

sion (ICD 10 = F06.3, F31.3, F31.4, F32, F33, F34.1, F38.1, F41.2) within 1 year before the first observed prescription of ADs between January 2007 to June 2008 (Index period: 18 months) were identified. ADs were categorized as tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), and new antidepressants (NADs; SNRIs and others). For each AD category, adherence by Medication possession ratio (MPR) of 180 days post-index period and persistence by duration of uninterrupted therapy (DUR) with a 14-day permissible gap were estimated. Additional subgroup analyses by non-adherence (MPR < 75%) and by early dropout (DUR < 90 days) were included. Multivariable logistic regression analysis was performed to further investigate the relationship between AD categories and adherence (persistence). **RESULTS:** Of 318,490 patients satisfied the selection criteria, mean MPR was 0.52 (SD = 0.34) and mean duration of uninterrupted therapy of were 118.08 days (SD = 67.67). Non-adherence proportion was 65.9%, and early dropout rate was 36.7%. Patients prescribed by psychiatrists (N = 208,791) showed significantly higher MPR (0.54 vs. 0.40; $P < 0.001$) and persistence (125.43 vs. 102.67; $P < 0.001$). When adjusted for age, gender, pre-/post-inpatient or outpatient visits, Chalon's comorbidity index, hypertension, and hyperlipidemia, with TCA as reference, patients prescribed NADs (aOR = 1.75 [1.70–1.80]) and SSRIs (aOR = 1.56 [1.52–1.60]) were associated higher adherence, whereas SSRIs were associated higher (aOR = 1.03 [1.01–1.05]) but NADs were associated lower (aOR = 0.93 [0.91–0.96]) persistence. **CONCLUSIONS:** Contrary to the previous literature, Korean adherence and persistence of ADs were not significantly lower than the United States or Europe. In addition, NADs showed an advantage in terms of adherence and SSRIs had an edge in terms of persistence.

DS2

TREND OF ANTIHYPERTENSIVE MEDICATIONS AND RISK OF STROKE AMONG HYPERTENSIVE PATIENTS IN TAIWAN: BASED ON THE NHI DATABASE

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OBJECTIVES: Hypertension (HTN) is an important and prevalent risk factor for cardiovascular diseases. In Taiwan, the prevalence of hypertension is around 21.4% and only about 40% patients with acceptable range of blood pressure control. The purpose of this study is to evaluate the trend of antihypertensive medications and also examine the risk of stroke among these HTN patients from 2001 to 2004 in Taiwan. **METHODS:** Based on the National Health Insurance (NHI) database, there are 1,931,436 patients with ICD-9 coding of hypertension, we randomly selected 10% hypertension outpatients (194,547 subjects) from the NHI claim database, after excluded those visited less than three times or without anti-HTN medication, 135,660 patients in the finally analyses. These subjects follow their anti-HTN medications and occurrence of stroke for a 4-year period. **RESULTS:** Among these patients, 27.6% used only one medication and 37.0% with three or more medications for HTN. There are 9530 (4402 males and 5128 females) patients had both drug information on 2001 and 2004. The prevalence of stroke was 7.3% in 2001 and increased to 13.6% in 2004. The average out-patient medical costs for hypertension were increased from NT\$15,778.7 to 19,712.1 dollars (at an exchange rate of 32 NT\$ to 1 US\$) from 2001 to 2004. Using Cox proportion hazard model, gender (male) and age were important factors to predict the occurrence of stroke. Comparing with beta-blocker, diuretics had higher relative risk for stroke but the risk was attenuate after adjusted for other confounders (HR = 1.3, 95% CI 0.7–2.6). **CONCLUSIONS:** From this study, the out-patient medical costs for hypertension were increased from 2001 to 2004 in Taiwan. However, the occurrence of stroke among hypertensive patients was also increased during this period. There was no significant protective effect for stroke among hypertensive patients using different anti-HTN medications. Further studies may be indicated to evaluate the cost-effectiveness of different medications on hypertensive-related disorders.

DS3

A COMPARISON OF SIGNAL DETECTION PERFORMANCE BETWEEN REPORTING ODDS RATIO AND BAYESIAN CONFIDENCE PROPAGATION NEURAL NETWORK METHODS ON ADVERSE DRUG REACTION SPONTANEOUS REPORTING DATABASE OF THE THAI FDA

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¹Faculty of Pharmacy Silpakorn University, Muang, Nakhon Pathom, Thailand; ²University of Maryland, Baltimore, Baltimore, MD, USA; ³Chulalongkorn University, Bangkok, Thailand; ⁴Food and Drug Administration, Muang, Nonthaburi, Thailand; ⁵Faculty of Tropical Medicine Mahidol University, Ratchawithi, Bangkok, Thailand; ⁶Mahidol University, Bangkok, Bangkok, Thailand **BACKGROUND:** Several statistical methods have been applied to detect signals in spontaneous reporting databases. The Thailand Food and Drug Administration (Thai FDA) uses the reporting odds ratio (ROR) method for signal detection because of its ease of implementation and interpretation. The performance of different methods needs to be explored to determine need for modifications to the Thai FDA signal detection system. **OBJECTIVES:** To examine the concordance between the ROR and the Bayesian Confidence Propagation Neural Network (BCPNN) methods in identifying adverse drug reaction (ADR) signals using the Thai FDA database. **METHODS:** The two methods were retrospectively applied to identify ADRs reported with antiretroviral (ARV) drugs using the dataset from 1990 to 2006. The criteria of lower limit of 95% confidence interval of ROR > 1, 3 or more cases; and information component (IC) two standard deviations > 0, were used to identify signals for ROR and

BCPNN, respectively. The sensitivity, specificity and agreement of timing of signal detection were measured for the concordance of the ROR in respect to the BCPNN. **RESULTS:** Using the BCPNN as a reference method, the ROR has high sensitivity and specificity. For the agreement of timing of signal detection between the ROR and the BCPNN, signals detected by both methods were in agreement on the first time of signal detection for 76.92%. **CONCLUSIONS:** ROR and BCPNN are comparable in identify signals of potential ADRs. Comparisons using other drug classes will provide additional insight into the performance of these two methods.

DS4

HERBAL PRODUCTS SAFETY: AN APPLICATION OF HEALTH PRODUCT VIGILANCE CENTER DATABASE

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OBJECTIVES: The use of herbal products continues to expand rapidly across the world. The concerns of safety of herbal products have been raised. Health Product Vigilance Center (HPVC) database (Thai Vigibase) is the national existing health products surveillance system which can be used to detect signal of adverse events (AEs) in patients receiving herbal products. This study aims to describe and characterize reported AEs in patients receiving herbal products in Thailand. **METHODS:** Thai Vigibase data from February 2000 to December 2008 involving AEs of reported herbal products were included. The database contained patients' demographic, AEs associated with herbal products, seriousness, causality and quality of reports. Descriptive statistics were used for data analyses. **RESULTS:** A total of 593 reports with 1868 AEs were reported during the study period. The age range of reported cases was 1 to 86 years (mean, 47 years). Female patients were frequently reported (72%). Reports involving turmeric were most frequently reported. Gastro-intestinal problems were the most common clinical outcomes among herbal products associated with adverse events. Severe adverse events such as Stevens Johnson syndrome, anaphylactic shock and exfoliative dermatitis were also found. **CONCLUSIONS:** HPVC database is a potentially effective tool for herbal adverse events monitoring. Encouraging reporting can contribute to improve awareness among health personnel and patients about the benefit-harm profile of the herbal products.

PODIUM SESSION II: DRUG USE STUDIES

DU1

THE IMPACTS OF ABUSE OF ANTIBIOTIC THERAPIES IN CHINA

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OBJECTIVES: In the 1980s, China launched market-oriented reforms. Public hospitals were encouraged to make their own incomes with the aim of mobilizing medical workers and improving hospital efficiency. Less government funding resulted in deficits for public health institutions, which forced hospitals to generate their own revenue by aggressively selling drugs, especially antibiotics. This study was designed to evaluate the impact of inappropriate antibiotic use on inpatients' cost during the hospitalization. **METHODS:** One thousand cases with antibiotic treatment from 10 hospitals of five provinces in China in 2006. We created multivariate linear regression model for hospital cost and logistic regression model for rationality evaluation of antibiotic use. **RESULTS:** Finally we collected 964 valid cases. Rate of inappropriate antibiotic use was 58.4%. Costs of inpatients with inappropriate antibiotic use was as 2.75 times as the ones with appropriate use ($P < 0.001$). Risk factors included antibiotic prophylaxis (OR = 2.929), operations (OR = 2.44), long hospital stay (OR = 1.021 for every prolonged day) and regional factors. Protection factor was in tertiary hospital (OR = 0.510). **CONCLUSIONS:** This study concluded that inappropriate antibiotic use contributes to inpatients' high cost. Efforts to control misuse of antibiotic should be pursued.

DU2

THE UTILIZATION OF PROPHYLACTIC ANTITHROMBOTIC AGENTS AFTER MAJOR ORTHOPEDIC SURGERIES—A POPULATION-BASED STUDY IN TAIWAN

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OBJECTIVES: Antithrombotic agents have been recommended to prevent venous thromboembolism (VTE) after major orthopedic surgeries, yet neither effectiveness evidence nor guidance for prophylactic antithrombotic agents is available in Taiwan. This study aims to evaluate current utilization of prophylactic antithrombotic agents after total hip and knee replacement (THR/TKR). **METHODS:** This retrospective cohort study used a Taiwanese National Health Insurance dataset including 1,000,000 beneficiaries randomly sampled in 2005 from nationwide population and followed longitudinally from 1995 to 2008. Adults hospitalized for THR or TKR were identified by procedure codes from April 2003 to June 2008. Patients with VTE, bleeding events, or antithrombotic prescriptions within 90 days preadmission were excluded. Eligible patients' characteristics, medication during operation, and antithrombotic prescription up to 30 days post-admission were collected, presented in descriptive statistics, and stratified by different operations. **RESULTS:** Of all, 1026 THR (41.03% women) and 2401 TKR (75.51% women) were identified, with mean age of 56.36 ±