae left.

Discussion: One of the main clinical presentations of the patient in this case report was depression, which was compatible to the mostly common mood symptoms of left brain infarction. However, some psychotic symptoms and cognitive impairment were observed as well, which implied that the clinical presentations of left thalamic infarction over ventral lateral nucleus may be complicated. Therefore, the atypical course of mental illness such as sudden onset of psychosis gives we psychiatrists a hint that organic problem should be considered. Image study of brain might be necessary for patients whose clinical presentations were unusual. Last but not least, electroconvulsive therapy may be an alternative choice to treat refractory neuropsychiatric symptoms (psychosis, depression, and mania) related to cerebrovascular accident.

I05

Triglycerides / HDL-Cholesterol Ratio in Patients with Depressive Disorder: A Pilot Study

憂鬱症患者之三酸甘油脂／高密度脂蛋白比：一個前驅性研究

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Objective: The burden of disease for Affective disorders or mood disorders goes beyond functioning and quality of life and somatic health. Depression and bipolar disorder have been shown to subsequently increase the risk of metabolic syndrome. Obesity, diabetes, and hypertension are closely associated with low levels of high-density lipoprotein cholesterol (HDL-C) and elevated levels of triglycerides (TG), and are recognized as jointly increasing coronary risk. These factors are the major components of the metabolic syndrome as outlined in the report of the National Cholesterol Education Programs Adult Treatment Panel (ATP). TG/HDL ratio has been proposed to be a good predictor of cardiovascular disease. The aim of this study was to determine whether TG/HDL ratio and its association with age, sex and illness severity in patients with depressive disorder.

Methods: Cross-sectional, descriptive, and analytical study conducted with Patients who are depressive disorder in outpatient setting. Clinical severity was assessed using the CGI-S scales. We did chart review and collect data with age, sex, illness severity, and lipid profile.

Results: A total of 48 patients were evaluated (69.4% women). The mean of BMI is 27.54 ± 4.21 . Most of patients were overweight or obese (43/48). A prevalence exceeding general population estimates was also observed for hypertriglyceridemia (24/48), low High-density lipoprotein (15/48), elevated fasting glucose/diabetes (27/48), and high TG/HDL ratio (19/48). Near to half patient has high TG/HDL ratio (19/48).

Conclusion: Obesity, abnormal lipid profile, elevated fasting sugar and high TG/HDL ratio were common on patients with depressive disorder. They may be at high high-cardio-metabolic risk. These patients may be under-evaluated for cardiovascular risk and warrant screening and early intervention.

I06

A Case of Schizophrenia with Long-term Use of Clozapine Suffering from Recurrent Uveitis

Clozapine 與反覆性葡萄膜炎個案報告

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Background: This topic addressed a patient suffering from recurrent uveitis under the administration of clozapine, which may have immunomodulatory effects .

Case Report: Mr. H is a 43-year-old single male diagnosed to have schizophrenia and has medical history of ischemic heart disease. He was admitted because of inappropriate behavior (self talking, silly laugh) and impaired self care. The patient was relatively well before aged 24, then auditory hallucination, bizarre behaviors, irritable mood and violence behavior (physical aggression toward his mother) appeared. Initially he was treated by haloperidol and right eye redness with painful sensation was first noted on Feb, 2009. He was brought to ophthalmologic outpatient department and conjunctivitis was diagnosed. Clinical symptoms subsided after ophthalmologic treatment. Psychiatric symptoms were not successfully managed by haloperidol, his medication then shifted to olanzapine. One year later, right eye redness with painful sensation and watery discharge re-appeared, and consulted ophthalmologist again. Iritis (part of anterior uveitis) was impressed. The patient did not response well to olanzapine during this period of time, so his medication was shifted to clozapine under the impression of refractory schizophrenia. The dosage of clozapine was built up gradually and reached 250mg per day then maintained for about 3 years. Necessary check-up were arranged according to the regulation but all revealed non-significant. Three episodes of right uveitis (diagnosed by ophthalmologist) were recorded during the clozapine treatment period : Dec. 2011, Feb. 2013 and May 2013. Topical use of glucocorticoid and cycloplegics were prescribed. Symptoms of uveitis subsided within 5-7 days after the above mentioned prescriptions were applied.

Discussion: Uveitis, defined as inflammation of the uvea (iris, ciliary body and choroids). The specific causes of inflammation of inner eye are not yet clear and can be

attributed to infectious, traumatic, neoplastic, or autoimmune factors. The immunologic factors regarding uveitis have been described as dysregulation on the ocular immune system, in which cytokines including TGF β , TNF, IL-6, IL-8 and IL-10 and/or T helper cells may get involved. Altered immune response by suppression of thymidine incorporation and cytokine secretion, inhibition of Th1 cell differentiation and suppression of IFN- γ production in peripheral blood mononuclear cells, have been reported in some patients with long term use of antipsychotic. Clozapine is indicated for treatment-resistant schizophrenia. However, clozapine is associated with various adverse effects, including myocarditis and hematological problems (leukopenia, neutropenia, agranulocytosis, leukocytosis, anemia, thrombocytopenia and eosinophilia). These phenomenon may imply some unique immunological mechanisms involved in different antipsychotics, nevertheless, the immunomodulatory effects of clozapine has not been fully studied. Recurrent uveitis was noted in this case after long term use of clozapine which may have unique immunomodulatory effects that psychiatrists need to be aware of.

I07

The Characteristics of Schizophrenic Patients with Metabolic Syndrome in a Mental Hospital

精神分裂症患者之代謝症候群型態研究：以某精神專科醫院為例

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Objective: Metabolic syndrome (MS) in schizophrenic patients is largely reported in recent years, and the association between MS and cardiovascular disease has been paid much more attention than before. However, comparing with Western countries, non-western data about the characteristics of these abnormalities remains limited. We try to find out the prevalence and characteristics of Taiwanese schizophrenic patient with MS.

Methods: The study group consisted of 155 (85 men, 70 female) inpatients diagnosed as Schizophrenia or Schizoaffective disorder by the criteria of DSM-IV-TR. All of them were receiving antipsychotics except one case. They were assessed for the presence of metabolic

syndrome, defined with the criteria posted by Bureau of Health Promotion, Department of Health, Taiwan, on Oct. 12, 2004. We also checked their insulin and prolactin level.

Results: The major findings of our study included (1) metabolic syndrome was found in 39.6% (N=62) of the study group; (2) the mean value (SD) of insulin level in patients with MS ($28.25 \pm 26.31 \text{mU/L}$) is higher than those without MS ($14.75 \pm 9.54 \text{mU/L}$, $p < 0.025$); (3) the mean value (SD) of prolactin level in patients with MS ($15.67 \pm 12.98 \text{ng/mL}$) is lower than those without MS ($29.03 \pm 29.03 \text{ng/mL}$, $p < 0.025$).

Conclusion: Metabolic syndrome is common among the schizophrenic patients, and may be far more common than in general population (14.99%). Schizophrenic patients with MS have higher insulin and lower prolactin level than those without MS, and it may be compatible with some studies about the relationship between schizophrenia and specific endocrine diseases. Further study consisting larger sample size may be necessary to evaluate and check our current results.

108

Efficacy of Prefrontal Theta-Burst Stimulation in Treatment-Refractory Depression: A Randomized Sham-controlled Study

Theta 波穿顱磁刺激於藥物難治型憂鬱症的療效研究：一個隨機分佈並有 sham 控制組的研究

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Objective: A significant proportion of patients with major depressive disorders (MDD) showed poor responses to sequential trials of adequate antidepressant treatment. Such treatment-refractory depression is associated with worsened prefrontal function (esp. left side dorsolateral prefrontal cortex, DLPFC), and could otherwise demonstrate good response to non-invasive brain stimulation that activates prefrontal cortex. There is a lack of research of theta-burst form of repetitive transcranial magnetic stimulation (TBS) in the treatment of

refractory depression. Intermittent TBS (iTBS) is excitatory to neurons, while continuous TBS (cTBS) is inhibitory. Therefore, we conduct a randomized sham-controlled study to investigate active TBS's antidepressant efficacy and to compare TBS's antidepressant efficacy among left-prefrontal iTBS, right-prefrontal cTBS and a combination of left-prefrontal iTBS and right-prefrontal cTBS in patients showing different levels of antidepressant refractoriness.

Methods: A group of treatment-refractory patients with DSM-IV recurrent MDD were recruited and randomized to 4 groups (A: right cTBS; B: left iTBS; C: bilateral TBS; D: sham TBS).

Results: We found after 2 weeks of TBS treatment, 4 groups improved in depression, while the best antidepressant responses (as reflected by % depression score decreases) was found in the group B and C as compared to group A and group D (ANCOVA, $p < 0.05$, controlling age and refractoriness scores). A dose-dependent response was expectedly identified. The antidepressant efficacy was stronger in group C than other groups and the after-TBS cognitive function was the best in group C. We also found that in patients with less refractoriness, a significant placebo effect was found, which phenomenon was not existed in patients with moderate to high refractoriness. Those patients with higher refractoriness significantly responded better to active TBS than sham TBS.

Conclusion: To our knowledge, this is the first large randomized study to test TBS's antidepressant efficacy in refractory depression. We found that TBS is a well-tolerated form of rTMS and has good antidepressant effect, particularly in moderately-to-highly refractory subjects with major depression. Whether TBS could have independent cognition-enhancing effects remain an open question and takes more subjects to help with clarifying this issue.

I09

The BDNF Val66Met Variant is Associated with Response to Add-on Memantine Treatment in Bipolar II Disorder

BDNF 基因與第二型雙極症接受附加 Memantine 治療之反應相關

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Objective: Memantine is a noncompetitive NMDA receptor antagonist with a mood-stabilizing effect. We investigated whether treating bipolar II depression (BP-II) with valproate (VPA) plus add-on memantine is more effective than VPA alone. We also evaluated in BP-II patients the association between the BDNF Val66Met polymorphism with treatment response to VPA+add-on memantine and to VPA+placebo.

Methods: In this randomized, double-blind, controlled 12-week study, BP-II patients undergoing regular VPA treatments were randomly assigned to a group: VPA+Memantine (5 mg/day) (n = 115) or VPA+Placebo (n = 117). The Hamilton Depression Rating Scale (HDRS) and Young Mania Rating Scale (YMRS) were used to evaluate clinical response during weeks 0, 1, 2, 4, 8, and 12. The genotypes of the BDNF Val66Met polymorphisms were determined using polymerase chain reactions plus restriction fragment length polymorphism analysis. To adjust within-subject dependence over repeated assessments, multiple linear regression with generalized estimating equation methods was used to analyze the effects of the BDNF Val66Met polymorphism on clinical performance of memantine.

Results: Both groups showed significantly decreased YMRS and HDRS scores after 12 weeks of treatment; the differences between groups were non-significant. When stratified by the BDNF Val66Met genotypes, significantly greater decreases in HDRS scores was found in the VPA+memantine group in patients with the Val/Met genotype (P = 0.004).

Conclusion: We conclude that the BDNF Val66Met polymorphism influenced responses to add-on memantine by decreasing depressive symptoms in BP-II patients.

I10

The Brain Correlates of Error Processing in Subjects with Internet Gaming Disorder

網路遊戲成癮個案錯誤處理之腦影響表現

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Objective: Impulsivity and impaired response inhibition function are the candidate mechanism of internet gaming disorder. The aim of the study is to evaluate the impulsivity and brain correlates of error processing among subjects with Internet use disorder (IUD).

Methods: We evaluate the error processing in response inhibition with the investigation of fMRI among subjects with IUD and control subjects. Twenty six men with IUD for at least 2 years and 23 controls with no history of IGA were recruited as the IUD and control groups, respectively. All subjects performed the event-related designed Go/Nogo task under the investigation of functional magnetic resonance imaging (fMRI). They also completed the Chen Internet Addiction Scale, the Barrett Impulsivity Scale, and Dickman's Impulsivity Scale before scanning.

Results: The IUD group exhibits a higher score on impulsivity than the control group. Both IUD and control groups activate insula and anterior cingulate for error processing in Go/NO go task. The insula or anterior cingulate activation was positively correlated with the successful inhibitory response in nogo trials among the IUD group. The activation over the right insula was lower among subjects with IUD than those of the control group. The activation of insula was negatively correlated with impulsivity.

Conclusion: Our results support the fact that the salience network, anchored by anterior cingulate and insula, contributes to error processing for response inhibition. Further, adults with IUD have impaired insula function in error processing that might contribute to their impulsivity as one possible mechanism of impaired control on Internet use. Lastly, the deficit in error processing should be intervened and deserves further research among subjects with IUD.

I11**Mendelian Randomization Analysis Suggested Overweight Is Not an Important “Cause” of Clinically Significant Depression****孟德爾隨機法分析顯示過重並非造成臨床顯著憂鬱症的原因**

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Objective: Obesity has been shown to be associated with depression and it has been suggested that higher body mass index (BMI) increases the risk of depression and other common mental disorders. However the causal relationship remains unclear and Mendelian randomization (MR), a form of instrumental variable (IV) analysis, has recently been employed to attempt to resolve this issue. Studies to date have only examined depressive symptoms rather than a clinical diagnosis of major depression. This study aimed to investigate whether higher BMI increases the risk of major depression using MR analyses.

Methods: Two IV analyses were conducted to test the causal relationship between obesity and major depression in RADIANT, a large case-control study of major depression. First we used a single nucleotide polymorphism (SNP) in FTO and second we used a genetic risk score (GRS) based on 32 SNPs with well-established associations with BMI.

Results: Linear regression analysis, as expected, showed that subjects carrying more risk alleles of FTO or having higher score of GRS had higher BMI. Probit regression suggested higher BMI is associated with increased risk of major depression. However, our two instrument-variable analyses did not support a causal relationship between higher BMI and major depression (FTO genotype: coefficient = -0.03, 95% CI = -0.18~ 0.13, P = 0.73; GRS: coefficient = -0.02, 95% CI = -0.11~ 0.07, P = 0.62).

Conclusion: Our IV analyses did not support a causal relationship between higher BMI and major depression. The positive associations of higher BMI with major depression in probit regression analyses might be explained by reverse causality and/or residual confounding.

I12

Negative Impact of Alcohol Use Problems on Physical Superior to Mental Health in Patients with Bipolar Disorder

從心理與身理觀點探討酒精對躁鬱症病人的影響

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Objective: Alcohol use problem is an independent risk factor for unfavorable outcome in bipolar disorder. It has negative impact on both mental and physical health in alcohol abusers. We attempted to compare physical or mental health which is more negatively affected by alcohol use disorder in patients with bipolar disorder.

Methods: The euthymic outpatients with bipolar I disorder (DSM-IV) were recruited. The data were obtained by reviewing charts, self-reporting questionnaires, and being directly interviewed by board-certificated psychiatrist. Patients were divided into alcoholic and non-alcoholic groups based on the presence of alcohol abuse history or actively drinking problems.

Results: We collected a total of 393 (male: 242, female: 151) patients. Alcoholic group have significantly more gastro-intestinal and hepato-biliary morbidity ($p=0.002$) than non-alcoholic one. There was no difference in gender, age, marital status, or educational level between alcoholic and non-alcoholic group. Alcoholic group tends to be male gender (61.6%), have history of rapid cycling ($P=0.023$), and have other substance comorbidity (3.4% V. S. 0%), but all statistical analyses of psychopathological variables didn't reach statistical difference.

Conclusion: There is a steady portion of bipolar patients having unfavorable outcome, regardless of alcohol use problems or not. It suggested that alcohol use problems negatively affect physical rather than mental health in bipolar patients.

I13

The Associations between RAAS-modifying Drugs and Depressive Symptoms in Hypertensive Subjects and Related Factors**高血壓個案其憂鬱症狀和 RAAS-modifying 藥物的相關性及其相關因子**Wei-Tsung Kao¹, Yi-Chen Wang¹, For-Wey Lung²高維聰¹、王怡誠¹、龍佛衛²¹ Kaohsiung Armed Forces General Hospital ² Songde Branch, Taipei City Hospital¹ 國軍高雄總醫院 ² 台北市立聯合醫院松德院區

Objective: The aim of our study is to investigate the influence of Renin-Angiotensin-Aldosterone System (RAAS)-modifying drugs on CHQ score and find the relationship between RAAS-modifying drugs, BSRS score, Hamilton depression rating scale and AGT M235T polymorphism.

Methods: This study consisted of 100 hypertensive patients were collected from CV OPD at a military hospital in southern Taiwan. Hypertension was defined as a measured blood pressure greater than or equal to 140/90 mm Hg or take antihypertensive medications. All hypertensive patients were divided to two groups. Case group is hypertensive patients who accept RAAS-modifying drugs therapy. Control group is hypertensive patients who never accept RAAS-modifying drugs therapy in the past. All participants need to fulfill below self-reported questionnaires that included an items regarding demographic information, Chinese Health Questionnaire (CHQ). DNA samples were obtained from the white blood cells (WBCs) of case group and control group.

Results: We found that depression is a risk factor of Heart disease in hypertension subjects after logistic regression analysis ($P=0.031$; odds aio:1.134). In the structural equation model, we can find that father protection had positive effect to TAS and mother care had negative effect to neuroticism. Younger people had higher BSRS score and female had more risk to be neuroticism and depressive. Neuroticism & TAS had positive effect to BSRS score. Higher BSRS score can worsen depression. And we can find heart disease had positive effect to HAMD score.

Conclusion: These hypertensive patients were treated by RAAS-modifying drugs or not. The depressive symptoms of hypertensive patients were not significant different. But depression is a risk factor of Heart disease in hypertension subjects.

I14

Can REM Sleep Deprivation Worsen the Dysfunctions of Schizophrenia? A Rat Study of Developmental Specificity and Sensorimotor Gating Function

快速動眼睡眠剝奪導致精神分裂症的功能失調惡化？發展特異性及感覺運動閘功能的老鼠動物研究

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Objective: The reduction of prepulse inhibition (PPI) of an acoustic startle reflex (ASR) has been used in modeling the aspect of sensorimotor gating dysfunctions of schizophrenic spectrum disorders. This phenomenon can be instigated experimentally by paradigms such as isolation-rearing (IR) and REM sleep deprivation (REMSD), referring to a long-term, early life initiated trauma and a short-term, adulthood physiological disturbance, respectively.

Methods: Using an amended social deprivation-resocialization paradigm, the present study examined the role of the developmental specificity of the IR effects and its interactions with the REMSD. Locomotor activity of each rat was examined to confirm the effects of IR. ASR and PPI were then measured after a 72 hours REMSD in three groups of adult rats: social control, IR throughout life, and IR for the first two weeks after weaning followed by social housing.

Results: The results revealed that locomotor activity increased only in rats in the IR throughout life group but not in the other two groups. Rats reared in IR two weeks and IR throughout life groups exhibited a higher ASR and lower PPI in 6 dB prepulse trials; whereas 72 hours of REMSD disrupted the PPI in all groups but with the most in social control (SOC) group.

Conclusion: The present study demonstrated that the IR induced sensorimotor gating dysfunctions are developmentally specific and can be augmented by REMSD. The results may provide some new insight on the developmental hypothesis of schizophrenic-like dysfunctions.

I15**P300 Waveform and Dopamine Transporter Availability: A Controlled EEG and SPECT Study in Medication Naïve Patients with Schizophrenia and a Meta-analysis****未用藥初發性精神分裂症患者之事件相關電位 P300 波形與多巴胺傳輸體可用性探討：腦電波及單光子造影研究與綜合分析**

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Objective: It has been reported that patients with schizophrenia have P300 event-related potential (ERP) amplitude reduction and latency prolongation compared to healthy controls. However, the influences of antipsychotics (and dopamine) on ERP measures are poorly understood and medication confounding remains a possibility.

Methods: To explore ERP differences between 36 drug naïve patients with schizophrenia and 138 healthy controls and examine if P300 performance is related to dopamine transporter (DAT) availability, both without the confounding effects of medication. We also conducted a random-effects meta-analysis of the available literature synthesizing the results of 3 comparable published articles as well as our local study.

Results: The mean P300 ERP showed no significant difference between patients and controls in latency or in amplitude. There was a significant gender effect with females showing greater P300 amplitude than males. The difference between patients and controls in P300 latency became more pronounced with ageing, with latency increasing faster in patients. No effect of DAT on P300 latency or amplitude was detected. The meta-analysis provided the latency pooled standardized effect size (Cohen's *d*) of -0.13, and the amplitude pooled standardized effect size (Cohen's *d*) of 0.48 with patients showing a significant reduction in amplitude although there was evidence of publication bias.

Conclusion: Our findings suggest the P300 ERP is not altered in the early stages of schizophrenia before medication is introduced, and the DAT availability does not influence the P300 ERP amplitude or latency. P300 ERP amplitude reduction could be an indicator of the progression of illness and chronicity.

I16

Enuresis of Young People in Military

年輕新兵夜尿之個案報告

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Background: In general, adjustment disorder is one of most common problems for fresh recruited soliders. When young people just join military, they must adapt in a different environment from past, undergo various psychological, physiological and physical pressure, and sometimes even need to sacrifice part of the freedom. With the new generation of service in army in recent years, especially low resistance to stress of young people, the “adjustment disorder” related symptoms also come along with this trend. If perfunctorily dealing with these problems in time, they most likely make these recruits to display more worried manners, such as severe depression, degradation, depersonalization, and inappropriate impulsive behavior, leading adverse consequences to the troops and soliders’ family.

Case Report: A 19-year-old male just accepted recruits training in Navy’s training center. This is his first time away from home so far. He felt difficult in this peer-life group emphasized cooperation and discipline. He was found nocturnal enuresis by petty officers for three times and sent to our psychiatric out-patient clinics after two weeks of enlistment. He reported that sleep quality got worse because of interruption in the past two weeks. The bedwetting symptom made him embarrassing by peers in unit and got difficult to adapt in troops even if he tried harder. He stated he got more worrisome after hearing reveille in this period and suffered from dysphoric mood, pessimistic thought, difficulty falling in asleep, poor appetite and lack of energy, but denied worthlessness and suicide ideation. At the same time, he denied visual and auditory hallucinations. Metal status examination showed no abnormality on judgment, orientation, memory, abstract thinking and calculation. No Mental family history was reported. Then, we arranged blood and urine examination to check whether he suffers from urinary tract infection. The laboratory data showed no possibility of infection.

We also arranged urodynamics exam to exclude organic deformities and no meaningful finding was known under the primary impression of adjustment disorder. In the following of therapy, we prescribed fluoxetine 20 mg daily , Alprazolam 0.5mg prn and hypnotics. After following up for more than a month, the young stated no incontinence occurred again in night.

Discussion: We demonstrate this case of nocturnal enuresis most likely associated with military adjustment problem. “National Institute for Health and Clinical Excellence” (NICE) is the first guidance for the assessment and treatment of children and young people up to 19 years with the symptom of nocturnal enuresis. (Wootton J, 2010) Options of treatment include the provision of advice, reward system and/or alarm, and desmopressin agents. Nocturnal enuresis is the most frequent in bedwetting and has to be excluded other urinary symptoms or signs of disease (Evans JH, 2001). Anti-neurotic effect of selective serotonin reuptake inhibitors (SSRIs) has been reported. The possible mechanisms were serotonin inhibits the parasympathetic voiding pathway to facilitate urine storage, and serotonin plays an important role in detrussor muscle control of bladder micturition through central and peripheral mechanisms . Pharmacologically, we prescribed fluoxetine in this case, and somebody consider this agent has a 5-HT_{2C} agonist effect on increasing urethral smooth muscle tone and inhibiting the micturition reflex. (Fadi T. Maalouf, et al. 2010). Usually, supportive, group and cognitive behavior psychotherapy in the same type of the patients are effective. That’s why some scholars advocate either medication or psychotherapy led to a significant reduction in nocturnal enuresis episodes (Fera P, 2011). In summary, as well as golden guidance of NICE for the incontinence assessment and treatment, SSRIs and individual psychotherapy may be other well clinical options for nocturnal enuresis.

I17

A Potential Therapeutic Strategy for Schizophrenia and Hepatocellular Carcinoma by the Analysis of Genetic Networks

藉由基因網路分析精神分裂症與肝癌的潛在治療策略

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Objective: Recent studies suggest that schizophrenia may result from imbalanced immune systems. There are many studies focus on the discovery of schizophrenic candidate genes with the construction of PPI networks and analysis of related pathways for the hope of the better understanding of etiology mechanism of schizophrenia. Schizophrenic patients show lower incidences of cancer, implicating schizophrenia may be a protective factor against cancer. By analysis of the genetic network for schizophrenia and hepatocellular carcinoma, potential treatment drugs could be discovered for novel therapeutic strategy.

Methods: To study the genetic correlation between the two diseases, a specific PPI network was constructed with candidate genes of schizophrenia and hepatocellular carcinoma. The network, designated schizophrenia-hepatocellular carcinoma network (SHCN) was analyzed and cliques were identified as potential functional modules or complexes. The findings were compared with information from pathway databases such as KEGG, Reactome, PID and ConsensusPathDB.

Results: The functions of mediator genes from SHCN show immune system and cell cycle regulation have important roles in the susceptibility mechanism of schizophrenia. For example, the over-expressing schizophrenia candidate genes are responsible for signal transduction in cytokine production. Novel treatments were proposed by searching the target genes of FDA approved drugs with genes in potential protein complexes and pathways. It was found that Vitamin A and retinoid acid may be potential treatments for both schizophrenia and hepatocellular carcinoma.

Conclusion: This is the first study showing proposed novel agents may be useful in the treatment of schizophrenia and hepatocellular carcinoma. We also show that the schizophrenic protein interactions and modulation with cancer implicates the importance of immune system for the etiology of schizophrenia.

I18

Non-synchronous Reduction of Brain Serotonin Transporter May Predict Suicide Attempts in Drug-naïve Major Depressive Disorder: A 4-[18F]-ADAM Positron Emission Tomography Study

未經藥物治療的重鬱症病人腦部血清素轉運體非同步減少可能預測自殺企圖，一 4-[18F]-ADAM 正子照影研究

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Objective: Much evidence suggests that the serotonergic system may play an important role in the pathophysiology of major depressive disorder (MDD) and suicide behaviors. The aim of this study was to examine whether the serotonin transporter (SERT) availability is associated with severity of MDD and a possible prediction of suicide attempt.

Methods: SERT availability was investigated in 17 drug-naïve MDD patients and 17 age-gender matched healthy controls using 4-[¹⁸F]-ADAM as a SERT radiotracer in positron emission tomography. SERT availability was measured by PMOD software to demarcate the region-of-interest in the midbrain, thalamus, striatum, and prefrontal cortex. The 21-item Hamilton Depression Rating Scale (HDRS21) and Beck Scale for Suicide Ideation (BSS) were used to assess the severity of depression and intent of suicide idea prior to brain image.

Results: A significant differences of SERT availability were found between in drug-naïve MDD and controls in midbrain, thalamus, and striatum. SERT availability in midbrain had a linear correlation with HDRS21 in MDD group. The SERT ratio between serotonergic projection area (prefrontal cortex) and raphe nuclei (midbrain) was significantly higher in suicide attempters, but no difference was noted between depressed non-suicide subjects and controls.

Conclusion: This study suggests regional SERT availability in the midbrain, thalamus, and striatum was significantly lower in drug naïve MDD than in healthy controls, and this effect was more pronounced in suicide attempters. Non-synchronous reduction of brain serotonin transporter in prefrontal cortex and midbrain may predict suicide attempts in drug-naïve patients with major depressive disorder.

I19

Nonketotic Hyperglycemia Appearing as Choreoathetosis in a Schizophrenic Patient

老年精神分裂症女性患者高血糖狀態以不自主運動表現：一例報告

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Background: Metabolic syndrome is commonly seen in schizophrenia patients, especially for the patients treated with second-generation antipsychotics. Our patient presented with a movement disorder caused non-ketotic hyperglycemia without a previous history of diabetes. Correct of her metabolic derangement resulted in complete remission of movement disorder.

Case Report: Mrs. A was a 79-year-old married female with the diagnosis of schizophrenia since 28 years of age. She received thioridazine 100mg per day from 47 to 75 years of age. Then the antipsychotics was shifted to risperidone 2 mg/day due to out of conventional antipsychotics supply since 75 years old. However, in a visit in March 2013 she presented with persistent, continuous, non-patterned involuntary movements in the form of flailing and twisting involving right upper and lower limbs. The involuntary movement was more severe at the upper limb in comparison to the lower limb. EEG revealed generalized, intermittent theta wave. Laboratory examination showed HbA1C 14.4%; triglyceride 252 mg/dl, total cholesterol 200 mg/dl, fasting blood glucose 309 mg/dl. MRI of the brain showed T1 hyperintensity at left basal ganglion and T2 Hypointensity at left thalamus. After starting of diabetes treatment, the involuntary movement diminished gradually and totally disappeared later.

Discussion: To our best knowledge, this is the first report of a schizophrenic patient with the hemiballism or hemichorea caused by non-ketotic hyperglycemia. We suggested that metabolic syndrome should be evaluated periodically in schizophrenia patients and patients presenting with involuntary movement disorder should be evaluated for metabolic profile.

I20**The Risk of Osteoporotic Fracture in Young Female Patients with Schizophrenia: A Population-based Cohort Study****年輕女性精神分裂症病人罹患骨質疏鬆性骨折的危險性**

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Objective: To explore the risk of osteoporotic fracture in young female patients with schizophrenia

Methods: From the Taiwan National Health Insurance Research Database (NHIRD), two national cohorts of 12,279 female schizophrenia patients (age \leq 40) and 49,116 age-matched control participants without schizophrenia were identified. Using data from the NHIRD between 2001 and 2010, the incidence of osteoporotic fracture and non-osteoporotic fracture were calculated respectively for both cohorts. Besides, the patient survival after osteoporotic fracture was also calculated.

Results: During a 10-year follow-up, 249 (2.0%) patients with schizophrenia and 349 (0.7%) controls had major osteoporotic fracture ($P<0.001$). After adjusting for demographic data and osteoporotic fracture related physical illness, the adjusted hazard ratio for patients with schizophrenia was 2.607 (95% CI=2.182~3.116). Among all 598 patients with major osteoporotic fracture, the mortality hazard ratio for patients with schizophrenia was 3.594 (95% CI=1.851~6.979) after adjusting patient- doctor- and hospital variables.

Conclusion: Patients with schizophrenia have higher risk for major osteoporotic fracture than non-schizophrenia population, as did the mortality rate.

I21

Acute Ischemic Stroke after Electroconvulsive Therapy in a Patient with Schizophrenia and Raynaud's Phenomenon

電痙攣治療後急性缺血性腦中風在罹患精神分裂症及雷諾氏現象之病人

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Background: Electroconvulsive therapy (ECT) is generally regarded as a safe treatment for medication-resistant major depression or psychosis, even in the presence of neurological disorders. The neurological adverse effects are usually mild and self-limited, and ECT-related stroke is rarely reported. Here we report a case of acute ischemic stroke after ECT in a patient with schizophrenia and Raynaud's phenomenon.

Case Report: Mr. W was a 54-year-old man who suffered from DSM-IV-TR paranoid schizophrenia for decades and also had a history of osteoarthritis and Raynaud's phenomenon. He received bitemporal ECT due to poor medication response. The first two sessions of ECT were performed successfully without any complications. However, four hours after the third session of ECT, he presented with mild dysarthria and flaccid hemiparesis on his left side involving the face, arm, and leg. Acute ischemic stroke involving the territory of the right middle cerebral artery was diagnosed. His neurological deficits improved gradually two weeks later under conservative treatment. A follow-up brain CAT study revealed no signs of cerebral infarction or hemorrhage. He recovered completely with no motor impairment or cognitive deficits two months after the occurrence of stroke.

Discussion: Our case implies that the combination of already existing cerebral vasospastic tendency and additional decreases of cerebral blood flow after ECT could be associated with prolonged but reversible neurological deficits. The association between vasospastic disorders and stroke after ECT suggests that careful pre-ECT evaluation to identify stroke risk factors, including vasospastic disorders warrants clinical attention, though more studies are required to establish the pathophysiology of vasospastic disorders and stroke after ECT.

I22**Association Study of WNT7A (Wingless-type MMTV Integration Site Family, Member 7A) Gene as a Candidate Gene of Schizophrenia**
WNT7A 基因序列與精神分裂症關連性研究

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Objective: Several studies reported that Wnt signaling pathway mediates the neuron synaptic function and brain development as well as the involvement of aberrant Wnt signaling in the pathophysiology of schizophrenia. In this study, we focus on the WNT7A gene, a member of WNT gene family, which coordinates synapse function by modulating synaptic vesicle cycle and synaptic transmission. We aimed to investigate whether the variation of WNT7A gene is associated with schizophrenia.

Methods: We re-sequenced the putative core promoter region, exonic region, and untranslated region of the WNT7A gene in 570 patients with schizophrenia and 554 non-psychotic controls from Taiwan in order to search for pathologic genetic variants related to schizophrenia.

Results: SNP (single nucleotide polymorphisms)-based analyses showed no association with schizophrenia among four major and one minor SNPs. In haplotype-based association study, we identified one haplotype (A C G T G) of the WNT7A gene might be associated with schizophrenia with an odds ratio of 1.4105 (95% CI 1.0501~1.8945). In addition, two rare mutations (c.305G>A and c.1036T>C) potentially associated with deleterious functional changes were detected.

Conclusion: Our results suggest that one haplotype and multiple rare variants might occur in the WNT7A gene and contribute to the pathogenesis of schizophrenia in some patients.

I23

Rapid Titration of Aripiprazole Associated Depressive Switch in the Treatment of Bipolar Disorder : Case Reports

快速增加大塚安立復劑量治療雙極性患者相關之憂鬱轉換：個案報告

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Background: There's no literature showing switching from mania to depression after using atypical antipsychotics or aripiprazole. We presented two cases with bipolar mania having switch to depression after rapid titration of aripiprazole.

Case Reports: Cases 1: A was a 36-year old single man was admitted to psychiatric ward for the first time because of a manic episode for 3 weeks. He had another similar condition at age of 27 due to work stress and it lasted only for weeks after some medication treatment. The patient was started on aripiprazole 20 mg/day for his manic episode, and aripiprazole was titrated to 30 mg/d rapidly 3 days later. Prophylactic propranolol 30 mg/day was prescribed to avoid akathisia. We also added valproate 250 mg/day twice daily and clonazepam 0.5 mg three times daily to stabilize him. Valproate was discontinued after 2~3 days because of suspicion of skin rash. A week later after aripiprazole was titrated to 30 mg/day, he had obvious improvement of irritable and elevated mood. However, he soon fell into depressed status in the third week. After 3 weeks of hospitalization, we let him discharge with aripiprazole 30 mg/day, and clonazepam 2mg at bedtime. He still have apparent depressive episode during first follow-up 4 days after discharge, and aripiprazole was tapered to 25 mg/day. 2 weeks later, depression persisted and we tapered aripiprazole again to 20 mg/day. After another 2 weeks, depression improved. Therefore, we kept aripiprazole at 20 mg/day with clonazepam 2 mg at bedtime. To date, we has only kept aripiprazole 10 mg/day over the past year and clonazepam was discontinued. He could maintain euthymic mood and went back to work. Case 2: A 32 year-old man was admitted to psychiatric ward for the third time with presentation of irritability, decreased need for sleep, increased sexual need, behavioral disturbance, racing thoughts and hyperactiveness for weeks. After admission, aripiprazole was initiated at 20 mg/day with valproate 500 mg/day and prophylactic propranolol for

treating a manic episode. Manic symptoms could subside soon after 2 weeks of treatment. However, depression developed afterward. He was discharged five weeks later with condition of depression. At home, he remained hypotalkative, social-isolated and depressed. He also tapered aripiprazole by himself to 10 mg/day and did not take valproate regularly. Two weeks later, he was re-admitted to acute ward due to a relapse of manic episode. Aripiprazole was changed to olanzapine and valproate to lithium. Manic episodes subsided after 2 months, and he was discharged in an euthymic status. To date, olanzapine 12.5 mg/day and lithium 900 mg/day were kept to stabilize his mood and psychiatric condition.

Discussion: Comparing to haloperidol, lower rate of depressive switch following antimanic treatment with second-generation antipsychotics (SGA) was reported. Although there's no evidence so far that SGA may induce depressive switch in treating bipolar patient in term of rapid-dissociation and less potent blocking on D2-dopamine receptor in property, the initial high dose and rapid titration strategy may have a role in this phenomenon. But we still could not rule out the causative effects by other concomitant agents, such as propranolol, valproate and benzodiazepines which may cause depression. In addition, bipolar disorder is a disease with every variety. It is difficult to conclude this is the natural course of the disease itself or aripiprazole induces, even accelerates, the switch. Therefore, these two cases are the first ones to reveal this likely association and more future well-designed studies are needed to confirm our findings.

I24

Elevated Plasma Orexin Level in a Subgroup Patients with Schizophrenia 精神分裂症病患之下視丘泌素與臨床表現之相關研究

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Objective: The orexin/hypocretin system consists of a pair of hypothalamic neuropeptides, orexin A/hypocretin 1 and orexin B/hypocretin 2, and OX1 and OX2 receptors. This system is implicated in arousal, orexic and reward, as well as in attention and cognition. The ability of antipsychotics in activating orexin neurons has been reported to correlate with their weight gain liability. This study is aimed to compare the plasma levels of orexins between patients with schizophrenia and healthy controls and investigate their correlations with the clinical profile, neurocognitive functioning and weight gain liability of the antipsychotics taken in patients with schizophrenia.

Methods: The plasma levels of orexin A were measured by radioimmunoassay in 127 patients with schizophrenia (mean age 38.8 ± 10.5 years) and 26 age- and gender-matched healthy controls (33.6 ± 8.8 years). The associations between plasma levels of orexin A and clinical symptoms, attention measured by Continuous Performance test (CPT), and executive function measured by Wisconsin Card Sorting test (WCST) in patients were examined.

Results: We found that patients with schizophrenia had a significant higher orexin A level than controls. The subgroup of patients with higher orexin A had less negative and disorganized symptoms, and performed better WCST. There was no significant difference in the CPT performance between patients with higher or lower plasma orexin A. Besides, there was no significant difference on orexin A levels between the patients taking antipsychotic with different liability for weight gain.

Conclusion: The findings highlight the potential role of orexin A as a favorable prognostic indicator on the clinical profiles and executive functioning of schizophrenia.

I25

The Association between Serotonin 1A Receptor Polymorphism and the Cognitive Function of Premenstrual Dysphoric Disorder

血清素受體 1A 多型性與經前不悅症認知功能之關聯性

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Objective: Premenstrual dysphoric disorder (PMDD) is included in official diagnostic

criteria in DSM-5 in 2012 because of adequate evidence for PMDD. Three to 8%, of women of reproductive age experience severe emotional and physical symptoms, which lead to substantial distress or functional impairment and meet strict criteria for PMDD. Cognitive deficit of them might contribute to their functional impairment. The aim of this study is to evaluate the difficulty in cognitive control and working memory (WM) of PMDD and to explore the effect of gonadotropic hormone and polymorphism of serotonin 1A receptor (5-HT1A) on cognitive deficit of PMDD.

Methods: Women with PMDD and controls without psychotropic or gonadotropic medication use were recruited in this study. They were arranged to complete diagnostic interviewing, questionnaire assessment, Go/Nogo task, 2-back and 3-back tasks, and gonadotropic hormone analysis both in premenstrual and follicular phases. The polymorphism of serotonin 1A receptor polymorphism (HTR1A; rs6295) was also evaluated for all subjects. Further, they were follow up for two consecutive menstrual cycles to record the symptoms.

Results: A total of 63 subjects with PMDD and 74 controls who completed all evaluation entered into the final analysis. The results demonstrated that women with PMDD have poor cognitive control and WM in premenstrual phase, and the difficulty in cognitive control and WM exacerbated in premenstrual phase. The G/G genotype of HTR1A is associated with difficulty in WM in premenstrual phase and premenstrual decline of cognitive function. It also contributed to the vulnerability of cognitive function to the menstrual cycle effect and PMDD effect.

Conclusion: The difficulty in cognitive control and WM aggravated in premenstrual phase as mood or somatic symptoms of PMDD. The effect of G/G genotype of HTR1A to cognitive deficits and their premenstrual aggravation represent the essential role of serotonin deficit in pathophysiological mechanism of PMDD. Furthermore, its moderating role in effect of PMDD on premenstrual exacerbation of WM suggested that serotonin deficit might contribute to vulnerability to menstrual cyclic effect of gonadotropic hormone.

JO1

Elevated Plasma Phenytoin Concentrations Associated with Co-administration of Allopurinol : A Case Report

疑似併用 allopurinol 造成 phenytoin 血中濃度上升：個案報告

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Background: To report a patient had phenytoin intoxication after administration of allopurinol.

Case Report: A 47-yr-old man has a history of organic mental disorder and epilepsy for about 27 years. However, he did not take anticonvulsant regularly in the past years and sometimes he still had seizure attacks several times. He lives in our psychiatric chronic ward for about 3 years and he was regularly treated with phenytoin 400mg/day and valproic acid 700mg/day for the past 3 years. Other medications included clonazepam 2mg/day、propranolol 20mg/day. In those years his blood plasma phenytoin concentration was between 8.7mg/L and 11.3mg/L and was within therapeutic level. Allopurinol 200mg/day was prescribed since February, 2012 for treatment of hyperuricemia and gout. At the same time, we kept phenytoin 400mg/day and valproic acid 700mg/day and his phenytoin concentration was between 13.4mg/L and 23.2mg/L and was no specific toxic sign or discomfort noted. We kept that regiment for about 15 months. Subsequently, this patient complained of unstable gait and drowsy state, slurred speech were also noted in daytime. A phenytoin concentration of 36.2mg/L was reported on 05/29/2013 with phenytoin 400mg/day. The dose of phenytoin was decreased to 200mg/day on 05/30/2013, but the concentration of phenytoin was still 32.3mg/L on 06/03/2013. Thus, allopurinol was discontinued on the same day. A repeat phenytoin concentration returned to 11.6mg/L without any sign or symptom of phenytoin intoxication on 06/10/2013. According to the criteria of causation, it can be considered a possible adverse reaction caused by drug interactions between phenytoin and allopurinol.

Discussion: Although the mechanism of drug interactions between phenytoin and allopurinol are little known. This interaction is thought to be that allopurinol significantly retarded the elimination of phenytoin from the circulation and dramatically decreased the urinary excretion of p-hydroxyphenytoin, a major metabolite of phenytoin. Closely monitoring plasma phenytoin levels is essential if allopurinol is used with phenytoin concurrently.

J02

Continuation with Clozapine after Eosinophilia: A Case Report

在嗜酸性白血球增多後持續使用 Clozapine：一個案報告

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Background: Clozapine-induced eosinophilia had been reported in several studies about blood dyscrasias in clozapine-treated patient. The largest study with 2404 patients in Italy found the incidence of 2.2% by criteria of more than 0.4×10^9 /liter. Associated cases of pancreatitis, hepatitis, colitis, nephritis, and myocarditis were reported. Interestingly, incidence of myocarditis is high in Australia, but low in the rest of the world. When eosinophilia occurred, whether to stop clozapine use or not was still inconclusive. In the following, we'll present a case of clozapine-induced eosinophilia which spontaneous resolution was noted under continuation of clozapine.

Case Report: "Mr. L" was a 54-year-old single, jobless man. He had treatment-resistant chronic schizophrenia with onset at age 28. He had been received 2 times of ECT prior to this admission. After admission, a trial of clozapine was started with initial dose of 100mg/day, and gradually titrated to 200mg/day. He experienced notable improvement after two weeks with decreased auditory hallucinations and no more self-harm behaviors, but he also developed eosinophilia. A medical workup was performed and showed no signs of end organ inflammation. We continued clozapine use and close monitored CBC with differential to track his eosinophil count by the recommendation of the hematology service. His eosinophil count decreased then and remained within normal limits 3 weeks later. The dosage

of clozapine was gradually raised as high as 400mg/day. His psychotic symptoms got partial remission and continued to show no signs of end organ inflammation at the time of discharge.

Discussion: The pathophysiology of clozapine-induced eosinophilia is still unknown, but resolution of eosinophilia despite ongoing clozapine treatment suggests the possibility of an acute allergic reaction. Signs or symptoms of organ inflammation are important for management of eosinophilia. In this case report, we demonstrated that if eosinophilia occurred without signs or symptoms of organ inflammation, it may be justified to continue clozapine use under careful monitoring.

J03

Serotonin-Norepinephrine Reuptake Inhibitor (SNRI) Treatment for Patients with Depressive Disorders Comorbid Somatic Symptoms:

A Case Series

SNRI 用於重鬱症合併身體症狀患者的治療：系列個案報告

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Background: The prevalence of major depressive disorder (MDD) is around 5-10%, and it has been reported that more than half of the patients with depression has various form of somatic complaints, mainly associated with pain. Serotonin- norepinephrine reuptake inhibitor (SNRI), such as duloxetine, had been reported to not only improve depression symptoms, they also had certain efficacy in treating somatic and painful symptoms. Here we report a case series of clinical experiences with SNRI in treating patients with MDD comorbid disorder associated or treatment emergent somatic complaints. The case series include a total of 4 cases involving MDD comorbid tinnitus, limb twitching and pain, sweating, and bruxism.

Case Reports: Case 1: A 69 year-old man with major depressive disorder comorbid exacerbation of bilateral tinnitus for 2 years had a complete remission of his depressive and tinnitus symptoms after 8 weeks of treatment with duloxetine 30mg/d. Case 2: A 25 year-old

man with Isaacs syndrome (characterized with limb pain and involuntary limb twitching) comorbid with MDD for 1 year had full remission of his depressive and somatic symptoms after 1 year treatment of duloxetine 30mg/d. Case 3: A 72 year-old woman without any personal or family movement disorder history with recurrent episode of MDD had treatment emergent bruxism with clenching and grinding the teeth after 4 weeks of venlafaxine 150mg/d. Despite the fact that her depressive symptoms had partially resolved, the bruxism persisted. Her treatment was shifted to duloxetine 30mg/d to prevent relapse of her depressive symptoms and her bruxism completely resolved 3 weeks after the shift and she remained symptom free from depression and bruxism 6 months at follow up. Case 4: A 51 year-old postmenopausal women had full remission of her 8 year- MDD under milnacipram 50mg/d treatment, but had to discontinue the treatment due to intolerable sweating. She had also been receiving estrogen replacement treatment (ERT) long before the treatment with milnacipram for postmenopausal hot flushes and palpitation, and reported that sweating had never been an issue in past with ERT. She was re-challenged with milnacipram after a relapse of depression after discontinuation of milnacipram, but the sweating re-emerged, hence her treatment was shifted to duloxetine 30mg/d. She had complete resolution in both of her symptoms with depression and sweating after 6 months of treatment.

Discussion: Somatic symptoms often comorbid depression, while some depressive symptoms manifest as bodily complaints. Patients with depression are more likely to report pain and other bodily discomforts due to their lowered threshold in pain and other sensation receptors. Duloxetine, a commonly prescribed SNRI with a more balanced modulation of serotonin and norepinephrine neurotransmission, had been reported to be effective not only for somatic and depressive symptoms in depression but also for pain not associated with depression. In all our cases, the patients were all diagnosed with MDD and had various form of somatic symptoms, and were treated successfully with low dose duloxetine.

JO4

Antipsychotic Treatment and the Occurrence of Venous Thromboembolism

抗精神病藥與靜脈血栓栓塞

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Objective: To examine the association between antipsychotic use and venous thromboembolism in a Taiwan population.

Methods: We conducted a nested case-control study using the National Health Insurance Research Database in Taiwan. A total of 2,162 cases with VTE or deep vein thrombosis and 12,966 matched controls were identified from 2001 to 2010. The antipsychotic exposure status was measured and potential confounding factors were adjusted in the analyses. Conditional logistic regressions were applied to determine the effect of antipsychotic use on VTE.

Results: Current antipsychotic use was associated with an increased risk for VTE (adjusted odds ratio (AOR) =1.52; 95% confidence interval (CI)=1.19-1.93). Among current users, new users had higher risk of VTE (AOR=3.26; 95% CI: 2.06-5.17), whereas the risk among continuous antipsychotic users was modest but not statistically significantly (AOR=1.18; 95% CI: 0.89-1.56).

Conclusion: The results demonstrated an increased risk of VTE among subjects with current antipsychotic use. Antipsychotic drugs should be prescribed with caution. The underlying mechanisms related to of the effect of antipsychotics on VTE development warrant for further investigation.

J05

Clozapine Therapy for Involuntary Movement in Delayed Carbon Monoxide Intoxication Encephalopathy

以 clozapine 治療一個一氧化碳中毒患者引起不自主運動

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Background: Delayed encephalopathy after carbon monoxide intoxication is clinically characterized by deterioration and relapse of cognitive ability and behavioral movement. We report a patient with delayed encephalopathy after carbon monoxide intoxication whose involuntary movement of whole body improved substantially after clozapine treatment.

Case Report: A 36 year-old male patient, who was a case of major depressive disorder, had suicide attempt by charcoal burning. On the 8th hospital days, he was transferred to neurological ward with the manifestation of hypophonia, slow gait and bradykinesia of right limbs initially. A neuropsychological test was performed on the 10th day; mini-mental state examination (MMSE) score was 28 and clinical dementia rate (CDR) was 0.5. A series examination, including brain CT, MRI and dopamine scan, revealed lesions in bilateral basal ganglia. On the 18th hospital day, he was transferred to the psychiatric ward for major depressive disorder and suicide prevention. We prescribed antidepressant Bupropion 150mg/day and improving depressed mood and psychomotor retardation were noted on the 25th hospital day. On the 33th hospital day, he suffered from queer behavior, bizarre delusion, progressive involuntary movement of right extremity initially to whole body (the abnormal involuntary movement scale revealed 15) and cognitive impairment (The follow-up MMSE showed 20, worsen than before). His daily activity of life became totally dependent. Clozapine 25mg/day was prescribed for bizarre delusion and involuntary movement on the 35th hospital day and after one week, the involuntary movement of whole body improved (AIMS showed 11). Much improved in involuntary movement of whole body was noted on the 60th hospital day (AIMS revealed 6, improving than before).

Discussion: The patient had involuntary movement of right extremity initially and then involuntary movement progressed to whole body after carbon monoxide intoxication. We

prescribed clozapine 25mg/day and after 27 days, much improving involuntary movement was noted (AIMS from 15 to 6). The result suggested that low dose clozapine was effective for the involuntary movement in delayed carbon monoxide intoxication encephalopathy.

JO6

Potential Reasons for Initiating Paliperidone ER in Schizophrenia

Treatment: An Expert Consensus in Taiwan

選擇 Paliperidone ER 作為第一線精神分裂症治療之潛在原因討論： 專家共識之初步結論

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Objective: Atypical antipsychotics are considered to have better safety profile than conventional agents and are recommended as first line option for schizophrenia patients. Evidences have shown that some novel compounds may have advantages in terms of improving negative and cognitive symptoms. Selecting an appropriate antipsychotic is an important decision-making process for physicians and must be based upon several reasons. Furthermore, there seems to be limited consensus on the agreeable reasons of initiating antipsychotics. This presentation aims to line up potential reasons when initiating the newest antipsychotics, Paliperidone ER.

Methods: 30 psychiatrists from different hospital settings around Taiwan, most of them have more than 10 years of experience in treating schizophrenia, to provide their reasons for initiating Paliperidone ER in the clinical practice. These reasons were categorized and rated by each physician by a 5-point likert scale.

Results: Forty-two reasons were raised and categorized to 4 domains including patient type, efficacy, safety profile and drug attributes. Among them, nine reasons were ranked top tier with at least 4 out of 5 points. These reasons suggest that Paliperidone ER can be first initiated for patients with high pre-morbid function, recently diagnosed or other medical condition such as hepatic impairment, OMD trait and drug-drug interaction concerns. In addition to patient type, paliperidone ER is also recommended as first line therapy due to its

better safety profile, dosing convenience, rapid onset, and broad range of symptoms control.

Conclusion: As the treatment goal of schizophrenia has become functioning oriented, selecting and initiating antipsychotics is more crucial to patients' outcome. These prelude reasons for initiating Paliperidone ER may be taken into consideration into physicians' clinical practices.

Jo7

Trend of Mood Stabilizers and Antipsychotic Used in the Treatment of Bipolar Disorder in Taiwan

台灣治療雙極性疾患情緒穩定劑與抗精神病劑的使用趨勢

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Objective: The main medications for bipolar disorder are mood stabilizers and antipsychotics. There are more and more anticonvulsants used besides lithium as mood stabilizers. Also second generation antipsychotics (SGAs) are getting popular as the first line medication. In this study we analyzed the prescribing trend of these medications individually in the past decades in Taiwan.

Methods: Prescription forms of bipolar disorder were collected from Nationwide Psychiatric Inpatient Medical Claims from the National Health Insurance Research Database (NHIRD) of hospitalized patients from year 2000 to 2010. We chose the prescription regimen of first visit after discharge to be analyzed regarding the rate and dosage of each medication.

Results: Totally 56,052 prescriptions were analyzed (male: 29,306, 52.3%), with mean age of 40.9±13.1 years old. The rate of valproic acid use surpassed lithium in the year 2003 and remained the most used mood stabilizer. Carbamazepine decreased yearly and lamotrigine began popular from year 2004 and surpassed carbamazepine in the year 2007. The mean sum ratio of all mood stabilizers to defined daily dose (DDD) was 0.55±0.21. Of them 74.9% were prescribed antipsychotic. The rate of SGAs use began from 8.4% in the year 2000 to 77.0%, with a mean sum ratio of all antipsychotics as 0.75±0.93 by DDD. The mostly used SGAs

were quetiapine and risperidone. It is noteworthy that around 5% of bipolar patients received long-acting antipsychotics.

Conclusion: Increasing use of anticonvulsant mood stabilizers and SGAs in bipolar disorders in recent years was noticed. Valproic acid is the mostly used mood stabilizer, followed by lithium, lamotrigine and carbamazepine. SGAs were increasingly used and also a significant portion of patients received long-acting antipsychotics. The dosage used, either mood stabilizers or antipsychotics, seemed to be lower than the suggested DDD by WHO. This phenomenon needs further investigation.

Jo8

Aripiprazole for the Augmentation of Antidepressant Therapy: An Observational, Outpatients Study in Inadequate Responders Diagnosed with Major Depressive Disorder

以大塚安立復R錠作為治療反應不佳重鬱症門診患者之輔助治療藥物之觀察性研究

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Objective: Major depressive disorder (MDD) is one of the most common psychiatric conditions. Aripiprazole (AbilifyR) is the first medication approved by the FDA as adjunctive treatment in patients with MDD who had experienced an inadequate response. The Department of Health (DOH) also approved aripiprazole for adjuvant therapy of MDD in December 2009. The study aims to evaluate effectiveness and tolerability of aripiprazole augmentation in outpatients with major depressive disorder who have had inadequate

response to antidepressants in Taiwan clinical practice.

Methods: This is an observational, open-label, single-arm, multi-center study. All subjects who met the inclusion criteria as outpatients, either gender, 20-65 years of age, and diagnosed with major depressive disorder as defined by DSM-IV, who fulfill both the following such as having at least one and no more than three inadequate responses of antidepressants and HAM-D17 score ≥ 14 , and willing and able to comply with the study procedure and sign a written informed consent were enrolled and in the end of study, intent-to treat (ITT) population were 212 and safety populations were 267. All eligible subjects will receive aripiprazole as adjunctive treatment based on the approved package insert and Investigator's clinical judgment for 6 weeks. The effectiveness of aripiprazole will be assessed at baseline, and 1, 2, 4 and 6 weeks after treatment. The evaluations of HAM-D17, CGI-S, CGI-I will be performed by Investigators; the subjective assessments of SDS and WHOQOL-BREF score will be performed by patients. All analysis was performed by SPSS and all statistical tests will be two-side and evaluated at the 0.05 level of significance.

Results: 267 subjects whose mean age was 45.16 (SD11.76) were Asian and male to female ratio was 1 to 2.7. The effectiveness measurement (212 ITT population) of HAM-D17 has showed significant improvement after 6 weeks treatment of antidepressant therapy augments aripiprazole for the major depressive disorder patients. That mean change of HAM-D17 score from baseline to 1,2,4, and 6 week were $20.22 \pm SD 4.42$, $15.33 \pm SD 5.74$ ($p < 0.0001$), $12.78 \pm SD 6.11$ ($p < 0.0001$), $11.29 \pm SD 6.24$ ($p < 0.0001$), and $9.49 \pm SD 5.91$ ($p < 0.0001$), respectively. (table 1) Response rate from baseline to 1,2,4, and 6 week was 15.57%, 34.43%, 36.79% and 39.62%. Remission rate from baseline to 1,2,4, and 6 week was 9.91%, 21.23%, 26.42% and 29.25%. (Table 2) In other assessments, such as CGI-S (-1.97 ± 1.21 [95% CI, -2.17 to -1.78]; $P < .0001$), CGI-I ($p < 0.0001$), SDS (-11.33 ± 11.26 [95% CI, -13.16 to -9.49]; $P < .0001$), and WHOQOL-BREF (8.39 ± 10.70 [95% CI, 6.64 to 10.13]; $P < .0001$), they all showed an improvement with statistically significant changes.

Conclusion: Aripiprazole is an effective and a well tolerable adjunctive antidepressant drug for the major depressive disorder patient, who has showed the inadequate response to the antidepressant therapy.

J09

Is Ketamine a Successful Treatment of Depression? a Patient of Ketamine Abuse with Improvement on Depressive Symptoms after Abstinence 愷他命是否能成功治療憂鬱呢？一位愷他命濫用患者在戒除後憂鬱之改善

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Background: Ketamine is an arylcycloalkylamine that is structurally related to phencyclidine (PCP). It acts primarily as an antagonist of the N-methyl-D-aspartate (NMDA) receptor, but also possesses some opioid receptor activity and sympathomimetic properties. Recent clinical studies have demonstrated that ketamine use for depressive symptoms in treatment-resistant major depressive disorder have demonstrated a rapid effect for reductions of scores on a number of depression scales; however, its sustainability effect remains unknown. But, Ketamine is easily abused with impairments in working memory, episodic memory and aspects of executive function. A syndrome of cystitis and contracted bladder can be associated with ketamine abuse. Here we report a patient of ketamine abuse with improvement of depressive symptoms after abstinence.

Case Report: This 28 year-old male has ketamine abuse history for 12 years and admitted for ketamine abstinence. He had used ketamine about 10 times per day and the average amount was 3g/day. Withdrawal symptoms were found during this period including fatigue, yawning, depression, and anxiety. Besides, persisted dysuria, frequency, hematuria, burning sensation and difficult to void were found after 5 years of ketamine use. He used ketamine just before admission and we found significant withdrawal symptoms including fatigue and yawning after he admitted. HAM-D and HAM-A were evaluated at the date of admission and the scores were 10 (mild depressed) and 2 (mild anxious). After 1 week of hospitalization, aggravation of depression and anxiety were found. (HAM-D:17 (moderate), HAM-A:16 (moderate)). After 1 month of hospitalization, his depression and anxiety gradually improved with the HAM-D: 4 and the HAM-A:1. During the course of hospitalization, we didn't prescribed any anti-depressant, anxiolytics, and hypnotics. Of

course, he didn't use ketamine during his hospitalization. Besides, cystitis improved after symptomatic treatments. Then he was discharged after one month of hospitalization.

Discussion: Despite the increase in ketamine research on the treatment of depression, our patient manifested correlations between depressive symptoms and current ketamine use. Recent research showed that ketamine has a rapid effect for reductions of scores on a number of depression scales, but the early relapse of depression after ketamine use is found. In our patient, we found that depressive symptoms aggravated under the withdrawal status, but improved after abstinence of ketamine for 1 month. Besides, ketamine is the drug which is easily abused. It's linked with the effect of the psychological attractions of its distinctive psychedelic properties. Adverse effect of ketamine, such as impairments in memory, executive function, and cystitis were found. Although many researches showed the dramatic and immediate effect of ketamine on the depressive symptoms, much work remains before this agent can be recommended for the clinical trail.

J10

Tardive Dystonia and Atypical Antipsychotics: a Case Report

遲發性肌張力不全症與非典型抗精神病劑：一案例報告

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Background: Tardive dystonia, characterized by sustained, stereotyped muscle spasms of a twisting or turning character, is a movement disorder that develops after exposure to dopamine receptor blocking agents. Similar with tardive dyskinesia, tardive dystonia makes a great impact on patients' life.

Case Report: A 19 year-old young woman suffered from psychotic symptoms such as auditory hallucination, delusions and disorganized behaviors since the age of 16. She was first brought to psychiatric OPD at the age of 17.5, and schizophrenia was diagnosed. Amisupiride was administrated for 2 months. For the reason of significant body weight increase, Amisupiride was discontinued and shifted to Ziprasidone. After treatment by Ziprasidone for 5 months, tardive dystonia occurred with the presentation of retrocollis. Ziprasidone was

tapered and totally stopped within 3 weeks. At the same time, Trihexyphenidyl combined with Amantadine was used for retrocollis. The condition of retrocollis persisted for 3 months. During the period, the patient didn't take any antipsychotics, and there was no significant positive symptoms. After recovery from retrocollis, low dose paliperidone was prescribed for relapsed psychotic symptoms.

Discussion: Antipsychotics induced extrapyramidal syndroms can be divided into two parts: acute and tardive syndromes. Acute syndromes included acute dystonia, akathisia and parkinsonism, which often occurred within hours or days after antipsychotics use. Tardive symptoms such as tardive dyskinesia and tardive dystonia, developed after antipsychotics use for 3 months, and even after use for several years. There are lots of discussion about acute dystonia and tardive dyskinesia caused by atypical antipsychotics already, but information about atypical antipsychotics — related tardive dystonia was less. We reported this case for experience sharing, and reviewed the literature.

J11

A Randomized, Open-Label, Active-Control, Parallel-Group Study to Evaluate the Efficacy and Safety of Zolpidem MR (Modified Release) in Patients with Primary Insomnia

Zolpidem MR 於原發性失眠病人之療效及安全性研究

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Objective: Insomnia is a highly prevalent illness in general population. Primary insomnia is commonly treated with benzodiazepines, zolpidem and other hypnotics. Zolpidem MR (Modified Release) is designed as dual layered form to extend release and maintain sleep. No head to head study has been published for comparison of zolpidem MR and benzodiazepine in patients with primary insomnia. To investigate the efficacy, safety, tolerability and sleep quality of zolpidem MR tablet, we used estazolam as a comparative drug in patients with primary insomnia.

Methods: This is a single center, open-label, randomized, active control and parallel-

group study which is planned at National Taiwan University Hospital. Forty patients diagnosed as primary insomnia based on DSM-IV-TR criteria were included in two-arms (19 in zolpidem MR group and 21 in estazolam group). Patients received 2-week treatment and then 1-week observation periods. Pittsburgh Sleep Quality Index (PSQI), physician's clinical global impression, patient's global impression, sleep diary and miniature sleep recording system (including electrocardiogram, electromyogram, electrooculogram and electroencephalogram) were obtained during study period. The primary analysis is performed on the change from baseline to endpoint in global index score of PSQI. Wilcoxon Signed Ranks Test is used to determine the significance.

Results: Significant decreasing sleep latency from baseline to endpoint of treatment (Day 14) was noted in zolpidem MR group than in estazolam one. On the other hand, significant decreasing time in slow wave sleep (stage N3) from baseline to endpoint of treatment (Day 14) was found in estazolam group, but not in zolpidem MR group. No significant difference in total scores and sub-scores of PSQI was found between two groups. Time in stage N1, N2 and rapid eye movement period revealed non-significant changes in two groups.

Conclusion: Zolpidem MR has similar efficacy, safety, tolerability and sleep quality compared with estazolam. Natural sleep architecture is better preserved during treatment course of zolpidem MR. Extended form of short-acting hypnotics is worthy of further study.

J12

Recovery from Risperidone-Induced Hepatitis after Dose Reduction

Risperidone 引發之肝炎於調降劑量後康復

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Background: Antipsychotics-associated liver function test (LFT) abnormalities have been well documented, and generally regarded as transient and benign. In rare instances, clinically apparent acute liver injury may happen. Here we report a case of risperidone-induced acute cholestatic hepatitis in a schizophrenic patient, who recovered after dose

reduction.

Case Report: This 31-year-old man had suffered from religious/persecutory delusions and visual/auditory hallucinations since several years ago. He had not sought help until Apr 2012, when he visited our psychiatric OPD. Because of poor insight and adherence, he was lost to follow-up a month later. Due to worsening of psychotic symptoms, he was brought to our emergency room in March 2013 for flame burn injury after setting fire to the god statues in his house with gasoline. The patient was soon admitted to our burn center with normal baseline LFTs. Risperidone was prescribed at 4 mg/d on day 3 of hospitalization after psychiatric consultation, and the dose was titrated to 6 mg/d on day 10. With improvement in medical problems, he was transferred to our psychiatric acute ward on day 24, when asymptomatic elevation of alanine transaminase (ALT, 294 IU/L) and aspartate transaminase (AST, 158 IU/L) were initially noted. The hepatic enzymes further elevated abruptly a week later. Alkaline phosphatase (513 IU/L), gamma-glutamyltransferase (285.1 IU/L) and conjugated bilirubin (0.66 mg/dL) were all increased, in addition to ALT (1266 IU/L) and AST (820 IU/L). As serological results excluded hepatitis A, B and C, risperidone-induced hepatitis was suspected. Despite screening for antinuclear, antimicrosomal, antimitochondrial and anti-smooth muscle antibodies had a negative result, the presence of recent urticaria and eosinophilia (15% of white blood cells) suggested an immunoallergic reaction. After we reduced the dose of risperidone to 3 mg/d on day 32, LFT abnormalities subsided gradually within 3 weeks. Then we increased the dose to 4 mg/d on day 57, and there were no further abnormal LFTs. The patient was discharged on day 78, with much improvement in psychotic symptoms.

Discussion: 13-28% of risperidone-treated patients have LFT abnormalities, with mild elevations of liver enzymes mostly. The precise mechanisms remain to be clarified. To date there are only 2 case reports of risperidone-induced hepatitis in which ALT exceeds 500 IU/L. They both have positive autoantibodies and imply the involvement of immunological responses. Instead of discontinuation or switching to another antipsychotic agent, in this case we demonstrate that dose reduction can be a useful strategy for marked risperidone-induced hepatitis, sparing the options of risperidone solution or long-acting depot formulations for patients with inadequate insight and adherence.

J13**Serotonin Syndrome Following Combined Use of Risperidone and Escitalopram****Risperidone 與 Escitalopram 併用引起的血清素症候群，一病例報告**Cheng-Chen Chang¹, Nan-Ying Chiu²張正辰¹、邱南英²¹ Changhua Christian Hospital ² Changhua Christian Hospital, Lu-Tung Branch¹ 彰化基督教醫院 ² 彰化基督教醫院鹿東分院

Background: Serotonin syndrome is a potentially life-threatening adverse reaction results from therapeutic drug use, intentional self-poisoning, or inadvertent interactions between drugs. We report a case of serotonin syndrome who developed confusion, hyperhidrosis, hyponatremia, and seizure attack. These symptoms were related to combined use of risperidone and escitalopram. Discontinuation of the agents resulted in early notable clinical resolution. Although serotonin syndrome is rare, clinicians need to be more cautious in recognizing it.

Case Report: A 56-year-old Taiwanese housewife with a history of schizophrenia for 20 years was admitted due to poor intake and severe anxiety. She had ever visited our clinic on 1984 for anxiety and persecutory delusion. She had been admitted to other psychiatric hospital several times in the past two decades. After discharge she often lost follow-up and discontinued medications by herself. She can take care of her grandchildren if she is fine, unfortunately persecutory delusion developed again in the year end of 2012. In recent three months, she complained that her daughter-in-law added poison in food. She refused to eat the meals her daughter-in-law prepared. She even felt her husband also plotted against her. After admission, risperidone 6mg/day and escitalopram 10 mg/day were prescribed in terms of psychosis and severe anxiety. She was less suspicious and can even ask for trial visit with husband. One week later, she suddenly became more restless and complained of difficult breathing. Confusion, urinary retention, and tonic-clonic convulsion lasting for 30 seconds were found. Lab data revealed hyponatremia (117 meq/L). Emergent EEG was compatible with postictal state. Brain CT showed no significant abnormality.

Discussion: Differential diagnosis of serotonin syndrome includes neuroleptic malignant syndrome, dystonic reaction, hyperthyroidism, tetanus, malignant hyperthermia,

and other disorders that produce muscle rigidity, and includes toxicities of certain drugs such as cocaine, monoamine oxidase inhibitors, amphetamines, lithium, and other drugs. Based on Lexi-Comps Lexi-Interact, an online drug database, presents potential drug — drug interactions for escitalopram that may predispose to serotonin toxicity in the medical setting. A level-of-risk scale (A-D, X) guides decision making. Escitalopram-risperidone interaction is rated as Level C—“therapy monitoring may be necessary.” Risperidone is extensively metabolized by the CYP 2D6 enzyme. Escitalopram is a moderate inhibitor of the CYP 2D6 enzyme. Inhibitors of the CYP 2D6 enzyme interfere with the metabolism of risperidone leading to increased levels of the drug in the blood-stream, which might potentially result in a higher incidence of adverse effects, for example extrapyramidal reactions, hyponatremia or serotonin toxicity. With the increased use of selective serotonin reuptake inhibitors and antipsychotics in the management of psychiatric disorders, the importance of recognizing serotonin syndrome cannot be overemphasized.

J14

Intramuscular Olanzapine Versus Intramuscular Haloperidol Plus Lorazepam for the Treatment of Agitation in Schizophrenia: a Cost-Effectiveness Analysis and Cost-Utility Analysis

肌肉注射 olanzapine 與肌肉注射 haloperidol 加上 lorazepam 對於精神分裂症急性激動的療效比較：成本效果分析及成本效用分析

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Objective: In real life, physicians frequently face complex clinical problems or even dilemmas in pharmacological treatment of patients. These problems may involve not only

efficacy and safety, but also cost, quality of life and others. Cost-effectiveness analysis (CEA) and cost-utility analysis (CUA) may be helpful in this regard because these methods can take into consideration all relevant factors. We aimed to apply the CEA and CUA method to evaluate the clinical question: “Intramuscular (IM) olanzapine versus IM haloperidol plus lorazepam for the treatment of agitation in schizophrenia: which one to choose?”

Methods: In this study, we implemented a randomized controlled trial (RCT) comparing IM olanzapine versus IM haloperidol plus lorazepam in the treatment of acute agitation of schizophrenia, and then performed Markov decision model, CEA and CUA based on data from the RCT.

Results: A total of 67 agitated patients with schizophrenia or schizoaffective disorder were enrolled. The RCT showed that both treatments were not significantly different in terms of efficacy and safety measurements. Regarding response, CEA showed the olanzapine treatment was dominated by haloperidol plus lorazepam treatment because the former had higher cost and marginally lower response proportion. However, in terms of quality, CUA showed olanzapine treatment had higher quality of life and the incremental cost was 4387.5 NTD per utility-gained compared to the haloperidol plus lorazepam treatment.

Conclusion: Depending on economical status and government policy, physicians of different countries may make different decisions. The study provides support to the use of CEA and CUA in making clinical decisions. By using these methods, physicians can examine a clinical complex treatment issue in a more comprehensive manner, not only considering efficacy and safety, but also taking cost and quality of life into account.

J15

Effectiveness of Antipsychotics in Patients with Schizophrenia: A Cohort Study of NHIRD

抗精神病藥物於精神分裂症患者的療效：健保資料庫研究

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Objective: The study is to compare the effectiveness among antipsychotics in the

patients with schizophrenia by evaluating the time to discontinuation of the prescription of the antipsychotics. We conducted a retrospective study by analyzing the National Health Insurance Research Database of Taiwan between 2002 and 2005.

Methods: The study identified a cohort of patients with schizophrenia by the ICD-9-CM code 295.xx between 2002 and 2005. We identified the first prescribed antipsychotics as the index medication agent. The first date of prescription was the index date. Besides, the patients without antipsychotic use over the prior one year were considered as new users. The primary outcome is the time to discontinuation of the antipsychotics. We aimed to evaluate the persistence of each index agent by calculating the duration. The definition of outcome was defined by 1. Discontinuation and 2. Switching.

Results: We presented a diagram of survival curve compared the antipsychotics and the FGA Haloperidol showed decrease with significance in the treatment duration. However, the further comparison such by the category (especially young age <18y/o and old age >65y/o) of age was still pending.

Conclusion: Initially, our data result showed significant short duration of Haloperidol. However, we would like to compare the effectiveness by the different category including age, comorbidity...etc. Later more evidence of antipsychotics effectiveness should be disclosed by further analysis of the NHIRD.

J16

Selective Serotonin Reuptake Inhibitors Inhibit Convulxin- and Fibrinogen-Induced Phosphorylation of Syk in Human Platelets

選擇性血清素轉運體抑制劑能抑制人類血小板被蛇毒蛋白 convulxin 與纖維蛋白原所刺激的 Syk 磷酸化

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Objective: Selective serotonin reuptake inhibitors (SSRIs) have been reported to reduce platelet aggregation induced by collagen and convulxin. Collagen and convulxin induce platelet aggregation through glycoprotein VI (GPVI)-FcR γ -ITAM-Syk signaling pathway. In

addition, binding of fibrinogen to platelets triggers the Fc γ RII-ITAM-Syk signaling pathway. Objectives: To characterize the inhibitory properties of SSRIs on GPVI-mediated platelet aggregation and to investigate the effects of SSRIs on GPVI-Fc γ -ITAM-Syk signaling pathway. The effect of SSRIs on fibrinogen-induced Syk phosphorylation was also investigated.

Methods: Citalopram, a relatively pure SSRI, was used in this study. Platelet aggregation was measured by aggregometry. The influence of acute treatment of citalopram on platelet serotonin was determined. Fibrinogen adhesion assay was used to examine the effect of citalopram on fibrinogen-induced Syk phosphorylation. Signaling pathways were evaluated by immunoprecipitation and Western blotting.

Results: Citalopram concentration-dependently inhibited convulxin-induced platelet aggregation. Citalopram inhibited the release of serotonin in response to convulxin. Serotonin concentration in washed platelets, however, was unchanged after acute treatment of citalopram. Citalopram did not influence the effect of serotonin on platelets. Convulxin-induced phosphorylations of Syk, LAT, PKC δ and Akt were inhibited by citalopram. Although citalopram inhibited the interaction between FcR γ and Syk, the phosphorylation of FcR γ in response to convulxin remained unchanged. Furthermore, citalopram inhibited the increase of the interaction between serotonin transporter (SERT) and Syk induced by convulxin. In addition, citalopram inhibited the adhesion of platelets to immobilized fibrinogen and fibrinogen-induced Syk phosphorylation.

Conclusion: SSRIs inhibit convulxin- and fibrinogen-induced Syk phosphorylation. They influence the interaction between GPVI-FcR γ -ITAM and Syk.

J17

Amisulpride Usage May Induce Symptomatic Bradycardia Without QT Interval Prolongation

個案報告：由 amisulpride 使用引起之心搏過緩

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Background: Bradycardia with QT interval prolongation has been recently reported as the rare but severe side effect of antipsychotics agent, such as risperidone, ziprasidone and clozapine. Amisulpride is one of the second generation antipsychotics reported to have relatively few adverse effects with therapeutic use for the treatment of schizophrenia. Cardiac disorders appear to be an extremely rare complication with amisulpride. Fewer side effects reports of QT interval prolongation and two cases of bradycardia were presented with amisulpride usage. We will describe the drug adverse side effect of a patient who developed symptomatic bradycardia upon with the usage of amisulpride.

Case Report: A 46-year-old male with diagnosis of schizoaffective disorder was started amisulpride 400 mg per day with the augmentation of clonazepam 4mg per day and depakine 750 mg per day usage and the dose of amisulpride was titrated to 800 mg for management of auditory hallucination and delusions. The blood pressure (BP) was 131/77 mm Hg, and results of her complete blood cell count, basic metabolic panel, and liver and thyroid function tests were within normal limits. The patient developed symptomatic bradycardia (heart rate 50-39 beats/min), which resolved after amisulpride was subsided and clonazepam was decreased to 2mg per day. All the special cardiovascular examination including holter EKG, and sonography were performed and there was no obvious structure abnormality in the results. After 2 weeks later without antipsychotics usage, the heart rate was within normal range (63-83 beats/min). However, the psychiatric condition was worsen with the symptoms of mania with psychotic features in this two weeks. He was started on amisulpride 200 mg daily (subsequently increased to 400 mg) in conjunction with 750 mg depakine and 2mg clonazepam daily. The patient again developed symptomatic bradycardia that resolved after discontinuation of amisulpride. Finally the psychiatric and physical condition (heart rate 65-90 beats/min) was improved after the usage of risperidone 3mg/day in the course of admission and outpatient department follow-up.

Discussion: This is the first case report of symptomatic bradycardia associated with the use of amisulpride in Asia. Asymptomatic bradycardia with the usage of amisulpride has been reported in the literatures. Little is known about the mechanisms that contribute to the

antipsychotic-associated bradycardic response. It is the severity of this potential adverse effect warrants consideration when initiating antipsychotic therapy.

J18

Long-Acting Injectable Antipsychotics in Bipolar Disorder Patients

雙極性情感疾患之抗精神病藥物長效針劑使用狀況

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Objective: Bipolar disorder is a severe, chronic and often life-threatening illness. Many of the patients are prescribed with second-generation antipsychotics. Risperidone long acting injection as a monotherapy or as adjunctive therapy to mood stabilizer for the maintenance treatment of bipolar I disorder has been approved in Taiwan. To date, few studies have examined the use of depot antipsychotics on the treatment of patients with bipolar disorder. This study aimed to explore the prevalence of depot antipsychotic use and its clinical correlates.

Methods: We collected medical records of patients with bipolar disorder from a university hospital in southern Taiwan from June 2010 to April 2013. Patients of oral antipsychotics (OA) group received only oral antipsychotics through the course. In the long-acting injectable (LAI) antipsychotics group, patients received at least 3 months of long-acting injectable antipsychotics. Admission and hospital stay of the patients were followed up to one year after treatment.

Results: Totally there were 341 patients. The mean age of the study population was 44.7 years and 66% were male. Depot antipsychotic medications were prescribed in 5.8% of the patients. The incidence of admissions for bipolar disorder during one year were 20% for LAI group and 24% for OA group. Hospital stay were 16.5 days for LAI group and 46.6 days for OA group.

Conclusion: LAI was associated with reductions in service utilization, including numbers of hospital admission and hospital days with statistical significance.

J19

Variation in NET Gene is Associated with Venlafaxine Response in Patients with Major Depressive Disorder

正腎上腺素轉運體變異與重鬱症患者使用 venlafaxine 療效有關

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Objective: Venlafaxine, an antidepressant of selective serotonergic and noradrenergic reuptake inhibitor (SNRI), is used to treat patients with major depressive disorder (MDD). Much evidence suggests that genetic polymorphisms may modulate the serotonergic and noradrenergic function thereby involving the treatment response of venlafaxine. The aim of this study was to examine whether the norepinephrine transporter gene (NET, HLC6A2) polymorphisms influence SNRI treatment response in MDD.

Methods: Seven single-nucleotide polymorphisms (SNPs) of the NET gene were analyzed in a total of 182 patients with MDD who had completed 8-week treatment with venlafaxine. The repeat measures of treatment response in 9 visits over 8 weeks was analyzed by generalized estimating equations (GEE) model, using predictors as baseline HAMD21, visit, genotype, and genotype-by-visit interaction.

Results: A statistically significant difference in HAMD21 mean changes was noted in some NET SNPs. A borderline association in genotype frequencies between responders and non-responders was observed in the investigated NET variants.

Conclusion: This study suggests that variation of the NET gene may be a predictor for venlafaxine response in MDD patients.

J20**Early Prediction of Clinical Response in Patients with Schizophrenia Treated by Paliperidone ER: An Open-label Study****精神分裂症患者服用 Paliperidone ER 臨床反應之早期預測**

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Objective: This 6-week open-label study is to investigate whether the early changes of psychopathology after Paliperidone extended-released tablet (Paliperidone ER) treatment could predict the response at week 6.

Methods: Patients diagnosed with schizophrenia or schizoaffective disorders were enrolled in the 6-week trial. They received Paliperidone ER 9mg/day for the first 2 weeks. The dosage could be adjusted 2 weeks later according to clinical response. The patients were followed at day 0, 4, 7, 14, 28, and 42 and reassessed psychopathology. Receiver-operator curves (ROC) were applied to identify a best cutoff, according to the highest Youden index, at day 4, week 1, and week 2 for response prediction.

Results: Forty-one patients were enrolled in this study; eight patients withdrew and twenty-six were classified as responders ($\geq 50\%$ improvement of Positive and Negative Syndrome Scale [PANSS]-total scores at week 6). In logistic regression, the changes of PANSS total scores at day 4, week 1, and week 2 could predict responders/non-responders at week 6. In the ROC analyses, cutoff score 8 for the changes of PANSS total score at day 4 to predict response at week 6 had a good sensitivity (81%) but poor specificity (53%), so was the changes of PANSS total score at week 1 (cutoff 9, sensitivity 92%, specificity 53%). The changes of PANSS total score at week 2 (cutoff 24.5, sensitivity 88%, specificity 87%) had better prediction for the final response.

Conclusion: Our findings support that Paliperidone ER treatment starting from 9mg/d are feasible for patients with schizophrenia in acute exacerbation. The Paliperidone ER showed early treatment prediction for further response, which was comparable to other second generation antipsychotics in previous studies. The early treatment response of Paliperidone ER at week 2 is a good predictor to evaluate whether the medication should be continuously used or not.

J21

Drugs Related Assessment and Constipation in Nursing Home Residents 養護機構住民之藥品與便秘相關性評估

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Objective: Constipation is a common adverse drug reaction. In nursing homes, the prevalence of constipation is about 44-74%. Drugs have been reported as one of the most important causes of constipation, in addition to insufficient intake of fluid and dietary fibre, reduced activity of daily living, lack of exercise, and diseases. In general, the use of drugs is high in elderly in nursing homes. Frail elderly with chronic diseases, altered pharmacokinetics and pharmacodynamics, and use of several drugs with anticholinergic effects and in part unknown interactions appear to be at high risk of side effects of drugs. This cross-sectional study aimed at finding the impact of drugs on constipation in elderly in nursing homes.

Methods: This cross-sectional study was performed in this nursing homes, subjects (n=198) were included between March 2012 and April 2013, residents above 60 years of age living in nursing homes for more than 8 weeks. Demographics, diet, physical activity, activity of daily living, nutritional status, use of drugs, and diseases were recorded. Constipation was defined as functional constipation or regular use of laxatives. Drugs were classified according to the Anatomical-Therapeutic-Chemical Classification System (ATC), and anticholinergic effect was noted. Recorded variables between two groups of residents using laxatives and not using laxatives were analyzed with Chi-square test.

Results: In demography among these residents, 56.1% (n=111) are female and 43.9% (n=87) are male. The mean age is 80.5 years old (SD± 8.3). Resident (n=198) with laxatives (n=142) without laxatives (n=56). Use of drugs in general, including polypharmacy, was not associated with constipation. Antipsychotic (N05AH) (OR =1.33, 95% CI: 0.48-3.68, P = 0.38), other antidepressants (N06AX) (OR =1.28, 95% CI: 0.48-3.38, P = 0.40), and benzodiazepine derivatives (N05BA) (OR =1.67, 95% CI: 0.571-4.896, P = 0.248) were not

significantly associated with constipation. Reduced activity of daily living (OR = 0.51, 95% CI : 0.21-1.23, P = 0.009), and drugs with markedly anticholinergic effect (OR = 0.73, 95% CI: 0.65-0.82, P = 0.032) were associated with constipation. The mean number of drugs used by the residents was 5.5 (SD= 0.7, range 0-12); 19 residents (9.6%) used drugs with markedly anticholinergic effects.

Conclusion: Use of drugs in general, including polypharmacy, was not associated with constipation in elderly in nursing homes, but some specific groups of drugs were. Therefore, in elderly with constipation, focus should be on specific groups of drugs and not drugs in general. This study indicated that focus should be on drugs with markedly anticholinergic effects, in addition to nonpharmacological interventions such as activity of daily living.

J22

Olanzapine Compared to Lamotrigine in the Prevention of Depressive Episode in the Patients with Bipolar Disorder

Olanzapine 與 lamotrigine 在預防雙極性疾患患者鬱期復發的比較

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Objective: Lamotrigine, a kind of mood stabilizer, was proved to be effective in preventing depressive episode in Bipolar disorder. However, it is still lacking evidence that monotherapy with atypical antipsychotics such as olanzapine had the efficacy of preventing the recurrence of depressive episode in the patients with bipolar disorder although it had demonstrated good prevention in manic episode of bipolar disorder.

Methods: We enrolled patients who had bipolar disorder in remission state for at least two months and have already received olanzapine or lamotrigine as the maintenance treatment. The patients maintained with olanzapine (N=22) were applied to olanzapine group whereas those maintained on lamotrigine (N=29) were applied to lamotrigine group for one month before entering into this study. They were followed up to 12 months. The difference of the efficacy of olanzapine and lamotrigine in preventing depressive episode between two

groups was analyzed.

Results: Regarding pole-specific recurrence, olanzapine performed statistically better than lamotrigine in preventing the recurrence of depressive episode. In the olanzapine group, only 4 patients (20%) had recurrence of depression over the span of 52 weeks, whereas in the lamotrigine group, the number was 15 (57.7%) (Chi-square=6.62, p=0.010). However, olanzapine and lamotrigine had similar efficacy of preventing mania recurrence. There were 3 patients (15%) in olanzapine group having recurrent manic episode during the one-year following period and no lamotrigine -treated patient had mania recurrence. (Fisher's exact test, p=0.075) Besides, the two groups didn't differ significantly in the proportion of patients who had recurrence into either manic or depressive episodes: olanzapine 7 of 20 (35.0%), lamotrigine 15 of 26 (57.7%); Chi-square=2.33, p=0.127. Olanzapine was significantly superior to lamotrigine on the time to recurrence for depressive episode (Chi-square=4.55, p=0.033, log-rank test). The median time to depression recurrence in lamotrigine group was 44 weeks and there was no sufficient event in olanzapine group to calculate medium times. If not considering pole-specificity, olanzapine and lamotrigine did not differ in time to recurrence to any mood episode. (Chi-square=1.68, p=0.195) For further investigation of prevention of depression recurrence, Cox Model analysis with residual affective symptoms as a covariate was done. The patients treated with lamotrigine had higher risk of recurrence of depression than the olanzapine group even residual affective symptoms being controlled. (hazard ratio 3.81, 95% CI 1.24-11.73, p=0.020). The risk of depression recurrence in patients with residual symptoms was significantly higher than those who were asymptomatic (hazard ratio 2.59, 95% CI 1.03-6.52, p=0.043).

Conclusion: Olanzapine was superior to Lamotrigine for the prevention of depressive episode in patients with Bipolar Disorder. The result of this study indicated the efficacy and well-tolerability of Olanzapine as a maintenance treatment for Bipolar disorder.

J23**Escitalopram with Aripiprazole Combination Showed Great Therapeutic Benefit in Negative Symptoms of Schizophrenia : A Case Report****Escitalopram 合併 Aripiprazole 於精神分裂症負性症狀具改善療效：個案報告**

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Background: Escitalopram is an allosteric serotonin reuptake inhibitor mostly indicated for depressive and anxiety disorder. Aripiprazole is a partial D2 and 5-HT1 agonist, also a 5-HT2A antagonist, act as an atypical antipsychotics for treatment of schizophrenia, bipolar mania, and major depression augmentation. In recent studies, several antidepressants were reported to induce benefit in primary negative symptoms of schizophrenia (NSS), but the individual antidepressant's efficacy was not clear, so as the combination strategy. Here we presented a chronic simple schizophrenic case, with a 15-year-long home visit history under our prescription, who benefits significantly (or even awakenings, simply from single care giver's view) in her negative symptoms from the combination of escitalopram 5mg/d and aripiprazole 10mg/d.

Case Report: Mrs, Chien, a 60-year-old housewife, was introverted in nature. At age 39, after the delivery of her fourth child, she became gradually affect flattening, alogia, anhedonia, avolition, and social withdrawal. No significant psychotic symptom was noted during her treatment course except self-talking and silly laughter in the first few years during her illness course. Fluanxol was shifted to aripiprazole 7.5mg at age 53 due to intolerated bradykinesia and tremor, and further titrated up to 10mg at age 56. She became able to complete basic personal care such as toileting and dressing. Escitalopram was added at age 58 aimed for augmentation for improving negative symptoms of schizophrenia. After escitalopram use, she showed more improvement in negative symptoms. She was able to communicate with her family with simple sentences, washing clothes, outside walking, and following order to exercise. The improvement in self-care, social interaction, emotional response, and verbal output were significant after age 58 under combination of aripiprazole

10mg/d and escitalopram 5mg/d.

Discussion: In the review of antidepressant benefit to NSS, escitalopram showed some preliminary evidence⁹ in treating NSS. In our case, the therapeutic effect reached maximum when escitalopram 5mg/d augmented with aripiprazole 10mg/d (age 58-60), compared with aripiprazole 7.5mg/d alone (age 53-56), or aripiprazole 10mg/d (age 56-58) in longitudinal observation. Mrs. Chien received the same caregiver, her husband, and the same psychiatric nurse through regular home visit twice per month in her 15-years treatment course. The clinical response may mostly contribute to the pharmacological effect since the psychosocial factors and supportive system were mostly stationary.

J24

Atomoxetine Induced Sleepwalking: A Case Report

思銳誘發夢遊：一個案報告

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Background: Sleepwalking (SW), also known as somnambulism, is characterized by episodes of complex motor behavior initiated during slow-wave sleep. It tends to occur between the ages of 4 and 8 and in 2-14% of children. Atomoxetine, a selective norepinephrine reuptake inhibitor, is the only non-stimulant approved by the FDA for the treatment of Attention-deficit/hyperactivity disorder (ADHD) in children, adolescents and adults. The common adverse effects with atomoxetine are nausea, vomiting, fatigue, decreased appetite, abdominal pain and somnolence. Herein we describe a child with onset of sleepwalking after taking atomoxetine for ADHD.

Case Report: A 9Y4M single, 3 grade of elementary school, female student, who had no history of perinatal abnormality, but had mild mental retardation, was observed to have core symptoms of ADHD for a period, including inattention, distractibility, easily forgetful, losing things, making careless mistakes, having trouble completing homework, not seem to listen when spoken to having trouble sitting, be constantly in motion...etc. Initially, methylphenidate was prescribed and the severity of ADHD was decreased. But worsen

symptoms of ADHD were noted after a period of appropriate dose of methylphenidate treatment. So, the medication was shifting to atomoxetine with starting dose of 10 mg per day for two weeks and 25 mg per day for next two weeks under the body weight of 25kg. Queer behavior at night after falling asleep, ex. waking up to turn off the light but the light is not on or putting her clothes onto bedquilt without reason, was noted when she starting to take atomoxetine 25 mg/day. And she couldn't recall what she did last night when she got up in the morning. The queer behavior during sleep was disappeared and no more reported after shifting atomoxetine back to methylphenidate.

Discussion: Although we have not clearly understood etiology and pathophysiology of SW, some medication induced SW has been reported, including hypnotics (zolpidem, zolpidem in combination with valproic acid), antipsychotics (perphenazine, olanzapine, quetiapine), lithium, lithium in combination with neuroleptics, antidepressants (amitriptyline, bupropion, mirtazapine, paroxetine, reboxetine), benzodiazepines, diphenhydramine, methaqualone and topiramate. For these case reports, serotonergic and dopaminergic neurons involved in SW were suspected. For our case, norepinephrine transmitter may also play a role. Due to no case report about atomoxetine induced SW in pubmed could be searched, more data is needed to confirm the association between norepinephrine and SW.

J25

Comparison of Treatment Outcomes between Haloperidol Decanoate and Long-Acting Injectable Risperidone in Patients with Schizophrenia:

A Natural Survey

Risperidone 長效針劑與 Haloperidol 長效針劑兩者在精神分裂症患者之治療結果上之比較

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Objective: Considering few comparison studies and inconsistent results for haloperidol decanoate (HD) and long-acting injectable risperidone (LAR) in schizophrenia treatment, we conduct a study to compare the treatment outcomes between HD and LAR in patients with

schizophrenia.

Methods: Patients with schizophrenia who initiated treatment of HD or LAR from February 2005, the launch day of LAR in Taiwan, to March 2010 were selected from the medical records of Taipei City Psychiatric Center. Among them, 100 patients for each medication were randomly sampled. Data of demographic and clinical characteristics and medication use were extracted based on a chart review process. Several clinical outcomes, including the proportion of patients with injection treatment ≥ 180 days, the duration of continuous treatment, the medication possession ratio (MPR) for the first 90 days, and times of psychiatric emergency service use and psychiatric hospitalisation during the 180 days, were compared between these two injection antipsychotics.

Results: Patients who initiated HD were more likely to have earlier age of onset ($P=0.045$) and lower educational level ($P=0.021$). After 180 days of depot treatment, 34.3% of LAR patients, 33.0% HD patients were continuing to receive the same long acting antipsychotics. The mean duration of depot treatment episode was 89.74 days ($SD=71.68$) for LAR, 94.97 ($SD=66.13$) for HD. The mean antipsychotics medication possession ratio (including depot and oral forms) during the 180 days of depot treatment was 52.99 % ($SD=39.81\%$) for LAR, and 54.60% ($SD=36.74\%$) for HD. Patients who started HD made significantly fewer times of psychiatric hospitalisation during the 180 days ($P=0.01$, LAR [19.4%], HD[7.0%]), but no significant difference in psychiatric emergency visit between the two groups (LAR[10.2%], HD[8.0%]).

Conclusion: Compared the treatment outcome, only the proportion of psychiatric hospitalization showed group differences. The majority of patients in each group discontinued their assigned treatment in the first few months of treatment. The finding suggest early discontinuation of depot antipsychotics is quite common.

J26**Changing Patterns of Antipsychotic Prescription and Concomitant Anti-Parkinson Drugs Use in a Taiwanese Psychiatric Hospital****台灣某精神專科醫院抗精神病藥物和抗巴金森藥物處方型態之變遷**Chun-Yang Lai¹, Mei-Fong Huang², Yu-Hsuan Wu¹, Yu-Hui Huang¹, Yu-San Chang¹賴俊揚¹、黃美鳳²、吳俞萱¹、黃郁惠¹、張鈺姍¹¹ Kaohsiung Municipal Kai-Syuan Psychiatric Hospital² Department of Psychiatry, Kaohsiung Medical University Hospital¹ 高雄市立凱旋醫院 ² 高雄醫學大學附設中和紀念醫院精神科

Objective: Second-generation antipsychotics (SGAs) theoretically have a milder EPS profile and therefore greater tolerability than first-generation antipsychotics (FGAs). However, the results of recent studies have shown no substantial differences in EPS between these two classes of drugs. Antipsychotic polypharmacy (APP) appears to be increasing across a range of patient populations. The relatively high rate of APP is likely a result of the intolerability and inadequate response to antipsychotics experienced by many patients with schizophrenia and related disorders. This study examined recent trends in the use of antipsychotics in hospitalized patients with a diagnosis of schizophrenia between 2007 and 2011 in a psychiatric hospital in Taiwan.

Methods: A 5-year dataset from 2007 to 2011 was obtained from Kaohsiung Municipal Kai-Syuan Psychiatric Hospital. All hospitalizations with a diagnosis of schizophrenia (ICD-9-CM code 295.xx) were extracted from central sources for analysis. Hospitalizations with pre-existing Parkinson's disease (ICD-9-CM code 332.0) were excluded. The demographic data included admission year, age, gender, length of hospital stay, and number of antipsychotics used during the hospitalization. Drugs relevant to the study including FGAs, SGAs, antidepressants, mood stabilizers, anxiolytics, hypnotics and sedatives, and APDs were identified. Two dosage indicators, defined daily dose (DDD) and prescribed mean daily dose (PMDD), were computed for all antipsychotics and APDs. The DDD was based on information obtained from the literature, and the PMDD was calculated from the prescription data of each hospitalization. The PMDD/DDD ratio of a drug indicated the relative dosage of any given drug compared to that recommended.

Results: The five-year trend of long-term prescriptions of antipsychotics showed that use of FGAs decreased, and the use of SGAs increased. Approximately 40% of the cases were

prescribed with antipsychotic polypharmacy (APP), and the rate was highest in those receiving a combination of FGAs and SGAs. Over the study period, the co-prescribing of APDs decreased by 15%. A longer hospital stay and using a higher than recommended dose of antipsychotics increased a greater risk of co-prescribing APDs. Among the FGAs, haloperidol and trifluoperazine were associated with a significant risk of co-prescribing APDs. Chlorpromazine and sulpiride were associated with a significantly low risk of co-prescribing APDs. Among the SGAs, amisulpride, risperidone, and zotepine were associated with a significant risk of co-prescribing APDs. Clozapine, olanzapine, and quetiapine were associated with a significantly low risk of co-prescribing APDs.

Conclusion: The availability of SGAs has increased in recent years, and the recommended role of APP involving SGAs should be further discussed. The SGAs are not a homogenous group of antipsychotics with regards to EPS, and the considerably high rate of EPS associated with some SGAs warrants clinical attention.

J27

Motor Tics Associated with Paliperidone Extended Release :

A Case Report

思維佳持續性釋放錠相關之動作痙攣 (motor tics) : 個案報告

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Background: We would like to report the first case with development of motor tics during paliperidone treatment.

Case Report: A 30 year-old single man has a 10-year history of schizophrenia. His first psychotic symptoms appeared at the age 20 with presentation of mutism , negative symptoms and auditory hallucination. He was first admitted to psychiatric unit at the age 25 when he presented with catatonic features. Risperidone 2~4 mg daily was prescribed and he lost follow up after discharge. On May 19, 2012, he was first admitted to our hospital for the first time after one week of refusal of intake, poor personal care and mutism. Aripiprazole was initiated at dose of 10 mg daily and was titrated up to 20 mg daily soon in a few days. We switched to

olanzapine within one week because of frequent refusal of medication. Olanzapine was rapidly titrated to 20 mg daily. Mutism, social isolation and impaired personal care did not improve after 2 weeks of maintaining this dose and olanzapine 20 mg daily was replaced directly by paliperidone 9 mg daily. As we gradually titrated paliperidone to 15 mg daily, he developed frequent involuntary eye-blinking movement one month after initiation of paliperidone treatment. We tapered paliperidone to 9 mg daily and these tic-like symptoms remitted and psychotic symptoms remained stable. To date, paliperidone 9 mg daily has been maintained to stabilize his psychotic symptoms for nearly one year and there's no more eye-blinking.

Discussion: One case reported tardive tourette syndrome in association with paliperidone. Here, we present the first case of paliperidone-induced uncomplex motor tics instead of tourette syndrome in the literature. Tardive dyskinesia (TD), another similar condition, is seen in patient with long-term treatment with neuroleptic agents. Both tic disorder and TD have a similar pathophysiology involving dopamine receptor hypersensitivity. We preferred the diagnosis of Tics rather than TD based on the following aspects: 1. The involuntary movement emerged soon one month after the initiation of paliperidone treatment whereas onset of TD is typically delayed, with symptoms first appearing after years of treatment. 2. The eye-blinking are arrhythmic, not rhythmic observed in TD. Olanzapine withdrawal related tic-like symptoms were less likely due to absence of tics after we tapered paliperidone to 9 mg daily. Interestingly, one case reported that a 27 year-old woman with Tourette's syndrome and comorbid schizophrenia was treated successfully with paliperidone extended-release at dose of 6 mg daily, but another case reported Tardive Tourette-like syndrome developed in a 22 year-old woman treated with paliperidone at dose of 18 mg daily. Therefore, dosage may play a role in the treatment of tic-like symptoms or inducing them instead. The importance of this case is that the rare tic-like symptoms from simple eye-blinking to complex tourette-like syndrome may occur during paliperidone treatment, especially with higher dose.

J28

A Case Report of Clozapine Withdrawal and Atypical Neuroleptic Malignant Syndrome

Clozapine 中斷服用造成非典型抗精神病藥物惡性症候群：個案報告

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Background: neuroleptic malignant syndrome (NMS) is a life threatening neurologic emergency associated with the use of neuroleptic agents. It has rarely been discussed with discontinuation of antipsychotics.

Case Report: A 26-year-old single male was diagnosed schizophrenia, paranoid type for 6 years with initial presentation of auditory hallucination and bizarre behavior. The last 2 years, he was taking clozapine 250mg-300mg/day combined with haloperidol 5mg/day. Due to hyponatremia complicated with seizure attack, he was transferred to medical center in previous admission. However, he rejected to receive any medical intervention and against medical advice discharge. He discontinued the antipsychotics. After 7 days, because of vivid psychosis and abrupt violence, he visited our emergency room where fever up to 38.1°C, mild tachycardia (pulse: 106 bpm) and hypertension (147/93 mmHg) was noted. He was transferred to medical center for fever survey. Leukocytosis (13400/uL) and low CRP (0.18 mg/dL) was noted. Owing to rejecting any medical intervention, he came back to our hospital and admitted again. He was clouded, agitated and anxious. Mild tremor and serum CPK: 3417U/L were noted. Atypical NMS was noted. After normal saline IV hydration and prescribing lorazepam and resperidal, his condition became better.

Discussion: This case illustrates the atypical NMS in the clozapine withdrawal patient. It reminds the clinicians the symptoms variety of antipsychotics withdrawal. The more they recognize, the more effective treatment they can offer.

K01**The Implicit Attitude to Heroin Cue in Patients with Methadone Maintenance Therapy (MMT)****美沙冬治療者對於海洛因的內隱態度**Peng-Wei Wang¹, Cheng-Fang Yen¹, Chih-Hung Ko², Huang-Chi Lin¹王鵬為¹、顏正芳¹、柯志鴻²、林皇吉¹¹ Department of Psychiatry, Kaohsiung Medical University Hospital² Department of Psychiatry, Kaohsiung Municipal Hsiao-Kang Hospital, Kaohsiung Medical University¹ 高雄醫學大學附設中和紀念醫院精神科 ² 高雄市立小港醫院

Objective: Research has found that the self-reported craving, related to explicit cognitions, does not predict relapse in heroin-addicted individuals in an MMT program. Weirs and colleagues found that measures of automatic cognitive processes may explain some of the variation in craving behavior beyond that accounted for by measures of controlled processes. This evidence highlights the necessity to explore how automatic processes relate to drug craving. Automatic processes are characterized by the presence of one or more features, including being fast, efficient, effortless, stimulus-driven, uncontrolled, and unconscious. These automatic processes can be difficult to assess with self-reported measures but can be captured by implicit cognition examinations. For example, the Implicit Association Test (IAT), which is a widely used task for investigating implicit cognition, has been used to examine automatic processes in smokers. Therefore, the association between craving and implicit cognition has been attracting increasing interest in addiction. Craving has been reported to be associated with implicit attitudes in some studies of drugs other than heroin. This study aimed to study implicit attitude to heroin in patients with methadone maintenance treatment (MMT) by IAT. We hypothesized that these patients have higher positive emotion or lower negative emotion in heroin related stimulus than in neutral stimulus.

Methods: This study recruited 81 individuals to have IAT. They were told that liked words, disliked words, heroin-related pictures, and neutral pictures would be presented one by one on a screen. The task is to press a left or right key based on the category to which the presented word or picture belongs (liked, disliked, heroin-related, or heroin unrelated). Which category is assigned to which response varies from phase to phase.

Results: There were five female (6.17%) and seventy-six male (93.83%). The means

(SD) of age and education year were 42.58 (7.04) and 9.85 (2.01). The mean reaction time (SD) between heroin related stimulus and positive emotion was 1.04 (.426). The mean reaction time (SD) between heroin related stimulus and negative emotion was 1.03 (.376). There was no statistic difference between these two reaction times (paired $t=.072$; $df=79$; $p=.943$). The mean reaction time (SD) between neutral stimulus and positive emotion was 1.01 (.350). The mean reaction time (SD) between neutral stimulus and negative emotion was 0.94 (.339). There was statistically different in these two reaction time (paired $t=2.190$; $df=78$; $p=.032$). The reaction time of positive emotion and heroin related stimulus did not differ from the reaction time of positive emotion and neutral stimulus (paired $t=.760$; $df=79$; $p=.450$). The reaction time of negative emotion and heroin related stimulus differ from the reaction time of negative emotion and neutral stimulus (paired $t=2.582$; $df=78$; $p=.012$).

Conclusion: No significant difference of heroin related stimulus between positive and negative emotion meant that patients may have lower negative or higher positive emotion. Furthermore, the reaction times of positive emotion to heroin related stimulus and neutral stimulus was not statistic difference. This meant that patients did not have higher positive emotion toward heroin related stimulus in implicit attitude. The reaction of heroin related stimulus to negative emotion was slower than neutral stimulus. This meant that patients did have lower negative emotion toward to heroin related stimulus. Lower negative emotion to heroin may reduce the motivation of or ability to stopping substance use.

K02

Enhancement of Adherence for HIV-infected Injection Drug Users by Voucher Incentives and Educational Brochures

應用『儲值衛教手冊』以提高藥癮愛滋病患的遵醫囑性評估計畫

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Objective: The attendance rate of HIV outpatient clinics among HIV-infected injection drug users is rather low in Taiwan. To enhance the attendance rate of HIV outpatient clinics, with the cooperation of charity organization, we provided voucher incentives and educational

brochures.

Methods: During Jan 1, 2011 to Dec 31, 2011, HIV-infected injection drug users under treatment in TaoYuan General Hospital or Taoyuan Psychiatric Center, HIV-infected patients just released from prison and HIV-infected patients who lost their jobs for more than three months with family in straitened circumstances were recruited in the study. An educational brochure was dispensed to each patient. If a patient attended outpatient clinic for HIV regularly for about 4-6 visits per year, attended educational activities regularly for about 9 activities per year, volunteered in charity activities and attended methadone maintenance treatment regularly with attendance rate more than 80% every month, he or she can get 1 point. Every 3 points equaled to 200 NT dollars coupon and can be used in convenient stores.

Results: A total of 179 patients attended the program. 73.7% were male, 26.2% were females. The rate of regular clinic visits increased from 62.2% to 94.4%. 116 (64.8%) patients received highly active antiviral treatment (HAART) and 38% of them started because of the voucher incentives program. The mean follow up period was 8.7+-2.5months, the cost of the program for each Patient-month was only 26.7 NT dollars.

Conclusion: The voucher incentives program effectively enhanced the adherence to clinical visits with relatively low costs of less than 1 percent of annual medical cost of one single HIV-infected patient. However, whether effect may extend beyond the study period remains to be studied.

K03

The Struggle of Health Intervention on Culture Gap: A Reflective Thinking on Aboriginal Drinking

文化鴻溝上的健康介入困境：反思原住民飲酒現象

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Aboriginal drinking is a worldwide issue but still controversial in its cause and vague by definition. Biomedical model is one of the very popular paradigms of its explanation. This paper elaborates the reflective thinking on the public health policy and the author's own

medical intervention in Wu-Fong, a Taiyal and Saisiyat aboriginal Township, during the year-long out-patient service and ongoing ethnographic fieldwork under an outreach plan to intervene the drinking “problems”. The prevalence of alcohol related disease among aboriginal people in Taiwan had increased dramatically in recent half century (Cheng 2004), including in Wu-Fong. However, under medical intervention, the author observes that there is poor medical adherence and futile efforts in psychoeducation. In addition, identifying and closing the gap between indigenous cognition of illness and modern medicine is also required. The ways in which health citizenship (Porter 2011) is promoted are contradicting to the personhood and living style of aboriginal society, e.g. ways of reunion, communication, accompanying, celebrating rituals, etc., which have been deprived during the process of societal change throughout the history of colonization and governing of the modern state. The top-down yearly funds provided from public sectors and charities made the intervention in vain. Drinking as “self medication” behavior may be rendered by a collective state of loss or even depression, which is difficult to be treated by individualized empowerment. There are both ethical and technical dilemmas regarding problematic drinking in aboriginal areas. They cannot be seen as merely a medical issue, but complex agenda with social, cultural and historical causes. “Aboriginal drinking” may be still an obscure object, which requires further analysis in semiotic and symbolic dimensions by means of what Fassin (2012) had put emphasis on while exploring the meaning of “global health”. The critique of medicalization as the causation of aboriginal problematic drinking might be important. It, however, should be together scrutinized with the question of health inequality. Modern medicine remains one of the solutions which indigenous society hesitatingly relies on. Despite alcoholism itself bears the stigma of personal moral fault in local view, identifying “patients” then again generate another form of discrimination. Clinical practitioners and policy makers should pay more attention on “side effects” of their actions, reappraise the medical intervention before by in depth-understanding of “etiology” of social suffering, and help produce health policies that are more culturally competent. Reference: Cheng, Andrew T. A. (2004). Risk Factors for Alcoholism among Taiwanese Aborigines (*Arch Gen Psychiatry* 61, 184-191) Fassin, Didier (2012). That Obscure Object of Global Mental Health, in Marcia C. Inhorn and Emily A. Wentzell (eds.) *Medical Anthropology at the Intersections: Histories, Activisms, and Futures*. Duke University Press. Porter, Dorothy (2011). *Health Citizenship: Essays in Social Medicine and Biomedical Politics*. University of California Press; 1 edition.

K04

Alcohol Withdrawal Delirium Manifested by Manic Symptoms: A Case Report

以躁症為主要表現的酒精戒斷譫妄：個案報告

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Background: The alcohol withdrawal syndrome is a commonly seen problem in psychiatric practice. Alcohol withdrawal delirium is associated with significant morbidity and mortality. Withdrawal symptoms usually included tremulousness, psychotic and perceptual symptoms, seizures and delirium tremens. In this report, we presented a 63 years old man who had alcohol withdrawal delirium which was manifested mostly by manic symptoms.

Case Report: A 63 years old man did not have any systemic disease. He started alcohol drinking at age 28. Drinking amount increased gradually from 2 units per 3 days and maintained at 14 units every day since the patient was 35 years old. He denied having withdrawal symptoms before. Morbid jealousy developed at age 39. Physical aggression and verbal aggression occurred several time during these years. The patient ceased drinking after he fell down which resulted in head injury with intracranial hemorrhage on 2013/02. He was admitted to intensive care unit and received operation. There were no psychotic symptoms or mood symptoms noticed at the time. The patient started binge drinking after he was discharged in 2013/04. The patient had violence and verbal threatening of setting fire. The patient was hence admitted to psychiatric ward in 2013/05. Lorazepam was given initially but alcohol withdrawal delirium still occurred. The patient was agitated and had physical and verbal aggression. Grandiosity, mood lability, being more talkative than usual and fluctuated consciousness was also detected. After we shifted benzodiazepine to diazepam, his fluctuated consciousness improved. However, the patient had persisted manic symptoms including grandiose delusion, flight of idea, poor attention, impulsivity, and mood lability. Risperidone 3mg per day and valproic acid 1000mg per day were prescribed. The patient was hospitalized for 6 weeks and discharged with residual manic symptoms. Manic symptoms subsided totally after one month out-patient clinic follow-up.

Discussion: The manifestation of alcohol withdrawal delirium could contain manic symptoms. The organic cause of manic symptoms should be considered. Mood stabilizer and antipsychotics could be used in clinical practice.

K05

Gender Differences in Belief of Use, Misuse Behaviors, Abuse/Dependence and Side Effects of Benzodiazepines and Benzodiazepine Receptor Agonists among Older Adults

老年人使用苯二氮平及苯二氮平接受器促進效劑的使用信念、誤用行為、濫用／成癮性、副作用之性別差異

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Objective: The aims of this study were to examine the gender differences in belief of use toward benzodiazepine (BZD) and BZD receptor agonist and the misuse behaviors, abuse/dependence and side effects of BZD and BZD receptor agonist among elderly people aged 65 or above.

Methods: This study invited 124 elderly people aged 65 or above who have used BZD receptor agonist (including zolpidem and zaleplon), alprazolam, or flunitrazepam for at least 3 months from the psychiatric outpatient clinics of three general hospitals in southern Taiwan to receive interviews based on the research questionnaire. The gender differences in the levels of belief of use, misuse behaviors, abuse/dependence and side effects of BZD receptor agonist, alprazolam and flunitrazepam were determined by odd ratio and multiple regression analysis. The results of this study found that there were no significant gender differences in the levels of belief of use, misuse behaviors, abuse/dependence and side effects of BZD receptor agonist, alprazolam and flunitrazepam among elderly people.

Results: The results of this study were different from those of a previous study on non-elderly people with BZD receptor agonists and BZD in Taiwan.

Conclusion: Further study is needed to examine whether age is a moderator for the gender differences in sedative/hypnotics using behaviors.

K06

Internal Consistency and Factor Structure for Chinese Mandarin Version of Self-reported Questionnaires Measuring Craving for Heroin 中文海洛因渴求自填量表的內在信度與因素架構

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Objective: Craving is characterized by uncontrollable repetitive thoughts and urges to use a substance. It is not only related to maintenance of substance use but also closely associated with relapse after abstinence. Because of high addictive property, heroin is still one of the most widely used illicit drugs in Taiwan. The aim of the study are to examine the psychometrics of the Chinese Mandarin version of the Desire for Drug Questionnaire (CM-DDQ) and Obsessive-Compulsive Drug Use Scale (CM-OCDUS) for clinical assessment of self-reported craving for heroin.

Methods: From August, 2012 to May 2013, 234 individuals with heroin dependence receiving MMT were consecutively recruited to receive interviewing based on the research questionnaires. Internal consistency reliability and factor structure of both CM-DDQ and CM-OCDUS were examined by measurement of Cronbachs alpha and confirmatory factor analysis respectively.

Results: The internal consistency of the CM-DDQ and CM-OCDUS were satisfactory. Furthermore, the results of confirmatory factor analysis indicated that the CM-DDQ for Taiwanese individuals with heroin dependence well fit original three-factor structure of the DDQ . However, CM-OCDUS for Taiwanese individuals with heroin dependence failed to fit the original three-factor model of the OCDUS. Exploratory factor analysis for CM-OCDUS indicated a new three factor-model for application to Taiwanese heroin users.

Conclusion: The Chinese Mandarin version of DDQ and OCDUS could serve as useful tools to capture craving phenomenon of heroin users for clinical or research purposes.

K07

Pharmacotherapeutic Management for Hospitalized Psychiatric Illness

Smokers

住院精神疾病吸菸病人的戒菸藥物治療

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Objective: Psychiatric patients use tobacco at greater rates and risks, they suffer greater tobacco smoking-related medical illnesses and mortality. Mentally ill smokers have more severe symptoms than mentally ill non-smokers. The previous studies showed smoking persons with mental disorders are concerned about their health and can successfully stop using tobacco. The objectives of this study were to evaluate the efficacy and safety of pharmacotherapy for smoking cessation of hospitalized psychiatric patients.

Methods: We selected patients hospitalized in acute psychiatric ward of a general hospital in central Taiwan during the period of 6 months. Smoking ban executed in that hospital for many years. We provided psycho-education related to tobacco for hospitalized smokers, and invited them to receive drug treatment (including nicotine replacement treatment, bupropion, and varenicline) for smoking cessation. While the smokers agreed to accept the recommendation, the pharmacotherapy for stop smoking initiated at once. We arranged the 6-month follow-up after these mentally ill smokers discharged.

Results: Totally 292 patients hospitalized in acute psychiatric ward during 6 months, 91(31.2%) were cigarette smokers. Schizophrenia was the most common psychiatric diagnosis of them (57.5%), bipolar disorder was the second common diagnosis (17.8%). Sixty-two point six percent of the smokers received smoking cessation drug treatment. Among them 64.9% received nicotine replacement treatment (NRT), 22.8% were prescribed bupropion, and remaining 3.5% took varenicline. Six months later after discharge the continuous abstinence rate of the smokers received pharmacotherapy for smoking cessation were 21.1%, and all smokers who rejected the drug therapy for quit tobacco smoking still. The adverse effects of smoking cessation medications were rated as mild severity, no increase in aggression and violence in the treated patients, and no overt deterioration of the psychiatric

manifestations were noted.

Conclusion: Pharmacotherapeutic management for smoking cessation can assist hospitalized mentally ill smokers reach the goal of quit tobacco smoking. These treatments were efficacious and well tolerated. Smokings need intervention and treatment especially because of the high risk in psychiatric patients. Health promotion should be part of the treatment of mentally ill patients. A tobacco-free milieu encourages tobacco cessation, increase the motivation to quit and remain smoke free. Combined approach with pharmacotherapy, psycho-education, and behavioral techniques for smoking cessation must be available for mentally ill smokers.

Ko8

The Outpatient Smoking Cessation Program for Mentally Ill Smokers

精神疾病吸菸患者的門診戒菸治療計畫

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Objective: Mentally ill patients smoke cigarette more than general population. They smoke in an attempt to alleviate psychiatric stress. Psychiatric disorder persons suffer greater tobacco-related illness and have higher morbidity and mortality. Many of them are concerned about their health and have the motivation to quit cigarette smoking. This study was an uncontrolled trial to assess the efficacy and safety of an outpatient smoking cessation program with pharmacotherapy and psychosocial intervention for smokers with psychiatric disorders.

Methods: We invited outpatient mentally ill smokers of one mental teaching hospital locates in central Taiwan to join the smoking cessation program. The program included psycho-education related to tobacco, behavioral modification, and drug treatment (nicotine replacement treatment and varenicline). The participant's psychiatric symptoms and adverse effects of medications were assessed. Assessments of tobacco use (continuous cessation rate) were made at every visit and 6-month follow-up.

Results: Totally 79 psychiatric outpatient smokers were enrolled during 6 months. 93.75 of them were men; 63.3% suffered from schizophrenia, 15.2% were bipolar disorder;

73.4% treated with nicotine gum, 26.6% used varenicline as treatment drug. Their treatment periods were from 6 weeks to 16 weeks. The cessation rate at the end of treatment was 38.0%. The continuous abstinence rate at 6 months post treatment was 21.5%. The abstinence rate of varenicline treated patients was higher than the patients received nicotine gum treatment. There was no change in the symptoms of mental disorder and no deterioration of adverse effects of psychotropics. Overall, all side effects of nicotine gum and varenicline were rated as moderate intensity or less. The adverse drug symptom of varenicline was higher than that of nicotine gum.

Conclusion: Tobacco smoking needs intervention and treatment, especially in mentally ill patients. Health promotion should be part of the treatment of psychiatric patients. The results of this study suggest adequate outpatient smoking cessation program is possible for individuals with psychiatric illness to quit tobacco smoking. Different drug treatments may have different efficacy and adverse effect. Our result showed varenicline appeared to improve success rate over those achieved with nicotine gum. There was no evidence that varenicline and nicotine replacement treatment exacerbated mental illness. Tobacco treatment for persons with mental disorder should be integrated into existing mental health services.

K09

Analyzing the Risk Factors of Suicidality in HIV Infected Heroin Abusers 共病 HIV 感染的海洛因濫用者之自殺危險因子分析

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Objective: High frequency of suicide was observed in the heroin abusers with co-morbid HIV infection. To investigate the associated risk factors is important for early prevention. We investigated these patients before they entered the methadone replacement therapy (MRT).

Methods: We enrolled the participants with co-morbid HIV infection and heroin dependence at methadone clinic of China Medical University Hospital from 2006 to 2008.

Before they entered MRT, they completed a face-to-face interview by the trained research assistant. The questionnaires include their demographic data, MINI-international Neuropsychiatric Interview (M.I.N.I.), ASI (addiction severity index), and Yale-Brown obsessive compulsive scale (YBOCS) — heroin (for measuring heroin craving). We defined the higher and lower suicide risk groups according to the suicidality recorded or not in M.I.N.I. We used Student's t and Chi-square tests as the statistical methods.

Results: Of the 153 patients, 145 completed the M.I.N.I. screen and 123 finished the A.S.I./YBOCS-heroin questionnaires. The 5th most prevalent co-morbid diagnoses are conduct disorder 43.4%, antisocial personality disorder 26.2%, major depressive disorder 20.1%, generalized anxiety disorder 6.9%, and dysthymic disorder 6.2%. The patients of the higher suicide risk group defined by M.I.N.I. were associated with more severity in medical status, employment status, family/social relationship, and psychiatric status. They also showed higher score at YBOCS-heroin ($P < 0.05$).

Conclusion: The patients with co-morbid HIV and heroin dependence revealed higher suicide risk when they had more co-morbid illness, poorer psychosocial status, and higher craving for heroin. This is the first study demonstrates that heroin craving is associated with suicide risk.

K10

The Relationship between Group Psychotherapy and the Adherence of Methadone Maintenance Therapy among Patients with Heroin Dependence

海洛因成癮者參加團體心理治療與美沙冬維持治療服藥遵從度的關係

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Objective: This study aimed to estimate the relationship between group psychotherapy and the adherence of methadone maintenance therapy (MMT) among patients with heroin dependence.

Methods: We studied the patients referred from district prosecutor's office under

deferred prosecution program. We collected some demographic data, the criminal history, the substance use history, the severity of heroin dependence, the severity of depression, and family support among these patients. All data were analyzed by SPSS 17.0.

Results: We recruited 84 patients and followed up them to evaluate the relationship between the group psychotherapy and the adherence of MMT. We found the regular attendance of group psychotherapy was related to the good adherence of MMT. In addition, the patients who were married had better attendance of group psychotherapy than the other marital status.

Conclusion: The adherence of MMT was associated with the attendance of group psychotherapy and the attendance of group psychotherapy was associated with marital status, which might related to family support. In order to get better attendance of group psychotherapy, we can arrange some psychosocial intervention such as family psychotherapy to enhance family support.

K11

Enhanced the Rate of HIV Screening Via Every Half Year on Non-AIDS IDUs

提升非愛滋藥癮者每半年愛滋病毒篩檢率

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Objective: The motivation of this project is to cooperate with government policy to increase drug addict on patient with non-AIDS via every half year HIV screening. From 2009 to 2011, the HIV screening rate was 56%. The reasons for the lower screening rates were due to (1) lack of motivation and poor understanding of HIV on the non-HIV patients, (2) concerns of legal issues, (3) lack of reminder system of screening HIV for consultants, and (4) insufficient screen system and procedure. The goal of this project was to achieve the screening rate to 90%.

Methods: Including the following components: (1) enhance the HIV knowledge of the

participants with individual HIV education to reduce their worries and concerns, (2) set up an auto HIV screening system, (3) build up the standard screening system and SOP, and (4) cooperate with other departments.

Results: After 6 months, the screening rate was achieved to 92%.

Conclusion: Hope this project can be duplicated to other hospitals to promote health outcomes.

K12

Characteristics of Participants in Deferred Prosecution of Controlled Drug Schedule II Offense in Central Taiwan

中台灣二級毒品緩起訴參與者之特質

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Objective: Abuse of controlled drug schedule II such as methamphetamine is a serious illicit drug problem in Taiwan and globally. This study explored the characteristics of participants in deferred prosecution of controlled drug schedule II offense in central Taiwan.

Methods: Between June 1, 2011 and March 31, 2013, 41 participants in deferred prosecution of controlled drug schedule II offense, ages 18-50 year-old, were enrolled in this retrospective study. Socio-demographic factors, current and prior drug use, social network characteristics, and drug use norms, craving scale, Taiwanese Depression Questionnaire, Perceived Family and Social Support Scale, WHOQOL-BREF Taiwan Version were assessed in the beginning.

Results: All 41 participants of deferred prosecution of controlled drug schedule II offense were due to methamphetamine use. 38 participants are male and 3 are female. Average ages are 33.85 ± 6.96 year-old. 38 participants have routine job. 19 participants have high school equivalency education and 19 junior high school equivalency education, 3 are beneath junior high school equivalency education. 40 participants (97.6%) have tobacco use problem, and 18 (43.9%) participants have alcohol use problem. 15 (36.6%) participants have history of other illicit drug problem. Only 2 (4.9%) participants described current methamphetamine

use. 30 (73.2%) participants have previous convictions and 80% related to illicit drug use. 10 participants (24.3%) experienced psychotic symptoms under methamphetamine use such as hallucinatory perception or delusional thoughts. 16 (39.0%) participants have depression symptoms. 8 (19.5%) participants stated previous manic-like symptoms. Most participants believe that they have a good mental, physical health, psychosocial support and life quality.

Conclusion: Methamphetamine use is highly associated with mental illness such as depressive disorder, bipolar disorder and other substance use disorder. Methamphetamine is a highly addictive substance and relapse is common. Our results are consistent with previous reports. A comprehensive behavioral treatment approach for methamphetamine addiction is effective including behavioral therapy, family education, individual counseling and drug testing. Participants in deferred prosecution may experience co-occurring problems such as mood disruptions and sexual risk behaviors that may complicate their recovery process. The study provide socio-demographic factors, physical and mental illness of participants in deferred prosecution of methamphetamine in order to contribute treatment of methylamphetamine use. Most of the participants did not pay attention to their mental, physical health, psychosocial support and life quality, which may represent to be compulsory and low motivation to the treatment program. Large samples studies are needed.

K13

Treatment of Non-opioid Addiction in Adolescents: a Preliminary Report from Northern Taiwan

青少年非鴉片類藥物成癮個案治療：北台灣經驗初報

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Objective: The treatment outcome of addiction in adolescents is related to the patients motivation and degree of coercion. This study explored the psychiatric comorbidity, completion rate, and positive rate of urine drug screening.

Methods: Patients were adolescents referred from and accompanied by teachers of the Extramural Association for Students in northern Taiwan. Cognitive-behavioral psychotherapy

in outpatient setting was given by psychiatrist or psychologist after evaluation of poly-substance abuse. The psychiatric comorbidity was assessed using Mini- International Neuropsychiatric Interview by psychiatrists. Visits and results of urine drug screening were summarized from review of chart records.

Results: There were 16 high school students (7 females) referred for outpatient treatments during September, 2011 and May, 2013. The average treatment duration is 149.3 days, and average OPD visits are 8.9. All 16 patients have problems of ketamine abuse, while 8 patients have concurrent methamphetamine abuse, 10 patients MDMA abuse, 1 patient cannabis abuse. Two of the patients have Post-Traumatic Stress Disorder, 1 patient Panic Disorder, 1 patient Generalized Anxiety Disorder, and 1 patient Conduct Disorder. The completion rate is 37.5% (4/12 in male and 2/7 in female patients), and 2 patients were incarcerated. Two patients were tested positive in urine drug screening.

Conclusion: In this study cohort, the completion rate of adolescent substance abuse is only 37.5% even if they are under coercion, accompanied by teachers, and tested urine negative during treatment. Poly-substance abuse and comorbid psychiatric illness are commonly present, and it may be clinically significant for routine evaluation and management in the treatment planning of adolescents with substance abuse.

K14

Striatal Dopamine Transporter Density and Cognitive Performance in Opioid Dependence; a ^{99m}Tc-TRODAT-1 SPECT Study

單光子電腦斷層攝影探討鴉片成癮患者紋狀體多巴胺轉運子與認知功能相關性

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Objective: Results regarding striatal dopamine transporter density in people with opioid dependence are inconsistent, and preliminary data indicated a history of methamphetamine or methadone exposure could be a confounding factor. Further, in healthy

volunteers, striatal dopamine transporter density correlated with cognitive performance, as measured by Wisconsin Card Sorting Test. However, few studies have addressed this issue in people with opioid dependence. By eliminating potential confounding factors, the current study sought to explore opioid-dependent individuals striatal dopamine transporter density and their performance. The association between the density of striatal dopamine transporter and parameters of cognitive performance was also analyzed.

Methods: Opioid-dependent individuals (n = 20) without a history of methadone or methamphetamine exposure were recruited. Single photon emission computed tomography with ^{99m}Tc-TRODAT-1 as ligand was used to image the density of striatal dopamine transporter. Cognitive performance was assessed by Wisconsin Card Sorting Test. For comparison, the study included twenty healthy controls.

Results: As compared with controls, opioid-dependent individuals revealed significantly lower availability of striatal dopamine transporter (B = -0.984, SE = 0.274, p < 0.001, 95% CI = -1.539 to -.0428, eta² = 0.264) and poor performance on the Wisconsin Card Sorting Test, including total amount (t = 2.52, p = 0.016), total errors (t = 2.566, p = 0.014), perseverative response (t = 2.529, p = 0.016), perseverative errors (t = 2.374, p = 0.023), and non-perseverative errors (t = 2.394, p = 0.022). Only non-perseverative errors correlated with striatal dopamine transporter density (p = 0.019, r² = 0.136).

Conclusion: Based on available evidence and our findings, we generate a hypothesis that, in striatum, opioid-associated neurotoxicity is potentially reversible, but in nucleus accumbens, this neurotoxicity might be long-lasting. Furthermore, non-perseverative error may be a more sensitive parameter to identify lower striatal DAT density-associated dysfunction of working memory maintenance.

K15**Current Analysis for Opioid-Addicted Patients with Buprenorphine/Naloxone Sublingual Maintenance Treatment- An Explorative Study in a Southern Taiwan Mental Health Teaching Hospital****鴉片類成癮物質濫用者以丁基原啡因／那囉克松舌下錠替代治療之現況分析——以南部某精神科教學醫院為例**

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Objective: Buprenorphine/Naloxone Sublingual tablets Maintenance Treatment(BMT) is the same as Methadone Maintenance Treatment(MMT), which has become an effective and worldwide therapy for opiate addiction. BMT is different from MMT, which needs to be taken under the supervision of medical administration every day and provides an alternative to patients who can't go to the hospital every day. This study takes a southern Taiwan Mental Health Teaching Hospital for example and explores the current analysis of Opioid-Addicted Patients with BMT.

Methods: This study retraces the situation of the addicts who attended BMT from December 2009 to February 2013 and uses SPSS software to build and analyze the data. The study subjects include: (1) The addicts who attended MMT. (2)The heroin addicts who attended general outpatient treatment. The analysis includes the demographical background information, the numbers of the addicts' outpatients and whether the patients took Methadone or Heroine before attending BMT, the dosage of Methadone when the addicts attended BMT, the addicts' ages, genders, and educational degrees.

Results: The study shows that among 140 addicts who have used BMT, which 60% (n=84) addicts of the subjects, interrupted the treatment after the first time of outpatient. which 14.3% (n=20) of the subjects, quitted the treatment after the second outpatient. Both of the most and the second times of outpatient treatment, which are 64 times and 37 times, each of them took 0.7% (n=1) of subjects. The analysis from the demographical background information shows that the case of BMT occupied 78.6% of subjects and the general clinical

case took 21.4%. Also the addicts who used Methadone beforehand accounted 76.4% and addicts used Heroin earlier took 23.6%. When it comes to gender, 81.4% of subjects are male while the female occupied 18.6%. About the age, both thirty one to forty and forty one to fifty occupied most of the subjects. Each of them took 41.4%. For the educational degree, the high school plays the most important role and took 54.3%. And among the residences, Feng Shan, which occupied 20.7%, took most of the part. Although there is no significant statistical difference between addicts who attend MMT and who attend general clinical treatment no matter when it comes to the numbers of outpatient, if they dose Methadone or Heroin before attending the treatment, the dosage of Methadone, the addicts ages, genders or educational degrees. While the statistics don't have obvious difference, there are some extreme values amid the distribution of data. For example, there are extreme values among the number of addicts' outpatient such as 25times, 27times, 37times and 64 times.

Conclusion: From this study we can observe the fact that among the 140 addicts who have used BMT, there are 84 addicts (60.0%) who quitted the therapy after the first clinical medication and 20 addicts (14.3%) who quitted after the second time. The result turns out that the treatment is a failure for most of the patients. Also, the analysis of the result doesn't show obvious statistic difference but the extreme values in the data may clinically represent some meaning. The extreme values which appear in the study conclusion shows that the addicts have better medical obedience. The possible reasons for the result may contain multiple factors, such as domestic factor, environmental factor or other non-medical factors. In the future the further study will focus on the extreme value and try to seek out the related factors which influence the addict to continuously take Buprenorphine, and can provide information for clinical therapist. At last the data shows that the subjects of this study have strong regional relation.

K16**A Possible Association of the DRD3 Gene with Early-Onset of Heroin Dependence in Han Chinese****在漢民族多巴胺第三型受體基因變異性與早發海洛因依賴的可能關聯性**Shin-Chang Kuo¹, Yi-Wei Yeh¹, Chun-Yen Chen¹, Ru-Band Lu², San-Yuan Huang¹郭欣昌¹、葉奕緯¹、陳俊延¹、陸汝斌²、黃三原¹¹ Department of Psychiatry, Tri-Service General Hospital, National Defense Medical Center² Institute of Behavior Medicine, College of Medicine, National Cheng Kung University¹ 三軍總醫院精神醫學部 ² 成大醫學院行為醫學研究所

Objective: Dopamine D3 receptor (DRD3) mediated pathways are involved in the mechanism of addiction, and genetic factors play a role in the vulnerability to heroin dependence (HD). The aim of this study was to examine whether the DRD3 gene is associated with the development of HD and whether this gene influences personality traits in HD patients.

Methods: Eight polymorphisms of DRD3 were analyzed in 1067 unrelated Han Chinese subjects (566 HD patients and 501 controls). All participants were screened using the same assessment tool and all patients met the criteria for HD. A Tridimensional Personality Questionnaire (TPQ) was used to assess personality traits in 276 HD patients. In addition, patients with HD were divided into four clinical subgroups based on age of onset and family history of substance abuse to reduce the clinical heterogeneity.

Results: No statistically significant differences in genotype and haplotype frequencies of DRD3 gene between total HD patients and controls, although, the rs6280 and rs9825563 variants may be associated with the development of early-onset of HD. The GTA haplotype frequency in the block (rs324029 – rs6280 – rs9825563) has an association between early-onset HD patients and controls ($P=0.003$). However, these significant associations were weaker after Bonferroni correction for multiple testing. In addition, these DRD3 polymorphisms did not influence novelty seeking and harm avoidance scores in HD patients.

Conclusion: The DRD3 gene possibly plays a genetic factor in the development of early-onset HD, but DRD3 gene is not associated with the specific personality trait in HD patients among the Han Chinese population.

K17

Urban-rural Difference of Alcohol-related Morbidity after Rice Wine Price Decreased in Taiwan

台灣米酒降價對酒精相關住院率的影響——城鄉差距分析

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Objective: It is well documented that major alcohol price change contribute to the morbidity and mortality in European Union (EU) and United States (US), but there is no related study in Asia. Rice wine was a kind of popular drink in Korea and Japan, moreover, rice wine has also been considered as dietary supplement in traditional Chinese culture. In Taiwan, distilled rice wine was a government-run monopoly since 1931 until 2001. After the agreement under the World Trade Organization (WTO), Taiwan government raised the tax of rice wine since 2003, and was equal to other distilled beverage in 2008. However, in June 2009, Taiwan government d that rice wine should be classified as cooking wine, and cut the price over 70%. The provision of rice wine increased ten times in 2009. Using this unique change in price of rice wine, this study intends to evaluate the health impact of the price cut in Taiwan.

Methods: Data for this study came from two sources: (1) County-level alcohol provision statistics was obtained from the publicly accessible dataset provided by Ministry of Finance publicly; and (2) A nationally representative sample of 160,000 subjects was randomly sampled from longitudinal health insurance database in 2005. Personal hospitalization data in 2007-2011 was gathered from the National Health Insurance Research database, which covers 99% populations in Taiwan. This study described the trend of hospitalization for alcohol-related disease (HARD) and examine the association between price cut and alcohol-related morbidity by a before-after study design.

Results: Alcohol liver disease was the most popular diagnosis in HARD in Taiwan. After the price cut of rice wine in 2009/6, the sale amount of distilled beverage increases dramatically. We then compared the incidence of HARD between 2007/06-2009/05 and

2009/06-2011/05. The rate increased 43.6% in remote area and 6.4% in rural area, which were much higher than in urban area (-15.2%). In the age group of 45-64 year-old, the monthly rate increase 163.2% and 14.7% in remote and rural area respectively, but the rate decreased 21% in urban area at the same period.

Conclusion: After the significant price cut of rice wine in Taiwan, increased provision of rice wine and higher hospitalization for alcohol related diseases was observed especially among middle aged persons in rural and remote areas. Findings from this study provide evidence on the health impact of rice wine price cut which deserves more attention from health authorities in Taiwan.

K18

Deep-Intramuscular-Diphenhydramine-Injection Dependence Induced Myonecrosis and Prolonged QT Interval

肌肉注射苯海拉明依賴導致肌肉壞死及 QT 間期延長

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Background: Many over-the-counter drugs are known to have abuse or dependence potential. Diphenhydramine (DPH) is a first generation antihistamine with antimuscarinic characters which is widely used to relieve allergic reaction. The potential for antihistamine dependence was published and seemed to be associated with the effects on euphoric sensation, elevated mood, and hallucinogenic effects. To date, intramuscular (IM) DPH injection dependence has not been described in the literature. We present a retired nurse who had IM DPH injection dependence complicated with severe myonecrosis and prolonged QT interval.

Case Report: Miss C, aged 49, a retired nurse with a history of previous alcohol dependence at aged 47 and current major depressive episode without regular medication treatment. She mentioned that she had severe urticaria six months ago and was relieved by one shot IM DPH 30mg injection. She described feeling “dizziness, good, relax, calm, and better sleep” after injection. She then injected 30mg DPH at night for her insomnia, and the

frequency became every 1 to 2 hours since she was awake. Up to 450mg DPH injection per day was noted and withdrawal symptoms contained anxiety, irritability, poor attention, and worse insomnia three months later. Her both buttocks and thighs showed severe tenderness, swelling, and local heat due to frequent injection. She was arranged to our inpatient ward for detoxification, physical evaluation, and depressive mood management. After admission, the computed tomography of lower limbs revealed multifocal myonecrosis of both thighs and calves. We used cephalexin 2000mg for her myonecrosis, bupropion 300mg for her depressive mood, lorazepam 1 mg three times per day for her withdrawal symptoms as anxiety and irritability, and chlorpheniramine 4mg two times per day for her itching sensation. Initial electrocardiography revealed prolonged QTc to 503 ms and became 465ms after two months abstinence from IM DPH. The patient was discharged two months later with better mood and physical condition.

Discussion: DPH is a useful antihistamine, especially its histamine H1 receptor antagonist. In vivo data showed that striatal and accumbens dopamine levels in the intact brain are activated by H1 receptor blocking. It explained that high dose DPH could produce rewarding effects and abuse potential due to modulating dopamine activity in both the mesostriatal and mesolimbic systems. Besides, our patient had previous alcohol dependence, which might enhance her DPH dependence risk due to unstable dopaminergic reward system. Animal researches showed that antihistamine drugs have the potential to block serotonin reuptake, which might provide antidepressant and anxiolytic properties. The patient used DPH as self-medication for her depressive mood and insomnia. It resembled her previous alcohol dependence behavior. Her previous nursing experience might be one reason for her to use needles for IM injection. High DPH concentrations might inhibit the cardiac fast sodium and potassium channels which may result in prolonged QT interval and enhanced the risk of sudden death. DPH is available over the counter with low cost, factors that could increase and disguise the extent of abuse and dependence. We suggested that local pharmacists and physicians should pay attention to the misuse potential of DPH.

K19**Gender Differences among Heroin Abusers Attending a Methadone Treatment Clinic in Taiwan****接受美沙冬維持治療之海洛因成癮者之性別差異**

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Objective: Methadone maintenance treatment (MMT) is one of the best-established treatment for opioid dependence. Investigations related to gender differences in MMT were limited in Taiwan. This retrospective cohort study is aimed to compare the characteristics, treatment conditions and outcomes between genders in a MMT clinic.

Methods: The subjects included in this study compromised all those who received methadone maintenance treatment in Taoyuan Mental Hospital from Jan 2006 to December 2010. Demographics, treatment conditions and mortality rate (a proxy indicator of treatment outcome) were compared.

Results: Of the 3,555 participants who attended methadone treatment during 2006 to 2010, 79.9% (N=2,922) were male, 24.1% (N=881) were HIV-infected, the average age was 35.3 ± 7.6 years old, 41.3% (N=had at least one re-entry to treatment, the mean dose was 45.6 mg/day, the mean attendant rate was 58.2%, and the mean treatment duration was 298 days. During the study period, the mortality rate was 12.96/1000 person-year. Females were significantly younger than males (31.7 ± 6.7 vs. 36.1 ± 7.5 , $p < .0001$). Females had a significantly lower attendance rate than males (56.4% vs 58.7%, $p = 0.04$). With comparison of general population, females had a higher mortality rate than males among methadone patients (Standardized Mortality Ratio: 16.9 vs. 5.75).

Conclusion: Compared to males, female heroin abusers with MMT attended treatment younger and had a lower attendance rate. A higher excess mortality may postulate a worse outcome in females. The relationship between genders and treatment outcomes warrants further investigation.

K20

Alprazolam Dependence and Its Correlates among Psychiatric Outpatients in Taiwan

台灣精神科門診病患 alprazolam 成癮相關性之探討

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Objective: Alprazolam causes a more severe withdrawal syndrome and has a higher physical dependence liability than the Benzodiazepines (BZDs) with longer elimination half-lives. Identification of the correlates of alprazolam dependence can serve as the basis of prevention, early detention and intervention programs on alprazolam dependence. The aim of this study was to examine the correlations between the severity of alprazolam dependence and socio-demographic characteristics, characteristics of alprazolam use, psychiatric comorbidity and belief toward alprazolam use among long-term alprazolam users in Taiwan.

Methods: Participants: A total of 148 patients (age 20 to 50) from the psychiatric outpatient clinics of six general hospitals in Taiwan, who received the treatment of alprazolam for at least three months to treat their anxiety were consecutively recruited into receive a screening interview from March, 2012 to November, 2012. These six general hospitals located in six geographic regions of Taiwan (North Taiwan, Tao-Chu-Miao, Central Taiwan, Chia-Nan, Kao-Ping, and East Taiwan), respectively. Measures: The 5-item Chinese version of the Severity of Dependence Scale (SDS[Ch]) was used to evaluate participants' severity of alprazolam dependence in the past one month. This study also collected four dimensions of

data of the participants, including the socio-demographic characteristics, characteristics of alprazolam use, psychiatric comorbidity, and belief toward alprazolam use. Procedure and statistical analysis: Research psychiatrists performed the interviews based on the research questionnaires to collect information from all the participants. The levels of alprazolam dependence in the past one month on the SDS[Ch] were calculated by mean and standard deviation (SD). The correlates of the levels of alprazolam dependence were examined by using multiple regression analysis. Socio-demographic characteristics were firstly selected into the multiple regression analysis model, and then characteristics of alprazolam use, psychiatric comorbidity, and belief toward alprazolam use were selected into the multiple regression analysis models step by step.

Results: The results indicated that after controlling for the effects of socio-demographic characteristics, characteristics of alprazolam use and psychiatric comorbidity, a higher level of necessity of alprazolam treatment and a higher level of concerns about the potential adverse consequences of alprazolam were significantly associated with more severe alprazolam dependence.

Conclusion: The results indicate that the belief toward alprazolam use is an indicator of alprazolam dependence and help clinicians to early identify individuals who may be at greater risk for alprazolam dependence.

K21

Dopamine Transporter Gene May Influenced the Brain Dopamine Activity and Cognitive Function in Patient with Alcohol Dependence? 多巴胺基因不一致性可能影響酒癮患者腦部多巴胺活性與認知功能？

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Objective: Evidence has suggested that the dopamine transporter (DAT) plays a role in the pathogenesis of alcohol dependence (AD) and depression and that polymorphisms of the

DAT may influence the brain availability. This study evaluated the differences in DAT availability/cognitive function between healthy controls and AD patients, and evaluated the impact of DAT polymorphisms both on DAT availability and cognitive function.

Methods: Thirty-two healthy controls and thirty-five patient with AD were recruited. DAT availability was measured in vivo with single photon emission computed tomography and 99mTc-labeled TRODAT-1 in the striatum, caudate, putamen. Cognitive function such as TMT, WCST, Stroop test were investigated before image study. Each subject was genotyped for the DAT polymorphism.

Results: Compared to healthy controls, there was a significantly lower availability of DAT in the striatum, caudate and putamen among patients with AD. Significant disturbances of working memory and executive functions were noted in patients with alcohol dependence. In addition, AD patients had worse results of TMTA,B, Stroop test RIT,NIT,RIC,NIC, WCST total errors. Of patients with anxiety, depression and alcohol dependence (ANX/DEPALC), the carriers of one ten repeat allele showed a significantly higher availability of DAT in the striatum compared to non-ten repeat carriers. After Bonferroni correction, these significances vanished. There were no significant differences in DAT availability between controls and ANX/DEP ALC.

Conclusion: The results suggest that alcoholics may have lower DAT availability in the Striatum; the DAT polymorphism may influence DAT availability in patient with AD. These findings may serve as a springboard for future large-scale studies.

K22

Gender Differences in Excess Mortality among Heroin Addicts Attending a Methadone Treatment Clinic in Taiwan

接受美沙冬治療之海洛因成癮者之死亡率：性別差異探討

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Objective: Methadone maintenance treatment (MMT) is one of the best-established treatments for opioid dependence. Mortality in substance abusers was known to be higher than

that in the general population. Studies related to gender differences in mortality among MMT patients were limited in Taiwan. This retrospective cohort study was aimed to compare mortality and death causes among genders in a MMT clinic.

Methods: The subjects included in this study included all those who started methadone in Taoyuan mental hospital from Jan 2006 to December 2010. All cause mortality was assessed. Death causes among genders were compared. Standardized mortality ratio (SMR) was measured and excess mortality was investigated.

Results: Of the 3907 participants who attended methadone treatment during 2006 to 2010, 80% (N=3127) were male, 25.1% (N=981) were HIV-infected, 96.5% (N=3771) were HCV-infected, the average age was 35.1 ± 7.6 years old, the mean methadone dose was 46.4 ± 20.0 mg/day, and the mean follow-up time was 2.75 years. During the study period, 139 patients died. The mortality rate was 12.96/1000 person-year. The mortality rates for males and females were 13.52 /1000 person-year and 10.69 /1000 person-year respectively. The age-standardized mortality ratio was 6.46 (95% Confidence interval: 4.31-8.61). Liver disease was a major medical illness of deaths in both genders (accounting for 6.9% and 4.4% in males and females, respectively). Compared to the general population, female methadone patients had a significantly higher all cause mortality ratio than males (SMR: 16.9 vs. 5.75). Suicide was a more prominent cause for excess mortality in males than in females (SMR: 13.0 vs. 11.9). Females had a much higher excess mortality in accidental deaths than males (SMR: 20.2 vs 4.53).

Conclusion: Heroin abusers with MMT have a significantly higher mortality compared to the general population. Suicide and accidental death are major causes for excess mortality in males and females, respectively. Interventions for reducing mortality warrant further investigations.

K23

The Differences of Characteristics between the Voluntary Patients and the Patients Under Deferred Prosecution Program

緩起訴與自願美沙東個案特性分析比較

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Objective: This study aimed to evaluate the differences of characteristics between the voluntary patients and the patients under deferred prosecution program.

Methods: We studied the patients visiting our outpatient department for methadone maintenance therapy and divided them into two groups. One group included volunteers attending the methadone maintenance therapy (MMT) and the other group included the patients referred from district prosecutor's office under deferred prosecution program. We collected some demographic data, the criminal history, the substance use history, the severity of heroin dependence, the severity of depression, family support among these patients. All data were analyzed by SPSS 17.0.

Results: We recruited 47 patients under deferred prosecution program and 53 voluntary patients attending MMT. In the beginning of MMT, the severity of dependence among heroin users was more severe in the patients under deferred prosecution program than in the voluntary patients. In addition, the scores of depressive symptoms was higher in the voluntary patients group than in the patients under deferred prosecution program.

Conclusion: We should focus on the severity of heroin dependence in the patients under deferred prosecution program and give them some psychosocial intervention. In addition, we should evaluate the depressive symptoms before the patients attending MMT.

K24

A Case of Methamphetamine Dependence with Parkinsonism

安非他命依賴併有帕金森氏症之個案報告

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Background: It has been known that using meth/amphetamine can lead to the long-term neurological effects. Some researches showed people who have used meth/amphetamine appeared to be at an increased risk of developing Parkinsons disease (PD). However, there is

no case report or study about this topic in Taiwan. We will present a case of methamphetamine dependence who quitted for several months and suffered from parkinsonism.

Case Report: A 46 year-old male patient have used amphetamine for more than 10 years. This time he was diagnosed as amphetamine-induced psychotic disorder and had some psychotic symptoms including auditory hallucination, persecutory delusion and violent behavior. After admission, his psychotic symptoms subsided after the short-term use of the low-dose antipsychotic drug. However, his parkinsonism symptoms including mask face, bradykinesia, and hand tremor were also noted, and subsided very slowly even we did not gave him any antipsychotic and treated with some anticholinergic. Some symptoms, such as mask face or bradykinesia persisted even after two months of admission.

Discussion: The causal relationship between amphetamine use and later onset of PD is still unclear. Further researches will need to confirm the association and the possible mechanisms.

LO1

Are You Tired? – The Association between Anxiety, Depression, Work Fatigue and Internet Addiction Disorder

你累了嗎？——焦慮、憂鬱、工作疲勞與網路成癮的關聯性研究

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Objective: The rapid development of Internet has provided unprecedented convenience to our life and society. The Internet Addiction Disorder (IAD) was firstly reported in 1996 as a behavioral addiction. Past literature has shown that problematic Internet use may cause various physical and psychological problems including fatigue, anxiety, depression and social phobia. However, its effect on work fatigue has not been evaluated. The aim of this study is thus to evaluate the association between anxiety, depression, work fatigue and Internet Addiction Disorder.

Methods: In March, 2011, we evaluated 384 workers from a high-tech company in northern Taiwan for their Internet use. The questionnaires include Chen Internet Addiction

Scale (CIAS), Hospital anxiety and depression scale (HADS) and Job Content Questionnaire (JCQ). Staffs were divided into addition and non-addiction group according to their CIAS score, and t-test was used to compare the score of Internet addiction, anxiety and depression, extent of work fatigue between the addiction and non-addiction group.

Results: 54.4% of participants are male. According to the diagnostic definition of CIAS score, we categorized participants into the addiction group and non-addiction group. 21.4% were of the addiction group. Their mean CIAS score (75.04 ± 7.60), HADS-Anxiety score (10.15 ± 3.50), and HADS-Depression score (9.57 ± 3.33) were significant different from their counterpart. They also had more severe service target fatigue than the non-addiction group.

Conclusion: This is the first study evaluating the relationship between IAD and service target fatigue. Our results reveal that IAD is associated with anxiety, depression, and service target fatigue. We suggest to increase employers' awareness of their employees' IAD and associated psychological symptoms. The relationship between IAD, solitary personality and poor interpersonal interaction needs further investigation.

LO2

Antipsychotic-induced Side-effects, Psychopathology, and Decision-making Capacity to Consent to Research in Long-term Hospitalized Patients with Schizophrenia

長期住院精神分裂症病患之精神科藥物副作用，精神症狀與受試者理解能力關係之探討

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Objective: Little is known about whether antipsychotic-induced side-effects and positive symptoms can predict decision-making capacity to consent to research (DMC) in long-term hospitalized schizophrenic patients. In addition, there is a lack of validated instruments that evaluate the decision-making capacities of patients with schizophrenia who speak Chinese to consent to clinical research. The present study aimed to (1) validate Chinese version of MacArthur Competence Assessment Tool for Clinical Research (MacCAT-CR), (2)

To explore whether antipsychotic-induced side-effects and psychopathology predict DMC.

Methods: All of 147 long-term hospitalized patients with schizophrenia in a psychiatric hospital in Taiwan were assessed. The majority of subjects were male patients (98/147, 66.7%). They were all evaluated with Chinese version of MacCAT-CR, Positive and Negative Syndrome Scale, Simpson-Angus Rating Scale (SARS), Abnormal Involuntary Movement Scale, Drug-Induced Akathisia Rating Scale and UKU side-effect rating scale.

Results: The Cronbach's alpha reliability coefficient was 0.74. The intra-class coefficients for the components of understanding, appreciation, and reasoning ranged from 0.53 to 0.81. A stepwise regression model revealed the SARS scores were negatively associated with reasoning scores ($B = -0.13$, $t = -2.3$, $p = 0.018$). Positive symptoms were negatively associated with understanding scores ($B = -0.15$, $t = -3.2$, $p = 0.001$). Negative symptoms were negatively associated with appreciation and reasoning scores.

Conclusion: In summary, these findings suggest the Chinese version of the MacCAT-CR is a reliable and valid instrument to assess DMC of stable long-term stay patients with schizophrenia regarding participation in clinical research. Antipsychotic-induced parkinsonism, positive and negative symptoms predicted DMC in schizophrenic patients.

L03

Adjustment and Susceptibility to Military Stress in Taiwans Conscripts 役男壓力易感受性和部隊適應關聯研究

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Objective: One year military service is obligatory by law for young male Taiwanese. Such experiences of leaving home for a stressful military training, and staying in a restricted environment bring these conscript soldiers very much pressure. . Adaptation problems with early discharge from the troops are therefore arising issues in Taiwan's military medicine. The purpose of this study was to identify the risk model that influences military adaptation among

young adult military conscripts in Taiwan.

Methods: A longitudinal survey was conducted among military conscripts who had been hospitalized to a psychiatric ward under diagnoses of mental disorders. A whole assessment of personality, clinical symptomatology, intelligence, and personal history were done by cooperation of physicians, psychologists, social workers and occupational therapists. Information regarding the complete background of the military conscripts before military enrollment and adaptation strategies in the troop was collected and compared.

Results: We found that the military personnel among personality characteristics, those who have higher in neuroticism and impulsivity, and lower in extraversion, agreeableness, openness to experience, and conscientiousness revealed worse military adaptation. The conscript soldiers with premature discharge from military service were found of more emotion-focused in their coping strategy to stress and higher scores in Beck Depression Inventory-II (BDI-II). In logistic regression analysis, personality trait, ways of coping and BDI-II score may explain about 75% variance of military maladaptation of Taiwanese conscripts.

Conclusion: Military training is like a critical test of environmental adaptation for young Taiwanese conscripts. Our study suggested that the military maladapted conscripts represented high level of neuroticism, impulsivity and depression, and emotion-focused coping. These findings would help either to identify the high risk individuals of poor military adaptation or to plan future selection strategies of enlisted soldiers.

LO4

Heat Stroke in a Case of Schizophrenia During the treatment of Olanzapine, Trihexylphenidyl, and Trazodone

熱休克發生在一位接受 olanzapine, trihexylphenidyl 和 trazodone 治療的精神分裂症患者

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Background: Heat stroke is a medical emergency with cardinal features of

hyperthermia and central nervous system dysfunction. Mentally ill patients are found to be susceptible to heat stroke, particularly under antipsychotic and anticholinergic medication.

Case Report: We described a case of heat stroke in a 47-year-old man diagnosed with schizophrenia during treatment of olanzapine, trihexyphenidyl, and trazodone. His mental condition was stable during the hospitalization at our chronic psychiatric ward for 1 year. During a heat wave in July 2012, he developed acute onset of confusion, hyperthermia, shock, respiratory failure, and general flaccidity on home leave. He was admitted to our neurologic intensive care unit. All psychotropic agents were discontinued. Heat stroke was diagnosed after extensive medical workup as well as exclusion of neuroleptic malignant syndrome, infection and other medical condition. He improved quickly within one week and transferred to the neurologic ward. One week later, he recovered fully and returned to our chronic ward. He kept well under amisulpride 400 mg/day afterwards.

Discussion: Awareness of heat stroke would reduce the risk or even prevent the development of the fatal consequences in mentally ill patients. Preventive measures such as patient and family education should be implemented for mentally ill patients receiving psychotropic agents particularly during a heat wave. Clinicians should also avoid polypharmacy as possible and inform patients and their family of risk of heat stroke under psychotropic agents.

L05

The Evaluation of Autonomic Function in Depressive Young Adult after HRV Biofeedback Therapy

心率變異生理回饋治療對男性年輕憂鬱病人自律神經功能之成效評估

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Objective: Research showed that people trained for Heart Rate Variability biofeedback would raise their Autonomic function and reduce related symptoms. The purpose of this research was focus on evaluating the effect of HRV biofeedback therapy on treating depressive young adults.

Methods: Subjects in this research were inpatients in a psychiatric hospital in Northern Taiwan. This research included 56 militaries with depression in total from 2012/7 to 2013/1. All subjects received three-week HRV biofeedback training twice per week for 50 minutes at a time. Result found that indexes of depression were improved after the HRV biofeedback therapy. The autonomic function including HRV indexes in HRV, LF, TP, LF/HF were also increased.

Results: The result showed that patients' autonomic nervous system overall function was increased, autonomic nervous modulation was changed. Overall, the result maybe explained as depression patients' autonomic nervous functions could be improved by HRV biofeedback training.

Conclusion: The result confirmed the effect of HRV biofeedback training on significant increasing HRV and on decreasing depression.

Lo6

Psychological Feature Analysis in Gender Identity Disorder Patients

性別認同疾患的心理特質分析

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Objective: To examine which factors affecting the self-report inventory questionnaire about psychological feature in gender identity disorder patients.

Methods: The sample consisted of 26 transgender individuals(16 male, 10 female), who were referred for evaluation of sex reassignment surgery during 2005-2013. We examined how the factors including biological sex, age, education, family support, and family s opinion toward the surgery affecting psychological feature measuring by Kos Mental Health questionnaire. The statistic method was multiple linear regression, proc reg statement, SAS

version 9.3.

Results: We found paranoia, hypochondria, anxiety scores presented higher in the male-to-female group, and independence scores presented higher in the female-to male group. Disagreement from family members caused higher scores on hypochondria and social withdrawal items after controlling for other factors. Biological sex, education, age and family support have no main effect on the psychological feature.

Conclusion: There are different patterns shown in Kos mental health questionnaires between male-to-female group and female-to-male group. Clinical recommendations for the support of transgender people may need to be developed independently for the two groups. Besides, disagreement from family members should be the focus of the clinical intervention.

LO7

Paradoxical Insomnia in Obstructive Sleep Apnea: Prevalence and Predictors

矛盾型失眠在睡眠呼吸中止症患者族群：盛行率和預測因子

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Objective: Paradoxical insomnia (Para-I) occurs in 5% of insomnia populations but the prevalence in obstructive sleep apnea (OSA) patients remains unknown. This study identified prevalence and predictors of Para-I in OSA patients.

Methods: We enrolled 200 patients >18 years with apnea hypopnea index (AHI) >5 who had either whole night (85/200, 42.5%) or split-night (115/200, 57.5%) polysomnography (PSG), had no sedative medication use during the study night, and who completed both pre and post PSG questionnaires. Para-I was defined by a discrepancy >50 minutes between subjective sleep onset latency (SOL) from post-PSG morning questionnaire and PSG-defined latency to persistent sleep (LPS).

Results: Prevalence of Para-I in OSA patients was 11% (n=22). Compared to those without Para-I, they had lower sleep efficiency, longer LPS, higher arousal index (ArI) and higher periodic leg movement (PLM) arousal index both during the whole night and the first

5 minutes of consecutive sleep. Of a subsample of patients (21%, n=42) who reported SOL >30 minutes which lasted > 3 months, 19% (n=8) patients had Para-I. The same predictors of Para-I were observed in this subset of subjects as in the whole sample of subjects with Para-I. Other demographic data and PSG parameters were not significantly different between OSA patients with or without Para-I.

Conclusion: The prevalence of Para-I in OSA patients was 11%. OSA patients with Para-I had worse sleep over both the whole night as well as the first five minutes of sleep. Conventional PSG parameters such as arousal index might be helpful to identify people with Para-I.

LO8

Diagnostic Stability and Interchange of Schizophrenic and Bipolar Disorders

精神分裂症與雙極性障礙症的診斷穩定性與互換

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Objective: The change of a psychiatric diagnosis in clinical practice is not an unusual phenomenon and might be due to variations of clinical features, duration of illness, change of diagnostic criteria, and the training background of the clinicians. The interchange between schizophrenia and affective disorder diagnosis is a clinical important issue due to different treatment regimen and long term prognosis may vary. In this study, we used national wide population-based sample to compare the diagnostic stability and interchange rate between schizophrenic and bipolar disorder.

Methods: There were 28,567 newly diagnosed as schizophrenic disorder (295.xx) patients and 10,443 newly diagnosed as bipolar disorder (ICD-9-CM: 296.xx, excluding

major depression diagnosis (296.2 296.3, 296.8)) were retrospectively enrolled from sub-dataset of National Health Insurance claim database, called Psychiatric Inpatient Medical Claims database (PIMC) between January 1, 2001 and December 31, 2005. We followed up these two cohorts to the end of 2010 to evaluate if their diagnoses keep consistency in the following hospitalizations. We analyzed the change rate by one year period to identify the trend of diagnosis changes between bipolar disorder and schizophrenic disorder in ten years.

Results: In schizophrenic disorder cohort, the overall diagnosis change rate to bipolar disorder in ten years was 7.6%. If we look into the subtype, the change rate from schizoaffective type to bipolar disorder was 24.1%. In the bipolar disorder cohort, the overall diagnosis change rate to schizophrenic disorders in ten years was 19.7%; in them 6.7% was schizoaffective type. We found that the change rate was highest during the first year, and then continue to decrease in the following periods in both cohorts. Younger patients have higher change rate than older patients.

Conclusion: Changes in the diagnosis of major psychosis, particular interchanges between schizophrenic and bipolar disorders are mostly attributable to the symptoms evolutions and social function preserved of the illnesses. The diagnosis of schizoaffective disorder is the least stable. It is suggested that when making a psychotic diagnosis, the clinician should be aware that it is possible that the diagnosis might be changed in the future.

Log

A Clinical Trail of Aerobic Exercise Combined with Strength Training in Psychiatric Patients to Improve Physical Fitness

有氧運動合併肌力訓練應用於精神科患者體適能改善之臨床試驗

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Objective: According to the literature, “obesity” is common in patients with mental illness, its cause may be due to disease, drugs, diet, lack of exercise and lifestyle, etc., and is one of the major health risk factors. Yet aerobic exercises can help the body burn fat, while

muscle strength training can maintain muscle strength and in turn increase the body's basal metabolic rate, which can assist in controlling weight gain. Therefore, this study will explore the effectiveness of a combined aerobic exercise and weight training program on increasing physical fitness in psychiatric patients, aiming to improve the overall health status of patients.

Methods: Patients from a psychiatric hospital in southern Taiwan were invited and selected according to their willingness to participate in the study. A total of 15 patients, including two from the day care ward, six from subacute wards, and seven from chronic wards, underwent a 23-week program, consisting of 40 minutes of group fitness training three times a week. Each training session starts with 10 minutes of warm-up exercises, followed by 20 minutes of rhythmic and anti-gravity movements carried out by the upper and lower limbs to achieve the effects of aerobic exercise and strength training. During each session therapists guided the patients in making appropriate movements. Lastly the session ended with 10 minutes of cool down exercises. Test instruments used include the 3-minute step test (cardiorespiratory endurance), the Sit-and-reach test (flexibility) and calculation of the body mass index. Pre- and post-test measures were conducted for comparison of the subjects performance.

Results: The test results show that after 23 weeks of training, no significant difference is seen in the 3-min step test ($t(14) = 0.073, p > .05$), whereas results from the sit-and-reach test showed a significant improvement in flexibility ($t(14) = -6.839, p < .01$), and body mass index (BMI) showed significant reduction ($t(14) = 2.245, p < .05$).

Conclusion: After training, it was found that patients showed an increase in flexibility and decrease in body mass index; while no significant improvement was seen in physical index in terms of cardiorespiratory endurance, the day care ward showed increase in physical index from an average of 45.4 to 48.85, while the subacute ward showed decrease from an average of 34.87 to 27.97, and chronic wards showed an increase from an average of 15.13 to 19.61. The poor performance of patients in the subacute ward may be due to patients participating in the physical fitness program in addition to their regular work training, the increased physical exertion may have affected the post-test performance results. As the study subjects were chosen from a hospital setting and according to their willingness to participate, subjects included were mostly chronic cases with negative symptoms, resulting in lower motivation and a small sample size. Future study can incorporate relevant patient education to increase patient motivation, in order to increase the number of participating subjects. Also, the

study did not conduct blood HDL cholesterol, blood glucose and triglyceride level tests, which can be used in future study to provide a more accurate understanding of the subjects health improvement.

L10

The study of Aerobic Exercise Combined Muscle Strength Training Applying in Improving the Conditions of the Patients with Schizophrenia 有氧運動合併肌力訓練應用於精神分裂病患者病情改善之研究

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Objective: In the psychiatric ward, the occupational therapy is a part of integral treatmet. In the past studies, rarely take occupational therapy as a main intervention to the patients with schizophrenia. Our study is to use a mode of occupational therapy, that is a aerobic exercise combined muscle strength training as therapeutic factor to see whether it can directly improve the conditions of the patients with schizophrenia.

Methods: In this study, we invite 17 patients with schizophrenia from a psychiatric hospital in southern to participate and undergo 23 weeks, three times a week, every 40 minutes of aerobic exercise combined muscle strength training to achieve effect of fitness. In the same hospital, randomly selected 8 patients with schizophrenia who accept the general program of ward routine occupation therapy as control group. Measure the BPRS and CGI at beginning and ending of this 23 weeks intervention. Chi-square test for categorical variables and t test for continuous variables revealed their differences via SPSS statistical software calculated.

Results: In experimental group, there were 9 males and 8 females, mean age 41.2 years. In control group, there were 1 male and 7 females, mean age 43.3 years. In experimental group, compared BPRS at beginning and ending of intervention and we found they had significant differences ($P<.05$). CGI was also the same situation ($P<.05$). But while compared the control group, we found no significant differences of BPRS and CGI of beginning and ending of intervention.

Conclusion: In todays psychiatric therapy, the Bio-Psycho-Social-Spirit as the primary

mode of treatment, showed a diversity of psychiatric treatment. Occupational therapy is an important intervention in psychiatric ward, but it always as adjuvant therapy. This study is to proof the occupational therapy as main treatment, which directly intervene the patients with schizophrenia. So this is a pilot and empirical study, although there is the small sample size. Our study shows while only test in the experimental group, the BPRS and CGI have significant differences, but compared control group, they have no significant differences of BPRS and CGI. This illustrate that the intervention of aerobic exercise combined muscle strength training can improve the conditions of patients with schizophrenia in spite of significantly modest benefits.

L11

A Psychiatric Hospital Rehabilitation Ward, Reduceleaving the Hospital without Approving's Improvement Plan

某精神專科醫院復健病房降低不假離之改善方案

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Objective: Analysis of 100 Annual total number of abnormal events is 22 in ward, leaving the hospital without approving events is 4, 101 Annual total number of abnormal events is 32 in ward, leaving the hospital without approved events is 11. It is more 7 events than 100 annual. After analysis of the reasons, develop improvement plans to reduce the event is very important.

Methods: Total number of abnormal events is 15 between 100 and 101 annual. Using the fishbone diagram method to analyze the abnormal event causes. There are 4 problem: 1. Patients inadequate knowledge of vocational rehabilitation training; 2. Lack of health education leaflet; 3. Patients with cognitive dysfunction, low acceptance with leave process; 4. Patients with low family visits. Starting from January 102 years, in response to these problems develop and implement improvement measures. There have 5 improvement measures: 1. Strengthening rehabilitation program description. 2. Amendments health education leaflet. 3. Use the assemblies time, strengthen the mission leave workflow issues.

4. Actively and regularly assist in liaising with families for visitation companionship and other activities. 5. Patients in functional rehabilitation training period, note that the dynamic and emotional performance of patients; In order to facilitate early detection of abnormal patients and interventions.

Results: After the implementation, the total abnormal events is 3 between January to May 102 years. Among of 2 events have just transferred from the acute ward, so nurses have no more time to implement intensive remedial and difficult to grasp the patient behavioral and emotional performance. But also less familiar with the relevant ward norms. Therefore, only one the abnormal event in fact. This explains that implementation of the improvement measures, has controlling effect specific indeed for abnormal events. In addition, nurse expresses that the content of health education has improving satisfaction and utilization a lot.

Conclusion: After analysis, strategy implementation and effectiveness of the assessment, the incidence of abnormal event and personnel satisfaction with health education has both effectiveness and satisfactory. However there have limiting time to implement improvement measures. We will continue to implement in the future, in order to reduce the incidence of abnormal event and improve patient care of the security.

L12

Validation of the Chinese SAD PERSONS Scale for Suicide Risk

Assessment

自殺危險評估量表 SAD PERSONS 的信效度研究

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Objective: A brief rating scale to assess suicide risk is important. This study was to examine the validity of the Chinese version SAD PERSONS (CSPS) and to evaluate its feasibility in clinical settings.

Methods: 147 patients with self-harm were recruited from the Emergency Department and assessed at baseline and the 6th month. The controls, 284 people without self-harm were

recruited from the Family Medicine Department in the same hospital. The psychometric properties of the CSPA were examined. Clinical applicability and feasibility of the CSPA were evaluated by general nurses randomly selected from a university-affiliated hospital who attended standardized training course on suicide prevention and case vignette discussion.

Results: The CSPA was significantly correlated with other scales measuring depression, hopelessness and suicide ideation at baseline and 6-month. A cut-off point of the CSPA was at 4/5 in predicting 6-month self-harm repetition with the sensitivity and specificity being 65.4% and 58.1%, respectively. Based on the areas under the ROC curve, the predictive validity of the CSPA showed a better performance than the other scales. Fifty-four nurses, evaluating the scale using case vignette, found it a useful tool to raise the awareness of suicide risk.

Conclusion: The CSPA is a brief instrument with acceptable psychometric properties for self-harm prediction. Non-psychiatric staff training could consider using the scale to gain insight into suicide risk identification and to promote early referral of the high-risk group in general medical settings.

L13

Severe Extrapyramidal Symptoms and Delirium after Combined Lithium and Olanzapine

鋰鹽合併 olanzapine 引發嚴重錐體外症狀與譫妄：案例報告

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Background: Lithium has been the major medication for bipolar disorder for decades. However, the common combination with other drugs and lithium's narrow therapeutic range raised the potential of neurotoxicity. Several case reports revealed delirium and extrapyramidal symptoms after combination use of lithium-antipsychotic medications, both typical and atypical antipsychotics. We reported a patient with bipolar disorder who developed extrapyramidal symptoms and delirium after lithium-olanzapine combination therapy.

Case Report: A 64-year-old male patient, with a history of chronic hepatitis B and

hypertension under regular treatment, was admitted on his first manic episode. His manic symptoms were successfully treated with lithium carbonate 600 mg/day, olanzapine 20 mg/day and biperiden 2 mg/day, without evidence of extrapyramidal symptoms. Unfortunately, he experienced restlessness and anxiety 5 weeks later than discharge. Olanzapine was then tapered to 15 mg/day due to the suspicion of akathisia. However, extrapyramidal symptoms progressed with rigidity, bradykinesia, excessive salivation and hand tremor. Insomnia with disorientation, visual and auditory hallucination developed then. Electroencephalography showed diffuse cortical dysfunction (intermittent diffuse theta waves at 5-7 Hz, 20-40 uV). All psychiatric medications were discontinued due to suspected delirium. Insomnia, disorientation, hallucination during night time and akathisia gradually improved in one week. However, severe bradykinesia and cogwheel rigidity persisted. After drug-free for 3 weeks, symptoms of parkinsonism gradually subsided.

Discussion: Lithium can induced delirium in geriatric patients regardless of serum level. Concomitant administration of lithium and antipsychotics must be used with special precaution, especially in aged patients.

L14

The Correlation between Obstructive Sleep Apnea and Autonomic Dysfunction in Morbidly Obese Patients

針對重度肥胖患者，探討阻塞性睡眠呼吸中止症與自律神經失調的相關性

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Objective: The aim of our study was to investigate the correlation between obstructive sleep apnea (OSA) severity and autonomic nerve system (ANS) in the Asian population for bariatric surgery (BS).

Methods: In this prospective, multidisciplinary and observational study, we reported

the results of routine pre-operative OSA- and ANS-related assessments in patients undergoing bariatric surgery in National Cheng-Kung University Hospital from January 1, 2011 to Dec 31, 2012. Objective assessments included overnight polysomnography (PSG) and ambulatory actigraphy. Subjective assessments used questionnaires (Epworth Sleepiness Scale, Snore Outcomes Survey and Pittsburgh Sleep Quality Index). We performed the ANS function evaluation with challenge tests (eg. baseline, deep breathing response, head-up tilt test, valsalva maneuver, cold pressor test and mental arithmetic test).

Results: A total of 81 obese subjects (34 men and 47 women) completed the study. The body mass index (BMI) was 43.5 ± 8.7 kg/m². The overall prevalence of OSA was 86.4%. Patients with moderate to severe OSA (apnea-hypopnea index [AHI] ≥ 15) were significantly male predominant, older, and had a larger neck circumference than those with mild OSA ($p < 0.05$). Low-frequency / high frequency ratio was significantly different between mild OSA and moderate to severe OSA ($p = 0.035$). AHI level was associated with tilt-induced drop in systolic- / diastolic- blood pressure ($p = 0.033$ and $p = 0.031$, respectively). Systolic- / diastolic- blood pressure changes (Δ SBP and Δ DBP, mmHg) during the cold pressor test (CPT) in patients with moderate to severe OSA were significantly different from those observed in the subjects with mild OSA ($p = 0.024$ and $p = 0.021$, respectively).

Conclusion: High prevalence of OSA and sympathetic hyperactivity were observed in morbidly obese patients. (NCKUH-9801002/ NSC 98-2314-B-006 -029 -MY2)

L15

Comparison of Acamprosate and Disulfiram in Treatment of Alcohol

Dependence: A Network Meta-Analysis

以網絡式統合分析方式比較 Acamprosate 和 Disulfiram 在酒癮病患之療效

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Objective: Alcohol dependence is a common disorder posing a heavy burden on patients, their families and the society. The pharmacologic treatment for alcohol dependence is at crossroads. Although Disulfiram and Acamprosate are the common drugs for alcohol dependence treatment, the relative efficacy continues to be debated. Thus, the aim of this study is to compare the effect of Disulfiram and Acamprosate on alcohol dependence.

Methods: For this network meta-analysis, randomized controlled trials comparing Disulfiram, Acamprosate or placebo were identified through PubMed and Cochrane databases. The present review was done according to PRISMA statements. Information about study design, inclusion and exclusion criteria, sample characteristics, and clinical outcomes was extracted. The primary outcome was relapse in the end of the study. To assess the methodological quality of each included studies, four reviewers independently used the Cochrane Collaboration's recommendation for evaluation. Direct comparisons within trials were combined with indirect evidence from other trials by using a Bayesian model. Review manager 5.2 and WinBUGS14 were used for all analyses.

Results: 13 trials including 2619 patients randomly assigned to treatment groups were included in this study. First, in the traditional meta-analysis method, Disulfiram significantly reduced the risk of relapse drinking comparing to the Acamprosate group, while its effect on the group of placebo also was modestly significance. Besides, Acamprosate compared the risk of relapse drinking with the placebo group was reduced lightly significantly to the placebo. After that, the result from network meta-analyses shows that Acamprosate reduced the risk of relapse drinking comparing to the placebo (OR =0.67, 95% CI 0.37-1.15). Disulfiram significantly reduced the risk of relapse drinking comparing to the placebo (OR =0.22, 95% CI 0.08-0.64). Moreover, Disulfiram reduced the risk of relapse drinking comparing to Acamprosate (OR =0.33, 95% CI =0.11-1.03). The findings of traditional meta-analyses and network analysis were consistent. Therefore, compared to Acamprosate or placebo, Disulfiram has greater impact on treating alcohol dependence.

Conclusion: In randomized studies completed to date, Disulfiram is better than Acamprosate and placebo when treating alcohol dependence. The results are compatible with clinical practice that aversive therapy (Disulfiram) is more effective.

L16

The Safety of Valproic Acid Use for Patients with Hepatitis B: Survival Analysis Results

乙型肝炎病患使用丙戊酸之安全性：以存活分析之研究

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Objective: Valproic acids are frequently used in patients with bipolar disorders or other psychiatric disorders. Safety issues have been concerned to prescribe valproic acid in patients with hepatic dysfunction due to its possible adverse effects of hepatotoxicity.

Methods: Data from the hospital information system of Taoyuan Mental Hospital was analyzed. Patients who received valproic acid between July 2, 2001 and Jun1, 2008 were studied. Survival analysis (Kaplan-Meier) was performed to compare the HBV positive and negative patients. If SGOT is higher than 40, it is defined as liver function abnormal (censoring). Survival time is the duration of valproic acid use.

Results: 730 patients were enrolled in this study. 643 were HBV negative and 87 were HBV positive. The survival curve does not show lots of difference between two groups of patients in survival analysis. Formally test for the equality of survivor functions using a log-rank test. This test find no significant difference ($p=0.5792$) between HBV positive and negative patients.

Conclusion: There are still lots of hepatitis B positive patients keep taking valproic acid, and we cannot find statistically significant abnormal liver function test between hepatitis B positive patients and negative patients from survival analysis. This study provides evidence that this medication is safe for hepatitis B positive patients.

MO1**From Latent Schizophrenia to Borderline Personality Disorder –
A Paradigm Shifting****從潛伏型精神分裂症到邊緣型人格疾患——典範轉移**

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Background: The concept of latent schizophrenia was developed during a time when theorists conceived of the disorder in broad diagnostic terms and the term “Latent Schizophrenia” was often the diagnosis used for what are now called borderline, schizoid, schizotypal and personality disorders in DSM-IV. On the other hand, the term “Borderline Personality Disorder” from the DSM-IV diagnostic system has its historical context that interrelated, or even overlapped, with the term “Latent Schizophrenia.” John G. Gunderson (1979) even held in his diagnostic schemes that “Latent Schizophrenia” is a part of “Borderline Personality Disorder.”

Case Report: A 29-year-old single woman, who born at a high-emotional expressed family, was referred from a community rehabilitation institute to our psychiatric clinic due to persisted regressive behaviors, frequently acting-out, tense interpersonal relationship, and even suicidal ideation for about 3 months. She had been treated as “Latent Schizophrenia” at another hospital during the past 5 years, with the initial presentation of irritable mood, idea of reference, paralogical thinking, and suicidal as well as homicidal ideations. She was hospitalized once at the age of 24 due to the exacerbation of those symptoms mentioned above. There were no marked depressive symptoms such as anhedonia, lacking energy, psychomotor retardation, or manic symptoms such as flight of idea, decreased need of sleep, taking risky behaviors. The final prescription was relatively high-dose antipsychotics (Risperidone 7.5mg/day) with another 5 adjunctive medications before patient came to us. During the 25-day-long course of hospitalization, we re-established the plan of management as treating “Borderline Personality Disorder” by simplifying the medication - low-dose antipsychotics (Risperidone 2.0mg/day) with another 2 adjunctive medications. Relevant psychosocial issues were intervened with combined individual and family psychotherapeutic

approaches in the mean time. The short-term outcome was satisfactory, and the patient's psychosocial function kept improving under same treatment plan after discharge and during follow up period.

Discussion: Although diagnosis is not the single determine factor for treatment plan, diagnostic paradigm does have significant influence on treatment strategy. In this case report we discuss that patients with Latent Schizophrenia could be managed from a “psychosis” to “neurosis” point of view, as the way for patients with Borderline Personality Disorder. Psychotherapeutic approaches combined with relatively lower-dose antipsychotics may have the same or better treatment efficacy. Never the less, longer time clinical observation would be necessary to evaluate the prognosis.

M02

A Comparison of Inpatients with Anxious Depression to Those with Nonanxious Depression

比較有無焦慮性憂鬱症之住院病人

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Objective: Anxiety and depression are the most common coexisting problems. Anxious depression has been regarded as major depressive disorder (MDD) with high levels of anxiety symptoms. The objective of this study was to investigate the factors associated with anxious depression.

Methods: A total of 174 acutely ill inpatients with MDD were enrolled. Baseline demographic variables, suicide risk, depression severity, quality of life, and daily functional impairment were assessed. Those MDD patients with a 17-item Hamilton Depression Rating Scale (HAMD-17) anxiety/somatization factor score 7 were defined as anxious depression. Logistic regression was employed to examine the factors associated with anxious depression.

Results: One hundred and forty-one (81.0%) of the subjects reported anxious depression. Patients with anxious depression, when compared to those with nonanxious depression, were more likely to have melancholic features, to be older, to experience more

severe depression, to be at greater risk of suicide, to have more pain, poorer quality of life, and more severe functional impairment. Anxious depression is common in inpatients with MDD.

Conclusion: These findings suggest that anxious depression significantly differs from nonanxious depression on several clinically relevant variables. These data add to a growing body of evidence that anxious depression is a more complex presentation of depression.

Mo3

Case Report: Manic-like Symptoms During Electroconvulsive Therapy for a Schizophrenia Patient

個案報告：精神分裂症病患進行電痙攣治療中產生之躁症行為

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Background: A 38 year-old female with schizophrenia developed manic-like symptoms during ECT in two different occasions

Case Report: A 38 year-old single female with a patient presented with irritable mood, disorganized speech and behavior, self-talking and physical aggression around age 15, and she was previous hospitalized with preliminary diagnosis of “schizophrenia, disorganized type”, according to DSM-IV criteria. The patient was not addicted to alcohol or illicit drug. The patient’s psychotic symptoms could be controlled under regular antipsychotics but the patient had extrapyramidal syndrome easily, such as EPS (oculogyric crisis, dystonia, facial twitch, tremor) and sedation. She was admitted twice due to psychotic symptoms progression, with disorganized speech and behavior, irritable mood and self-talking. During first admission, she had first session of ECT due to limited improvement under Olanzapine 20mg/day with Sulpiride 400mg/day. Brain CT and EEG showed no significant findings prior ECT. She received 12 courses of ECT. However, transient manic-like symptoms such as elated mood, hyperactivity and hyper-sexuality were noticed during ECT. Her manic-like symptoms gradually subsided after cease of ECT, with titration of Sulpiride to 800mg/day. She was discharged under relatively stable condition. However, she was admitted again one year later due to poor compliance with disorganized behavior, disorganized speech, progressed irritable

mood, and self-talking. Similar to previous admission, her psychotic symptoms had limited improvement under medication (YMRS=8). She underwent another session of ECT again. Manic-like symptoms, such as elated mood, hyper-sexuality, and increased interpersonal interaction were noticed about one week after commencement of ECT (YMRS=20), which gradually subsided after cease of ECT. Her psychotic symptoms had improved after total seizure time is 316 secs (9 courses) of ECT. No manic-like was noticed after ECT or further follow-up for recent one year. According to previous history, there was no history of manic symptoms before; in summary, the patient was hospitalized on two separate occasions with the diagnosis of “schizophrenia,” and developed ECT-related mania during both episodes. All psychotic episodes were attributable to a failure to use medication regularly or to a cessation of medication. ECT and resumption of psychiatric medication achieved eventual clinical improvement in all episodes.

Discussion: ECT had been used for severe or refractory psychotic disorder if other forms of treatment were less effective or less tolerable. There were previous cases reports that ECT might induce mania in treatment progress of depressive patient, but seldom noticed in treatment for schizophrenia patient. Definite mechanism for ECT had not been discovered. However, the neurotransmitter theory suggests that ECT might change the binding affinity of mood related receptors, just like anti-depressant, which might induce occurrence of mania. In addition, ECT might cause the hypothalamus to release chemicals that cause changes throughout the body. Interestingly, our patient did not experienced any mood episode throughout her life except during ECT, and no mood episode noticed after ECT. ECT-related mania is highly related, which were reported frequently in patients with depressive disorder during ECT, but seldom reported for schizophrenic patient.

N01**Severe Manic Symptoms Secondary to Herpes Simplex Virus I
Encephalitis: A Case Report****第一型單純性疱疹病毒腦炎造成之躁症症狀：個案報告**

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Background: Herpes simplex encephalitis (HSE) is the most common cause of sporadic fatal encephalitis worldwide with manifestations of rapid onset of fever, headache, seizures, focal neurologic signs, and impaired consciousness. Despite available antiviral therapy, HSE still remains as a disease with significant morbidity and mortality. Various behavioral symptoms have been reported in association with HSE encephalitis, probably due to inflammation of the inferomedial temporal lobe or limbic system. Here we reported a young boy presenting with severe manic symptoms secondary to HSE, which was successfully treated with combinative therapy of mood stabilizer and atypical antipsychotics

Case Report: G, a 14-year-old boy, was admitted to the emergency room with spiking fever, headache and evolving drowsy consciousness for three days. G was admitted to the pediatric ward and treated with antiviral agent (Acyclovir 15mg/kg/dose) for the impression of HSE after confirmation of herpes simplex virus infection in cerebral spinal fluid. Brain magnetic resonance imaging revealed edematous change at bilateral temporal lobes. Electroencephalogram showed continuous theta waves over bilateral temporal area. After 3 weeks of acyclovir treatment, his fever subsided and the follow-up spinal tap was negative. G was thus discharged from pediatric ward in the state of clear consciousness with no particular emotional-behavioral problems noted then. However, shortly after G got home, he began to suffer from poor sleep, which gradually turned to decrease need to sleep. He became restless with labile mood (euphoria-related mixed with irritability). Florid symptoms of mania manifested from the second week onward with obvious hyperactivity, hypertalkativity, grandiosity, increased sexual drive, and impulsivity. Due to severe impairing manic symptoms, he was admitted to psychiatric ward. There was no known behavioral/emotional problem before for this boy and no known family history of mental disorder. His premorbid

personality was introverted with fair academic performance and good peer relationship. There was no illicit drug use history After being admitted, valproic acid 500mg/d and risperidone 2mg/d were prescribed. For G initially. Oversedation, slurred speech and drooling were noted in the first few days. The medication was finally adjusted to valproic acid 750mg/d and risperidone 1mg per day. Sleep amount, mood state, behavior control and activity level all got improved in the third week of psychiatric medication administration.

Discussion: Some survivors of HSE are reported to have significant long-term neurological and cognitive morbidity after HSE. However, there were few literatures regarding the psychiatric sequelae of HSE and even less case report shared their experience on pharmacological treatment of psychiatric symptoms secondary to HSE. Here we reported the benefit and rapid response of combinative treatment of mood stabilizer and atypical antipsychotic for alleviating symptoms of mania associated with HSE in one adolescent boy. We hope this report will contribute to the accumulating knowledge in this field.

No2

Rotating Night Shifts Too Fast May Cause Emotional Stress, Decreased Cognitive Performance and May Impact on Hypothalamus–Pituitary–Prolactin Function

太快之夜班輪班會導致情緒上之壓力並影響認知與下視丘－腦下垂體－泌乳激素之功能

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Objective: To compare cognitive function, sleep propensity and sleep-related hormones (growth hormone, cortisol, prolactin, thyrotropin) in the daytime after working two and four consecutive night shifts.

Methods: Twenty-three off duty nurses (mean age, 26.1 ± 1.9 y), 20 nurses (mean age, 26.0 ± 2.0 y) working two consecutive night shifts, and 16 nurses (mean age, 27.1 ± 2.0 years) working four consecutive night shifts were recruited from the acute ward of Kaohsiung Municipal Kai-Syuan Psychiatric Hospital. The subjects arrived at the sleep laboratory at

about 9:00 a.m. at the end of a night shift and on the off duty day, respectively, and spent about 8 h in the laboratory. The Maintenance of Wakefulness Test, State-Trait Anxiety Inventory, Stanford Sleepiness Scale (SSS), visual attention tasks, Wisconsin Card Sorting Test, Multiple Sleep Latency Test (MSLT), and measuring hormones were administered four times throughout the daytime at 2-h intervals.

Results: The capacity to maintain wakefulness was better in the off duty group, followed by the two and four consecutive night shifts groups, respectively; however there were no differences in mean self-reported total sleep time, sleep latency on the MSLT, and SSS scores among the three groups. During the daytime, the subjects in the two night shifts group were more alert, had higher anxiety scale scores, poorer performance on visual attentive tasks with a lack of a learning effect on the tasks which required a high attentive load than the four night shifts group. Regarding the sleep-related hormones, the levels of TSH in the night shift groups were higher than those in the off duty group which were also elevated throughout the daytime. The levels of PRL in the two night shifts group were higher than those in the other two groups. However, there were no significant changes in GH and cortisol levels throughout the daytime among the three groups.

Conclusion: Nurses working consecutive night shifts underestimated the impact of daytime sleep restriction on the capacity to maintain wakefulness. Rotating night shifts too fast may cause emotional stress which can contribute to a decreased performance on attention tasks with a lack of a learning effect on the tasks which require a high attentive load, and may also impact on hypothalamus-pituitary- prolactin function. The effect on hypothalamus-pituitary-thyroid function during the daytime of sleep restriction after working a different number of consecutive night shifts was comparable; however, attention performance may be related to TSH level. The biological basis of attention performance and the physiological effect of working different rotations of night shifts regarding sleep hormones under sleep restriction are interesting topics for future studies.

No3

Major Depression, Comorbid Anxiety Disorders and Heart Rate Variability

嚴重型憂鬱症，共病焦慮症及心率變異性

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Objective: Decreased heart rate variability (HRV) has been reported in major depressive disorder (MDD), but the results are mixed. Little is known about the impact of comorbid anxiety disorders on HRV in MDD patients. Both issues necessitate further investigation.

Methods: Forty-nine unmedicated, physically healthy MDD patients without comorbidity, 21 MDD patients with comorbid generalized anxiety disorder (GAD), 24 MDD patients with comorbid panic disorder (PD) and 81 matched controls were recruited. We used the Hamilton Depression Rating Scale and the Hamilton Anxiety Rating Scale to assess depression and anxiety severity, respectively. Cardiac autonomic function was evaluated by measuring HRV parameters. Frequency-domain indices of HRV were obtained.

Results: MDD patients without comorbidity had lower HF (high frequency)-HRV (which reflects vagal control of HRV) than controls. Any comorbid anxiety disorder (GAD or PD) was associated with significantly faster heart rates relative to controls and caused greater reductions in HF-HRV among MDD patients. MDD participants with comorbid GAD displayed the greatest reductions in HF-HRV relative to controls. Correlation analyses revealed that both depression and anxiety severity were significantly associated with mean R-R intervals, variance, LF (low frequency)-HRV and HF-HRV.

Conclusion: Our results show decreased HRV in MDD patients suggesting that reduction in HRV is a psychophysiological marker of MDD. MDD patients with comorbid GAD had greatest reductions in HRV. Further investigation of the link between MDD with comorbid GAD, HRV and cardiovascular disease is warranted.

No4

Theta Burst Stimulation of the Motor Cortex Reduces Chronic Refractory Neuropathic Pain after Spinal Cord Injury – a Case Report 陣發型經顱磁波刺激應用於脊髓損傷患者頑固性神經痛之療效——個案報告

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Background: Chronic neuropathic pain is one of the most distressing and disabling condition which could be relieved but rarely cured. 60-80% of SCI patients suffer from chronic refractory pain which impedes rehabilitation and recovery. Repetitive transcranial magnetic stimulation (rTMS) studies on relieving chronic pain either focused on motor cortex or dorsolateral prefrontal cortex (DLPFC). While previous studies showed high frequency rTMS over motor cortex are effective for relieving chronic neuropathic pain, the role of DLPFC in neuropathic pain remain unclear. Theta burst stimulation (TBS) is a novel and promising rTMS paradigm which produces greater change in neuroplasticity than conventional rTMS. To date, the data of TBS's application for neuropathic pain were limited. It is valuable to explore the effectiveness of different stimulating sites (motor cortex vs. DLPFC) and TBS protocols (excitatory vs. inhibitory) for chronic neuropathic pain.

Case Report: We reported the case of a 40-year-old man with refractory neuropathic pain and secondary depressive symptoms with for 14 years related to spinal cord lesions who underwent three different paradigms of TBS treatments over one year follow up period. (1) intermittent TBS (iTBS) (a 2-sec train of 3-pulse 50Hz bursts given every 200ms repeated every 10 sec, 18000 pulses in 6 sessions) over left DLPFC. (2) continuous TBS(cTBS) (an uninterrupted train of 3-pulse 50Hz bursts, 18000 pulses in 6 sessions) over right DLPFC. (3) iTBS over left motor cortex(M1 hand region). iTBS over M1 produced the greatest and rapid analgesic effects in relieving the refractory neuropathic pain (VAS), significantly improved life quality (VAS), sleep quality (PSQI) and depressive symptoms (HRDS). The paired-pulse study for exploring cortical excitability showed the patient lack of interval- inhibition (SICI),

long interval-inhibition (LICI) and had abnormally high intra-cortical facilitation (ICF) After treatment, SICI in bilateral motor cortex and ICF in left motor cortex showed a tendency toward renormalizing. iTBS over left DLPFC produced intermediate and gradual effects while cTBS over right DLPFC had no analgesic effect but worsened depressive symptoms.

Discussion: Our study showed excitatory iTBS over left motor cortex was able to produce rapid analgesic effects, consistent with previous studies that high frequency rTMS over motor cortex are effective for relieving neuropathic pain. One previous study showed iTBS alone didn't produce clear analgesic response, though an effective add-on treatment. In contrast, our result demonstrated iTBS alone could be a promising treatment. Our study suggested the mechanisms of iTBS's analgesic effects depend on restoration of generalized GABA-mediated inhibitory circuit (reflected by SICI) and unilateral glutamatergic excitatory interneurons (reflected by ICF) Besides, the fact DLPFC stimulation didn't produce as good response suggested DLPFC and motor cortex play distinct roles in pain modulation and for different pain subtypes.

No5

A Case Report of Complex Partial Seizure with Depressive Symptoms That Presented with Diagnostic Challenge

複雜性部分發作之癲癇以疑似憂鬱症狀發作之個案報告

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Background: The ictal and peri-ictal phenomenon of complex partial seizures are varied and sometimes mimic psychiatric symptoms. Associations between epilepsy and affective disturbance, especially depression, further complicate the issue of diagnosis. Here we report a case with depression and recurrent conscious disturbance refractory to psychiatric treatment which later proved to be complex partial seizure.

Case Report: A 61-year-old woman suffered from acute onset depressed mood, avolition, mutism with clear consciousness, with intermittent altered consciousness and amnesia since the age of 27. She was diagnosed as major depressive disorder and over the

following 20 years she received antidepressants, antipsychotics, anticonvulsants, and even electroconvulsive therapy all helped little but the disease episodes became more frequent. She was admitted to acute psychiatry ward at age of 54 due to recurrent episode. However, the awake EEG and later 24-hour EEG all revealed epileptiform discharge, and one episode of generalized tonic-clonic seizure of 4 minutes was noted. A diagnosis of complex partial seizure evolving to secondarily generalized seizure was made. She received anticonvulsants including divalproex and carbamazepine and she remained seizure-free for the following 3 years with good functional recovery.

Discussion: In this case, the patient had prominent depressed mood and associated neurovegetative symptoms initially. But later symptoms of altered consciousness and amnesia was atypical for patients of depression. Complex partial seizure should be included in the differential diagnosis in those with atypical presentations. Due to low sensitivity of EEG study, repeated measure may be required in cases when epileptic seizure is strongly suspected.

O01

Trends in Anxiolytics-Hypnotics Use and Polypharmacy Regimens in Taiwan between 2002 and 2009

台灣 2002 到 2009 年間鎮定安眠藥使用與複方用藥的趨勢

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Objective: Use of anxiolytics-hypnotics, including benzodiazepines and Z-hypnotics, is a public health concern. This study aimed to investigate the trends in prevalence of anxiolytic-hypnotic drug use and anxiolytic-hypnotic polypharmacy (2 or more drugs) in Taiwan.

Methods: A dynamic sample of 1 million individuals randomly selected from the National Health Insurance database was used to detect population-wide trends in the use of anxiolytics-hypnotics in Taiwan between 2002 and 2009. The analyses included drugs that are administered orally, intravenously, or intramuscularly, as well as single or compound drugs. We identified the number of individuals who used the drugs, the sum of days of using across

all individuals (person-days), and the distribution of anxiolytic-hypnotic polypharmacy in ambulatory, pharmacy, and hospital care.

Results: Annual prevalence of any anxiolytic-hypnotic use in Taiwan was as high as 20%. The number of person-days greatly increased from 4.0% in 2002 to 6.6% in 2009 during the study period. Among all anxiolytics-hypnotics, clonazepam and zolpidem rose most significantly in both the number of individuals who used (clonazepam: from .7% to 1.8%; zolpidem: from 2.4% to 4.2%), and the number of person-days with use (clonazepam: from .2% to .6%; zolpidem: from .5% to 1.5%). Polypharmacy accounted for almost 70% of all person-days in anxiolytic-hypnotic use.

Conclusion: This nationwide, population-based survey presents real-world epidemiological evidence about anxiolytic-hypnotic use. The adverse effects of the long-term use of anxiolytics-hypnotics have been established, and unnecessary use of these drugs, particularly in polypharmacy regimens, should be avoided.

O02

Physical Comorbidities Affect the Incidence and Mortality of Stroke among Patients with Bipolar Disorder

情感性精神病患者生理共病影響中風之發生率及死亡率

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Objective: This study aimed to estimate the relationship between the physical comorbidities and the incidence and mortality of stroke among patients with bipolar disorder.

Methods: This study identified a study population from the National Health Insurance Research Database (NHIRD) between 1999 and 2003 that included 16,821 patients with bipolar disorder and 67,284 age- and sex-matched control participants without bipolar disorder. The participants who had experienced a stroke between 1999 and 2003 were excluded and were randomly selected from the NHIRD. The incidence of stroke (ICD-9-CM code 430-438) and patient survival after stroke were calculated for both groups using data from the NIHRD between 2004 and 2010. Physical comorbidities of each patient were based

on the Charlson Comorbidity Index Score (CCIS), which is widely used for risk adjustment in insurance claims datasets. Survival analysis was used to evaluate the CCIS and other factors associated with the incidence and mortality among patients with bipolar disorder.

Results: The stroke patients with bipolar disorder were more likely to be young, to have lower socioeconomic status and to have a higher CCIS than the matched controls. The mortality risk significantly increased when patients were male (HR=1.43), were older (≥ 65 years old vs. < 65 years old, HR=1.59), lived in rural areas (HR=1.29) or had higher CCISs (≥ 2 vs. < 2 , HR=1.86).

Conclusion: Patients with bipolar disorder were at a significantly higher risk for stroke and post-stroke death from any cause after adjusting for demographic, socioeconomic and comorbid medical variables. Clinicians should pay more attention to patients with bipolar disorder to prevent stroke and decrease mortality.

O03

The Risk of Alzheimer's Disease in Elderly Patients with Major Depressive Disorder : 10 Years Follow-up

老年重度憂鬱症患者罹患阿茲海默症之危險性：十年追蹤研究

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Objective: Some studies suggest that a history of depression may be a risk factor for dementia or Alzheimer's disease (AD), with OR 1.7 to 2.4. The pathophysiology may be related to stress, cortisol, brain-derived neurotrophin factor and beta-amyloid. Some believe that the apparent association reflects that depressive symptoms can be an early or preclinical manifestation of AD rather than a risk factor although the findings of other studies appear to dispute this. The goal of this study is to analyze the 10-year risk of AD in elderly patients with major depressive disorder (MDD).

Methods: The National Health Insurance (NHI) program in Taiwan has operated since 1995, enrolling nearly all the inhabitants of Taiwan. We used Psychiatric Inpatient Medical Claim (PIMC) dataset from NHIRD as database of this study. The PIMC dataset includes all

individuals who were ever admitted in psychiatric ward and is a cohort data before and after the admitted period. We identified study cohort from PIMC dataset as all individuals who was admitted in psychiatric ward in 2000 and MDD (ICD-9-CM : 296.2 or 296.3) was diagnosed. The age was older then 65 years old. Exclusion criteria included individuals who had diagnosis of dementia disease (ICD-9-CM : 290.xx) under ambulatory or inpatient care in 1998 to 2000 and MDD under inpatient care in 1998 to 1999. We used PIMC dataset to identify the study cohort who was diagnosed as AD (ICD-9-CM : 290.0-290.3) during 2001 to 2010. Individuals was divided into subgroups according to sex and age(65-69 years old, 70-74 years old, 75-79 years old, 80-84 years old, above 85 years old) . We used independent student's t test and chi-square test to compare the risk of AD and the interval time from MDD to AD in different subgroups. Statistical significant was inferred at 2-sided p-value<0.05.

Results: The study cohort has 305 patients (male:167, female:138) in 2000. After ten-years follow up from 2001 to 2010. 81 patients from study cohort had diagnosis of AD (male: 42, female:39). The ten-year risk of AD in elderly person with MDD is 26.6%. The percentage of female is higher than male (male 25.1%, female 28.3%). Mean interval years from MDD to AD are 4.3 years (male 3.6 years, female 5.3 years). The interval years from MDD to AD in different sex has significant finding under age group of 65 to 69 years old(male:2.1 years, female:6.1 years, p<0.01).

Conclusion: The 10-year prevalence of AD in elderly patients after MDD is higher than population in Taiwan. Clinical physicians should evaluate the cognitive function of elderly MDD patients carefully and give appropriate treatment as soon as possible if AD was diagnosed.

O04

The Association between Antipsychotics and Risk of Hospital Acquired Pneumonia in Patients with Severe Mental Illness

精神病患抗精神病藥物與院內肺炎風險之關係

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Objective: The purpose of this research is to identify the association between antipsychotics and risk of hospital acquired pneumonia in patients with severe mental illness.

Methods: We enrolled hospitalized patients with severe mental illness in a mental hospital suffering from hospital acquired pneumonia between January 2010 and September 2012. We performed a retrospective chart review and collected variables including age, gender, diagnosis, treatment settings, whether cluster of infection, pre-existing physical illness, types of antipsychotic, duration and dosage of antipsychotics, polypharmacy and combination use of anticholinergic agents and sedatives.

Results: A total of 34 patients were enrolled during this 33-month period. They had a mean age of 51.7 years and 73.5% was male. Thirty-one patients were diagnosed as schizophrenia. Six patients had pre-existing lung diseases and 2 patients had the problem of immunocompromisation. Thirty patients (88.2%) used second-generation antipsychotics when suffering from hospital acquired pneumonia and 19 patients used clozapine. Mean defined daily dose of antipsychotics was 1.5 and 27 patients used antipsychotics for at least 6-month duration. More than half of the patients had combination use of anticholinergic agents and sedatives.

Conclusion: Even the incidence of hospital acquired pneumonia in this population was not so high, they might lead to serious consequences. Most of those events occurred with second-generation antipsychotics use. Clinicians prescribing second-generation antipsychotics to patients with severe mental illness should closely monitor them for hospital acquired pneumonia, particularly combination use of anticholinergic agents and sedatives.

O05

A Latent Transition Analysis of Gender Difference in Sleep Trajectories of Junior High School Students

不同性別國中生之睡眠潛在變化分析

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Objective: The objective of this study is to explore gender difference in patterns of junior high school students' sleep transitions.

Methods: Data from 2,422 students followed from the 7th to 9th grade (from 2007 to 2009) as part of the Child and Adolescent Behaviors in Long-term Evolution (CABLE) Project were used for analysis. The annual social jetlag (SJ: median sleep time on weekend minus that on weekday) and sleep extension (SE: total time of sleep on weekend minus that on weekday) among 7th to 9th graders were calculated by time of awaking and time of going to bed respectively. Models with different numbers of latent statuses were compared, and model selection was conducted based on Bayesian Information Criterion (BIC) and interpretability of the latent statuses via latent transition analysis (LTA). Gender was incorporated as a grouping variable so that measurement invariance across male and female could be assessed.

Results: There were 1158 females and 1160 males enrolled. A series of LTA models with two through six latent statuses of sleep pattern (SJ and SE) were run, and for each model, identification was assessed. The four-status model of sleep pattern over time was selected based on BIC; the BIC was 619.80 and the log-likelihood was -10972.10. The four latent classes were labeled as high SE with moderate SJ, high SE with high SJ, low SE with low SJ, and low SE with moderate SJ respectively. A test of measurement invariance across genders suggested the underlying structure of sleep pattern was different for male and female junior high school students. This test was conducted by fitting a model with parameter restrictions that constrained the item-response probabilities to be equal across groups ($G^2=539.14$ with 365 df) to one with no restrictions across groups ($G^2=315.9$ with 176 df). The difference $G^2=223.24$ can be compared to a chi-square table with degrees of freedom equal to 189 (the difference between two models), yielding a p-value of 0.045. The delta estimates revealed increased status membership probabilities in both high SE classes across different genders over time. As for the prevalence, higher SE in female was obvious.

Conclusion: Gender difference does exist in the sleep transitions of this sample. There should be rooms for identification of the detailed mechanism of sleep transitions among junior high school students.

O06

Gender Identity Disorder with Comorbid Psychiatry and Mood Symptoms

性別認同疾患共病精神與情緒症狀初探

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Objective: Gender identity is a subjective psychological concept of being male or female. Gender identity disorder (GID), is the DSM-IV TR diagnosis to describe people who experience significant distress with the sex they were assigned at birth and/or the gender roles associated with that sex. Female-to-Male (FtM) refers to someone who is female by birth but who has male identities; Male-to-Female (MtF) refers to someone who is male by birth but who has female identities. Both of FtM and MtF want to receive the medical and legal procedures necessary to become their psychological sex. However, they will face weighty life stress events in the change gender process. The aim of this study was to assess whether depression comorbidity in patients with GID.

Methods: Participants : We recruited 26 participants with gender identity disorder at medical center hospital in Taipei City. All subjects were divided into two groups according to their physical sex, including 6 FtM subjects (FtM group), 20 MtF subjects(MtF group). Measures : Each subject was interviewed both with psychiatrist and clinical psychologist to assess gender identity disorder. Using the Wechsler Adult Intelligence Scale - third version (WAIS-III) to measure the intelligence. The Health, Personality, and Habit Test (HPH) was completed by self-report.

Results: Using T-test to compare the differences of FtM group and MtF group on scales of HPH. The results of T-test showed that the significant differences of schizophrenia scale (A1), depression/suicide scales (A3, B4, & A4), anxious scale (B1, B2, B3, B5). Compared to FtM group, the subjects with MtF group had a higher score on the subscale of psychotic features, depression, anxiety.

Conclusion: The results of this study suggest that subjects with MtF have more

psychotic features, depressive mood, anxious symptoms than FtM. It seemed that MtF subjects have a higher psychiatric comorbidity, and this should be taken into account in the psychiatric treatment planning of them. Noteworthy, we collect those MtF subjects maybe have more acute stressful events (eg. military service). Future studies should be designed to investigate the influence of life stress events in patients of GID.

O07

Relationships of Public Stigma toward Mental Illness and Psychotic-like Experiences in a Non-Psychiatric Population Sample

探討一般社會大眾對精神疾病所採取的污名化態度與其所擁有的類似精神病相關經驗之關連性

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Objective: Studies on the association between psychopathology, public stigma, and labelling in mental illness have mainly focused on severe but rare mental disorders, especially schizophrenia, or other clinically defined psychotic disorders. However, evidence is growing that clinically defined psychosis is continuous with common psychotic-like experiences in the general population. Yet, little is known about how psychotic-like experiences independently affect public stigma toward mental illness. The aim of the present study was to examine the relationship between psychotic-like experiences and public stigma toward mental illness in a non-clinical sample, taking the influences of socio-demographic characteristics into consideration.

Methods: We recruited 524 individuals (239 male, 285 female) who had no lifetime history of psychiatric disorder for this cross-sectional study. Participants completed a questionnaire on socio-demographic variables, a measure of public stigma toward mental

illness (the perceived psychiatric stigma scale; PPSS), and two measures of psychotic-like experiences (the Peters et al. Delusions Inventory; PDI; and the Cardiff Anomalous Perceptions Scale; CAPS).

Results: Of the socio-demographic characteristics analysed in this study, including gender, age, education level, marital status, and religion, only age influenced PPSS, PDI, and CAPS scores. As hypothesised, public stigma was positively correlated with measures of psychotic-like experiences, even after statistically controlling for age. Furthermore, public stigma toward mental illness was more strongly associated with delusional experiences than with anomalous perceptual experiences.

Conclusion: The association between psychopathology and public stigma toward mental illness appears to extend beyond clinically defined psychosis to more common psychotic-like experiences in a sample drawn from the general Taiwanese population.

Oo8

The Epidemic Spread of Charcoal-burning Suicide in East Asia: a Time Trend Analysis

燒炭自殺在東亞國家的流行散佈：趨勢分析

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Objective: Suicides by carbon monoxide poisoning resulting from burning barbecue charcoal reached epidemic levels in Hong Kong and Taiwan within 5 years in the early 2000s.

Methods: We used data for suicides by gases other than domestic gas in Hong Kong, Japan, South Korea (1995-2010), Taiwan (1995-2011), and Singapore (1996-2011) to systematically investigate the spread of this method in East Asia. Graphical and joinpoint regression analyses were used to examine suicide trends and Poisson regression analysis to study sex- and age-specific patterns.

Results: In 1995/1996, charcoal-burning suicides accounted for < 1% of all suicides in

all study countries, except around 5% in Japan, but they increased to account for 14%, 28%, 13%, 4.3%, and 3.4% of all suicides in Hong Kong, Taiwan, Japan, South Korea, and Singapore respectively in 2010. Rises were first seen in Hong Kong in 1999, followed by Singapore in 2000, Taiwan in 2001, Japan in 2003, and South Korea in 2008. There was some evidence for an impact on overall suicide trends in Hong Kong, Taiwan, and Japan (females), but not in Japan (males), South Korea, and Singapore. Rates of change did not differ by sex/age group in Taiwan and Hong Kong but were greatest in young people in Japan and middle-aged men and young women in South Korea.

Conclusion: Variations in the timing, scale and sex/age pattern of the epidemic appear to be influenced by the media reporting of charcoal-burning suicide, whilst other factors such as the characteristics of the first or first few cases, language and culture, familiarity and accessibility with the method, and socio-economic conditions may also play a role. Strategies to limit the epidemic spread of new suicide methods include surveillance to enable the early identification of the emergence of such methods, responsible media reporting and restrictions on Internet sites giving technical information about the method.

O09

Suicidal Risk after Occupational Injury in 12 Months Follow Up Study

職業災害一年後之自殺危險性分析

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Objective: The suicidal risk has been associated with trauma exposure and negative life events in several studies. The labors who exposed to a severe occupational injury or a trauma event in work place may have psychological symptoms, suicidal ideation, and impaired life

consequences. The present study aimed to investigate the incidence of suicidal ideation and its risk factors after occupational injuries.

Methods: We collected the data from the workers who had been hospitalized for three days or longer after their occupational injury and had received inpatient-hospitalization-benefit of occupational accident medical benefits from labor insurance between February 1 and August 31, 2009. We sent the self-reported questionnaires including demographic data, injury condition, and the questions about “Do you have thoughts of ending your life in current one week?” to 4403 workers at 3 months and 12 months respectively after occupational injury.

Results: A total of 2001 and 1233 workers had completed the self-report questionnaires respectively at the 3-months and 12-months follow-up investigations. This study found that the incidence of reporting suicidal ideation among workers during 3 to 12 months after the occupational injury was 7.1%. The significant risk factors for suicidal ideation are intracranial injury (RR=1.99, 95% CI=1.07-3.70) and total hospital stay longer than 8 days (RR=1.74, 95% CI=1.03-2.92).

Conclusion: The results showed that in the 12 months follow-up study in the injured workers, intracranial injury and severity of the occupational injury were significantly related to the incidence of suicidal ideation. The suicidal prevention and mental health evaluation should be essential in the rehabilitation program after their occupational injuries.

O10

Long-Term Statin Use and Dementia Risk in Taiwan

長期 statin 使用與失智症風險在台灣的研究

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Objective: To examine the association between the use of statin and the risk of dementia.

Methods: A nest case-control study within a nationwide representative population-based cohort. All individuals aged 50 years and older participating in Taiwans National Health Insurance program and whose records were in the National Health Insurance Research

Database in Taiwan for the period January 1, 1998 to December 31, 2009. Of the total cohort, 9257 cases with at least three outpatient or one inpatient claims records for dementia were identified. Comparison subjects (N=18,459) were selected at a 1:2 ratio from age- and sex-matched subjects without dementia. The authors measured the cumulative period and average daily dosages of statins, fibrates and other lipid lowering agents. A conditional logistic regression was used to determine the effect of duration of lipid lowering agent use. The potential confounding factors included comorbid psychiatric disease, medical disease, concomitant use of other medication and health system utilization.

Results: The authors found a duration–response relationship, as dementia risk decreased by 9% per year of treatment (adjusted odds ratio [aOR]=0.9-1; 95% CI, 0.85-0.97). The adjusted risk of dementia was 1.04 (95% CI, 0.95-1.15) for statin use < 1 year, 0.76 (0.62-0.93) for statin use 1-2 years, and 0.75 (0.59- 0.95) for statin use \geq 2 years. However, fibrates or other lipid lowering agents had no significant effect on dementia risk.

Conclusion: Our results suggest that long-term use of statin at high dosage is associated with a reduced dementia risk, an effect not detected for fibrates or other lipid lowering agents.

O11

Perinatal Risk Factors for Suicide in Young Adults in Taiwan

台灣年輕族群自殺之新生兒期危險因子

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Objective: We investigated the association of early life social factors - maternal age, single motherhood, socioeconomic position, birth order and family size with future risk of suicide in Taiwan.

Methods: A nested case-control design, using linked data from Taiwan Birth Registry (1978-1993) and Taiwan Death Registry (1993-2008), identified 3,984 suicides aged 15-30. For each suicide 30 age and sex matched controls were randomly selected, using incidence density sampling. Conditional logistic regression models were estimated to assess the

association of early life risk factors with suicide.

Results: Younger maternal age (<25), single motherhood, lower paternal educational level and higher birth order were independently associated with increased risk of suicide. Stratified analyses suggest that lower paternal educational level was associated with male, but not female suicide risk (P (interaction) = 0.02). Single motherhood was a stronger risk factor for suicide in female than in male offspring (OR [95% Confidence Interval (CI)] = 2.30 [1.47, 3.58] vs. OR [95% CI] = 1.50 [1.01, 2.20], P (interaction) = 0.12). There was a suggestion that in families with large sibship size (≥ 4 siblings), the excess in suicide risk was greater among later born daughters compared to later born sons (P (interaction) = 0.05).

Conclusion: Our findings provide support for the results of European studies suggesting that early life social circumstances influence future risk of suicide. Factors specific to Taiwanese culture, such as a preference for male offspring, may have influenced gender-specific patterns of risk.

O12

Ten-Year Follow-up of Schizophrenia Patients from Taiwan Schizophrenia Linkage Study (TSLs) – A Pilot Study

台灣精神分裂症連鎖分析研究 (TSLs) 之精神分裂症病患十年追蹤 研究初探

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Objective: The relationship between cognitive impairments of schizophrenia patients and their prognoses is a debating issue. The severity of cognitive disability seemed to be a potential predictor of social and occupational functions of patients with schizophrenia. However, the low specificity was criticized. The performance of the degraded continuous

performance test (CPT) has been shown to be a potential endophenotype of schizophrenia and a predictor for the prognosis of patients with early psychosis. The Taiwan Schizophrenia Linkage Study (TSLs) is a large nation-wide family study recruiting families with at least two affected siblings in Taiwan during 1998-2002. The subjects' neurocognitive impairments were assessed using the degraded CPT. The current study was initiated to check the electronic medical-charts of schizophrenia patients participating in the TSLs and to examine if these subjects were accessible.

Methods: The target study site is a medical center in Southern Taiwan. Forty-six families, comprised 92 patients (male 57, female 35) and their first-degree relatives, had been recruited in the TSLs. The system of the electronic medical charts of this medical center recorded patients' information of clinic visiting, hospitalization, and medication within five years. The study was approved by the Institutional Review Board (IRB) of the Chi-Mei Medical Center for the period of June 2012 to June 2013.

Results: Among the 92 affected siblings from 46 families, no records were found in the electronic medical-chart system for 32 patients. Nineteen subjects visited the psychiatric clinics of the target study site during the period of June 2012 and June 2013. The returning-rate, defined as visiting the psychiatric clinics of the same hospital within one year for a ten-year follow-up, is 20.7% (19/92). Among the above 46 families, 26 families had at least one of the affected siblings visiting psychiatric or other clinics of the target study site.

Conclusion: It has been about ten years since the patients of the TSLs were studied. These subjects had been interviewed by trained research assistants and were assessed with the CPT. In addition, should both affected siblings be re-recruited from the 26 "reachable" families, 52 patients might provide valuable information regarding to the predicting effect of neurocognitive indexes and prognoses for a ten-year follow-up. Ways, such as sending needs assessment questionnaire by mail or set up a special clinic, could be tried to contact these patients in the future

O13**Methods of Suicide Predict the Risks and Method-switching of Subsequent Suicide Attempts: A Community Cohort Study in Taiwan**
自殺方式可預測自殺風險及下次自殺時使用方式之轉變：
台灣社區世代研究

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Objective: Suicide is a major public health concern. This study aimed to determine the predictors of repeat suicide attempts, focusing on whether lethality level of the suicide method predicts the risk of subsequent suicide attempts.

Methods: All consecutive individuals (N = 2070) with an episode of non-fatal self-harm registered in a surveillance database provided by the Department of Health of Keelung City Government from January 1, 2006, to December 31, 2010, were enrolled and followed up until the end of 2011. The earliest attempt recorded in the database was defined as the index attempt. Subjects were classified according to suicide method into low-lethal and high-lethal groups. Data on time of and methods chosen for subsequent suicide attempts during the follow-up period were analyzed.

Results: Of the total people screened for the study, 67.3% were women and 18.1% made a repeat suicide attempt. Subjects in the high-lethal group were more likely to be male; aged 35-64 years; and single, divorced, or widowed. Compared to other time intervals, most subsequent suicide attempts occurred within six months from the index attempt. The independent predictors for repeat suicide attempts were the use of low-lethal methods in the index attempt and being 35-49 years old. Using high-lethal methods and being older than 50 years were associated with changing suicide method for the second attempt.

Conclusion: Initial suicide method could predict repeat suicide attempts and changing suicide methods. Further clarification is needed on whether higher risk of repeat attempts is associated with higher rates of suicide mortality.

O14

Hospital-treat Physical illness and Avoidable Mortality in the Long-stay Patients with Schizophrenia Under the Different Smoking-allowed Settings: an 11-year Retrospective Follow-up Study

在不同抽菸許可設置下長期安置精神分裂症病人之住院治療疾病與可避免死亡率：一個 11 年回溯性追蹤研究

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Objective: Long-stay patients with schizophrenia have higher risks for physical illnesses and avoidable death. Exposure with cigarette was suggested to be the explanations of the excess morbidity and mortality. However, the physical comorbidity and avoidable mortality in those patients under the different smoking-allowed settings were seldom evaluated.

Methods: The 2457 long-stay patients with schizophrenia in Yuli Veterans Hospital in Taiwan were followed since 1998 to 2008. We confirmed the causes of death by record linkage to National Death Certificate System. The first admission diagnoses in hospital-treated physical illness were retrieved in inpatient registration data. The standardize mortality ratios (SMR) of avoidable death were calculated, compared with the general populations in Taiwan.

Results: The mean±SD age of the patients was 57.83±16.95 years. All the 1998 male patients lived in smoking-allowed wards, and the 459 female patients in smoking-forbidden wards. The diseases of respiratory system were the most common hospital-treatment physical illness in male patients (N=704, 35.2%), but only the ford in female patients (N=38, 8.3%). Of the total 993 decedents, 411 died of avoidable causes (41.4%). The male patients had significantly higher risks in total avoidable death (SMR=1.96, 95%CI=1.77-2.16) and in the classification of the indicators of health care quality (SMR=2.41, 95%CI=2.17-2.67), but female patients did not (SMR=1.22, 95% CI=0.67-2.05; SMR=1.57, 95% CI=0.86-2.64, respectively).

Conclusion: The different distributions of hospital-treatment physical illness in male

and female patients might be relative with the different cigarette exposures in psychiatric wards. Under the smoking-forbidden setting, the female patients could have relatively lower mortality gap in avoidable death.

O15

The Incidence of Metabolic Syndrome and Its Reversal in a Cohort of Chronic Inpatients with Severe Mental Illness: One Year Follow-up Study 慢性病房精神病人代謝症候群發生率與逆轉：一年期之世代追蹤

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Objective: The purpose of this study is to identify the incidence of metabolic syndrome and its reversal in a cohort of chronic inpatients with severe mental illness.

Methods: This was a cohort study design in chronic wards of a mental hospital in Taiwan. Chronic inpatients were included if they had two complete assessments in a one year follow-up. Those were separated into two groups at baseline assessment as normal cohort and disease cohort by whether the combination of the metabolic syndrome. At second assessment one year later, the incidence of the metabolic syndrome was calculated in normal cohort and the reversal was calculated in disease cohort. Two logistic regressions were conducted to find risk factors and factors related to the reversal.

Results: A total of 283 chronic inpatients had two complete assessments in a one year follow-up. At baseline assessment 114 patients (40.4%) had metabolic syndrome. One year later, 32 patients developed new metabolic syndrome and 23 patients had it reversed. The incidence rate was 18.9% and the reversal rate was 20.2%. Parameter of hyperglycemia at baseline assessment was associated with a higher risk of developing metabolic syndrome in normal cohort (aOR=5.8, $p<0.01$) and hypertriglyceridemia was associated with a smaller chance of reversing metabolic syndrome (aOR=0.1, $P=0.01$) in disease cohort after adjusting for gender, age, duration of hospitalization, change of antipsychotics and the metabolic parameters.

Conclusion: Metabolic syndrome could be reversible and showed dynamic change in

one year follow-up. Hyperglycemia might play an important role for developing metabolic syndrome and hypertriglyceridemia might be related to its reversal. Clinicians should make more efforts in control of metabolic syndrome especially in control of hyperglycemia and hypertriglyceridemia. Further and longer follow-up study is necessary for further evaluation the clinical course of metabolic syndrome in chronic inpatients with severe mental illness.

O16

Relationship of Nocturnal Sleep Duration with Quality of Life in Adolescents

青少年睡眠時間長短與生活品質之關連性

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Objective: This study aimed to examine the relationship of short and long nocturnal sleep duration with quality of life (QOL) in adolescents after controlling for the effects of sex, age and depressive symptoms.

Methods: 6,445 students of junior and senior high schools completed the questionnaires. Nocturnal self-reported sleep duration was measured. We defined adolescents whose total sleep duration at night was below one standard deviation (SD) below the mean of sleep duration in all participants as “short sleepers”, those whose total sleep duration at night was between one SD below and above the mean of sleep duration as “average sleepers”, and those whose total sleep duration at night was above the mean of sleep duration as “long sleepers”. Adolescents’ quality of life (QOL) was measured on the Taiwanese Quality of Life Questionnaire for Adolescents (TQOLQA). The association between sleep duration and QOL was examined by using multiple regression analysis models to controlling for the effects of sex, age and depression.

Results: The results found that after controlling for the effects of age, sex and depression, short sleepers had poorer family domain of QOL than average sleepers; however, long sleepers had better pain and psychological wellbeing domains of QOL than average sleepers.

Conclusion: The results of this study indicated that the levels of some domains of QOL were different among the adolescents with short, average and long duration of sleep.

P01

The Influence of Law Exchange to Disability Level in Taiwan

殘等鑑定法規改變對鑑定之影響

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Objective: The disability level and function assessment is highly associated with national social welfare framework. In Taiwan, we used ICF and WHODAS 2.0 for the disability level and function assessment in combination. We want to see the result of the assessment.

Methods: We collected the patient applied for disability level assessment in our hospital since July to October, 2012. The primary data was collected by a social worker and the data was de-connection before analysis. We used Chi-square and ANOVA to analysis the collecting data and McNemar for correcting.

Results: We found the disability level shifted to midian level after the law change. This phenomenon does not exit upon psychiatric patients. Otherwise we noticed that the WHODAS score was associated to disability level instead of independence. We also noted that the WHODAS score different because of different medical stuuff assessing. The WHODAS score of psychiatric patients has significant lower level compared to non-psychiatric patients.

Conclusion: The ICF system was designed for union disability level assessment and easy for communication between medical stuuff. Taiwan is the first country tried to combie using ICF and WHODAS system for disability level assessment. We found some phenominon which may mean that this system need more adjust. We need more data and different kinds of medical facilities to joint this study. Otherwise, the before-ongoing education may bo insufficiency. The psychiatric patients right should be noticed because they will has less score to non-psychiatric patients even under the same disability level.

P02

Demographic Characteristics, Institutional Factors of Overstay Psychiatric Inpatients: 1996-2007

超長期精神病住院病患的一般特性及機構因素研究：1996 至 2007 年

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Objective: This study investigates the long-term overstay psychiatric inpatients (length of stay over two years and still in hospital) during the years 1996 to 2007, and measures the differences that are caused by factors such as age, gender, institution, and diagnosis.

Methods: This research used secondary data from the National Health Insurance Research Database of Taiwan's National Health Insurance (NHI) program. Detailed data was extracted from the Psychiatric Inpatient Medical Claim (PIMC) subset and combined from PSY1 (1996-2001) and PSY2 (2002-2007). The sample was composed of 6,737 psychiatric inpatients that had been admitted to the psychiatric wards of three types of hospitals, had stayed in hospital for more than two years, and were not yet discharged as of Dec 31, 2009.

Results: From 1996 through 2007, 6,737 inpatients who overstayed in hospitals were extracted from PIMC dataset. These inpatients made up around 3.6% of all the psychiatric inpatients from this combined dataset, PSY1 and PSY2. The proportion and number of female patients was 44.59% and 3004, respectively. The major five diagnoses were schizophrenia (5973, 88.66%), affective disorders (389, 5.77%), organic mental disorders (269, 3.99%), dementia (0.98%), and psychoses with origin specific to childhood (0.59%). Most inpatients who overstayed their hospitalization period were in psychiatric and district hospitals. The number of male patients who overstayed was always fewer than that of female patients. The major age group was 25-49 with a proportion of 69.38%.

Conclusion: From 1996 through 2007, the majority of inpatients who overstayed were diagnosed with schizophrenia. The trends and increasing rate of overstaying in inpatients were upward in steady increments. The part of the annual mean LOS and DMC of psychiatric inpatients (overstay) excluded in previous research can be calculated and used to measure the degree of deviation of annual LOS and DMC.

P03**The Risk of Osteoporotic Fracture in Patients with Schizophrenia: a Population-based Cohort Study****精神分裂病患骨鬆骨折的危險性**

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Objective: Objective: To explore the risk of osteoporotic fracture in patients with schizophrenia.

Methods: From the Taiwan National Health Insurance Research Database (NHIRD), two national cohorts of 30,335 schizophrenia patients (age \geq 40) and 241,707 age- and sex-matched control participants without schizophrenia were identified. Using data from the NHIRD between 2001 and 2010, the incidence of osteoporotic fracture and non-osteoporotic fracture were calculated respectively for both cohorts. Besides, the patient survival after osteoporotic fracture was also calculated.

Results: During a 10-year follow-up, 1,677 (5.53%) patients with schizophrenia and 4257 (3.51%) controls had major osteoporotic fracture ($P<0.001$); and 1,228 (4.05%) patients with schizophrenia and 4,886 (4.03%) controls had non-major osteoporotic fracture ($P=0.8652$). After adjusting for demographic data and osteoporotic fracture related physical illness, the adjusted hazard ratio for patients with schizophrenia was 1.47. Among all 5934 patients with major osteoporotic fracture, the mortality hazard ratio for patients with schizophrenia was 1.51 after adjusting patient- doctor- and hospital variables.

Conclusion: Patients with schizophrenia have higher risk for major osteoporotic fracture than non-schizophrenia population, as did the mortality rate. However, the risk for non-major osteoporotic fracture is not statistically different from non-schizophrenia population.

Q01

Effects of Antidepressants and Heavy Alcohol Exposure on Heart Rate Variability in Rat

抗憂鬱劑在酒精使用的大鼠產生的心律變異效果

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Objective: Alcohol intoxication and antidepressant abuse are associated with occurrence of accidental death. Previous studies had reported that alcohol consumption or antidepressant administration can induce changes in cardiac autonomic responses as indicated in heart rate variability (HRV). In this study, we examined the time response characteristics of cardiac autonomic responses induced by acute heavy alcohol exposure after paroxetine medications.

Methods: 300-gram Wistar-Kyoto rats were randomly divided into the alcohol administrated (Alc group), paroxetine administrated (PARX group), and PARX+Alc group. Serum samples were collected to measure blood ethanol concentration (BAC) and blood pressures were recorded for 24hours. Physiological and cardiac autonomic responses including mean arterial pressure (MAP), heart rate (HR), and heart rate variation (HRV) were also compared.

Results: Our results showed there were significantly difference between PARX and EtOH effects over a 9-h period for BAC>150 mg/dl after ingestion ($p>0.05$). While mixing PARX and EtOH, there are two interesting distinct discrepancies from drug interaction. First, it occurred at time 3-h., it generated a reciprocal EtOH effect for BAC = 385mg/dl. Second, it appeared at time 12-h, reciprocal PARX effect for BAC= 65 mg/dl. Discussed on acute effects in a 6-h high-risk period after ingestion, several findings were described by physiological

changes as follow: (1) succeed hypotension (MAP: 23 to 29%), (2) degraded tachycardia (HR: 29 to 27%), (3) elevated and improved too-low HRV (HRV: 78% to 67%) and so on. These revealed that PARX provided protective function to prevent the aggravation to over-low HRV due to high-dose alcohol effect. Next, from analysis results of cardiac regulation and modulation, PARX increased activity by sympathetic- control, in contrast EtOH induced hypo-activity. Mixed effect had regulated a gradually raised activity powers, and modulated on autonomic balance by a way of parasympathetic toward sympathetic controls over 8-h duration. These caused with an increased sympathetic or diminished parasympathetic activity, which had resulted in cardiac acceleration and concurrently prolonged recovery response time.

Conclusion: Our study showed that PARX increased sympathetic activity while Alc reduced it in rats; a mixed PARX and Alc modulated on autonomic balance from parasympathetic control toward sympathetic control over 8-h duration. We conclude that PARX demonstrates an effect of aggravation to over-low HRV due to acute high-dose alcohol administration.

Q02

The Role of C-Reactive Protein in Psychiatric Comorbidities of Post Liver Transplant Recipients

探討 C-反應蛋白在肝臟移植受肝者術後精神共病之角色

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Objective: In orthotopic liver transplantation (OLT), the prevalence of psychiatric comorbidity among post-liver-transplant patients has been reported to be from 4.1 to 49%. C-reactive protein (CRP) is one of positive acute phase proteins and had been reported to be elevated in patients with depression, anxiety, and sleep disturbance. Our retrospective study showed that the recipients with higher serum CRP levels during post-OLT one month would have higher psychiatric comorbidities compared with the normal serum CRP level group using analysis of covariance. Therefore, we investigated here the effect of CRP on the

expression of neurotrophine in neuroblastoma cells.

Methods: The different dose of CRP (0, 10, 20, 50, 100 and 200 ng/ml) were supplemented to the cultured neuroblastoma cells.

Results: The CRP at high dosage (200 ng/ml) down-regulated the brain-derived neurotrophic factor (BDNF) and nerve growth factor (NGF) gene expression through cultured cells, and inhibited the cells viability. These clinical and experimental results indicate that the over expression of CRP may induce psychiatric comorbidities through suppressed expression of the BDNF and NGF mRNA, suggesting that OLT recipients developed psychiatric comorbidities might be accompanied by an immunological or acute-phase protein response.

Conclusion: This study found that an activation of systemic inflammatory processes, measured as elevated CRP levels, may contribute to establish a predictable biomarker of psychiatric comorbidities in OLT recipients.

Q03

Reliability and Validity of the Chinese Version of Structured Interview on Anorexic and Bulimic Disorder, Expert Rating

中文版「厭食症和暴食症結構性面談」的信效度

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Objective: Eating disorders (EDs) are often comorbid with many psychological and physical conditions. The Structured Interview on Anorexic and Bulimic Disorder, Expert Rating (SIAB) is a semi-structured interview tool developed for the assessment of the specific as well as the general psychopathology of EDs. This study aimed to establish the psychometric properties of the Chinese version of SIAB (C-SIAB).

Methods: Following an independent translation of the C-SIAB, all items were subsequently reviewed by two psychiatrists with expertise in the treatment of EDs. A back-translation was done by a professional translator to ensure that there was no major violation

of the original test items. The data from C-SIAB interviews were available from three samples: (1) 220 patients with EDs, (2) 60 patients with psychiatric disorder other than EDs, and (3) 50 community controls. Sixty-one of the 87 items of the C-SIAB with a 5-point scale were analyzed for reliability and validity.

Results: Inter-rater reliability (Spearman's rho, $n = 20$) of 61 C-SIAB items ranged from .47 to 1.00 ($p < .05$) and .48 to 1.00 ($p < .05$) for the current and past conditions, respectively. Cronbach's alpha coefficients (0.853) indicated good internal consistency. Items of disordered eating behaviors discriminated eating and non-eating disordered patients and items of general psychopathology discriminated psychiatric patients and community controls well. Construct validity will be further analyzed by factor analysis.

Conclusion: C-SIAB is a reliable and valid tool for detailed assessment of EDs.

R01

A Nursing Experience of a Schizophrenic Patient with Repetitive Non-Adherence in a Day Care Ward

日間病房反覆不遵從之精神分裂症病患的護理經驗

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Background: This paper described an experience of caring for a patient with repetitive treatment non-adherence in schizophrenia in a day care ward.

Case Report(s): During the nursing period from December 7th, 2010 to March 31st, 2011, we found that the patient had repeatedly discontinued medication treatment since the first episode in 1982, which resulted in relapse and revolving door effect of readmissions in psychiatric institutions. The author employed the five aspects of holistic nursing assessment and collected data through medical records, interviews, and observations. Three major health problems were identified: (1) disturbed thought processes, (2) impaired social interaction, and (3) medication non-adherence. The nursing intervention program was based on therapeutic interpersonal communication. We not only applied skills in therapeutic communication, social

training, and behavior modification but also drew up an agreement with the patient and utilized token economy for positive reinforcement along with punishment.

Discussion: We established the patient's presence rate and medication adherence and further improved her interpersonal interaction as well as correct disease knowledge. In addition, we improved the patient's quality of life and reduced family caregiving burden. Therefore, this paper expects to share this nursing experience with healthcare professionals.

R02

The Program of Effectiveness in Reducing the Chronic Psychiatric Inpatients Falls

降低精神科慢性病房住院病患跌倒方案之成效

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Objective: Falls are important medical patient care quality indicators, is also the year 101-102 healthcare quality and patient safety work goals. 2011 Health Planning Council Patient Safety Reporting System (TPR) Psychiatric Hospital 2115 when the annual fall event notification falls accounted for 15,207 of 13.8%, also a psychiatric hospital in the accident many times the categories displayed as patient falls prevention the primary objectives of care. 101 years of the unit in January to July 16 accidents, falls are 8, accounting for 50% of accidents in the list. Analyze the reasons are: 1. Nurses care for fall prevention standard operating procedures for the implementation rate is only 42%; 2. Patient fall prevention awareness is only 30 percent as a result, resulting in increased nursing care and medical spending time consuming. Therefore, to stimulate the units improve patient falls incidents, expect by improving the implementation of the program, reducing the occurrence of patient falls, fall prevention nursing care standards improve the implementation rate and patient fall prevention awareness, and thus enhance the quality of care.

Methods: At 101 improvement team was established in August, through data collection, collation and analysis of the reasons, the associated improvement plan formulated

after literature review are as follows: 1. Held once every six months for fall prevention nursing education program 2. Revised and prevention advocacy standard operating procedures fall 3. Amendment falls high risk assessment form and preventive care activities fall tables, forms advocacy use 4. monthly monitoring nursing care standard operating procedures for fall prevention implementation rate of 5. produce warning signs fall prevention, health education health education leaflets and posters 6 hosts weekly patient falls prevention group education 7 for high-risk patients to be individualized fall prevention care guide, in October, 101 years after the intervention began appraisal plan, inspection program before and after seven May fall events, fall prevention care nurses standard operating procedures for the implementation rate of fall prevention awareness and improve patient results.

Results: After the implementation of the plan through, in 101 years on October 1 to 102 of April 30 monitored by the fall event is reduced to two eight, fall prevention nursing care standard operating procedures to enhance the implementation rate of 42% to 85 % and patient awareness of the prevention of falls from 30% to 60%.

Conclusion: Fall event is an important indicator of the quality of nursing care rendered through the implementation of this project can indeed achieve an effective fall prevention, reducing the incidence of falls and reduce medical costs, and thus enhance the quality of nursing care, maintenance, safety hospitalization.

R03

The Program of Improving the Quality of Nursing Medical Records in a Psychiatric Hospital

提升某精神專科醫院護理病歷品質方案

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Objective: The nursing medical record is the patient accepts individual and continuing nursing care after record document, has the medical workers communication and evaluation nursing quality basis, the medical service pays basis, medical dispute record evidence and

importance of the clinical research material, whether correct and complete written medical record, can affect the patient safety or the rights and interests. This department standard rating group in 2011/01/01~2011/12/31 checks the discovery, the nursing medical record writing complete ratio is 67.8%, reason analysis: 1. Inadequate nursing education 31.2%; 2. Does not understand medical record writing checks sheet the content 19.4%; 3. Individual negligence 24.3%; 4. The checks personnel standard is dissimilar 25.1%, causes the patient important information, the condition change passes on to the next shift not completely and medical team members complaint. Therefore, let this department carry on the improvement medical record writing quality the motive, hope improvement plan implementation, can promote the nursing medical record writing quality, then promotes the patient to caring quality.

Methods: In 2012/01/01~2012/04/30 period, by way of establishment improvement group, data collection, reorganization and analysis reason, carries on the literature material verify, draws up the improvement plan: 1. Formulation 『FOCUS』 nursing record writing standard operating procedure; 2. Conducts the medical record writing education curriculum every half year; 3. New staff education and training included the medical record writing curriculum; 4. Redesign medical record writing checks sheet; 5. Revision medical record examination content standard; 6. Carries on the medical record to check the seed personnel education and training; 7. Each month of announcement medical record checks the time; 8. Each month checks the medical record writing integrity, by headnurse counselling nursing staff correctly write medical record. In 2012/05 starts to comment the value improvement measure, inspection plan implements the latter 12 month nursing medical record writing integrity improvement result.

Results: This plan after improvement measure implementation, in 2012/05/01~2013/04/30 carries on the monitor, the medical record writing integrity by the original 67.8% promotion is 85.3%.

Conclusion: The nursing medical record writing completeness is show the care quality a part, from this plan result demonstration, promotion medical record writing quality, can achieve the hospital to evaluation and request the health insurance examination, the increase passes on to the next shift completeness and the reduced medical service team members complained, may promote the nursing service quality promotion, gives sickness high quality to look after, can provide other correlation unit clinical nursing to look after the reference.

R04

Improving Psychiatric Chronic Ward Discharge Patient Property Restitution Programmes

提升精神科慢性病房出院病患財物歸還之方案

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Objective: The management in hospital patient individual belongings are one of psychiatric clinical nursing staffs work projects, because chronic ward factor of ward characteristic and the patient long time in hospital, the patient is hospitalized the period must manage the patient individual belongings type to be numerous and diverse, if has not properly managed causes belongings losing or has not return, possibly can cause medical and the administration dispute. This department in 2012/08/01~2012/10/31 checks the discovery, the out of hospital patient has 38 people to entrust to the belongings, the integrity restore belongings population is 25 people, the belongings restore complete proportion is 65.8%, analysis reason: service busy forgetting return 33.5%; belongings inventory and registration incomplete 28.5%, belongings indication unclear 19.0%, the belongings deposit the region disorderly 11.4%, lays aside the position error 7.6%. Finally, creates the waste manpower to contact with the family member to come the hospital to bring back the patient belongings and to hospital ward management complaint. Therefore, arouses this department to carry on improves the patient financial management the motive, hope improvement plan implementation, can improve discharge patient rate property restitution, then enhancement nursing service quality.

Methods: In 2012/11 establishment improvement group, reorganizes and analyzes the reason by way of the acquisition of information, after carries on the correlation literature verify to draw up the improvement plan: 1. Formulates the patient financial control standard work flow; 2. The reorganization plans the patient belongings to deposit the region; 3. Revises the patient belongings record single sheet; 4. Guidance execution out of hospital patient belongings restore standard work flow and education and training; 5. Each week inspection

restitution of discharge patient belongings complete proportion, the individual notice mistake personnel completes in two weeks restitution the patient belongings, in 2013/02 starts to comment the value plan involvement result, the inspection plan implements the latter three month property restore integrity improvement result.

Results: After plan implementation, from 2013/2/1~2013/5/30 period, the out of hospital patient has entrusts to in the property 40 people, integrity restore population is 35 people, the property restore complete proportion is 87.5%, compares with the plan implementation before, by the original 65.8% promotion is 87.5%.

Conclusion: The patient financial management is nursing quality a part, from this plan result demonstration, the effective execution patient entrusts to the financial management, can improve sickness belongings restore and the patient degree of satisfaction, also may promote the nursing working efficiency and the service quality, the expectation can provide other department clinical nursing to look after the reference.

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台灣阿斯特捷利康股份有限公司	攤位展示	論文摘要集印刷	信封印刷	學術活動
台灣愛思唯爾有限公司	攤位展示			
台灣諾華股份有限公司	二日午餐			
台灣禮來股份有限公司	攤位展示	大會紀念品	學術獎	
合記書局有限公司	攤位展示			
和安行股份有限公司	攤位展示	論文摘要集印刷		
信東生技股份有限公司	攤位展示			
美時化學製藥股份有限公司	攤位展示			
泰和碩藥品科技股份有限公司	攤位展示			
晟德大藥廠股份有限公司	攤位展示	論文摘要集印刷		
荷商葛蘭素史克藥廠股份有限公司台灣分公司	攤位展示	信封印刷	大會提袋	學術獎
凱信國際行銷有限公司	攤位展示			
智泉國際事業有限公司	攤位展示			
新加坡商施維雅股份有限公司台灣分公司	攤位展示	11/2 教育性演講		
嬌生股份有限公司楊森大藥廠	攤位展示	名牌夾及吊帶	學術獎	
衛采製藥股份有限公司	學術活動			
輝瑞大藥廠股份有限公司	攤位展示	論文摘要集印刷		
賽諾菲安萬特股份有限公司	攤位展示	論文摘要集印刷		
鴻汶醫藥實業有限公司	攤位展示	論文摘要集印刷	行李託管	
羅氏大藥廠股份有限公司	二日點心	論文摘要集印刷		



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