

German, and Portuguese, and cross-language issues pertaining to those languages will be reported elsewhere. Future research could include validation studies and calibration of item banks in each language.

PIH71

EXAMINATION OF STRESS AND PSYCHOSOMATIC SYMPTOMS IN TERMS OF NURSES' QUALITY OF LIFE

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OBJECTIVES: The aim of this work is to discover the quality of life and the psychosomatic state of nurses. Besides the aforementioned aspects this paper wishes to examine the physical and psychological stress to contribute to a full analysis. **METHODS:** This work follows a retrospective, quantitative and cross-sectional research method, which eludes convenient sampling. The target group contains medical nurses with at least one year of professional experience as well as specialised qualification or college degree (N=108). The foundations of the research method were socio-demographic factors combined with standard validated surveys, which provide internationally approved reliability. χ^2 -test, t-test were performed as a statistical method by 95% probability ($p < 0.05$). Data analysis was performed by SPSS 20.0 software. **RESULTS:** In a Visual Analog Scale from 1 to 10, the majority of the nurses (21.6%) considered their own health conditions at the level of 7. Regarding psychosomatic symptoms, pain marks out. Intense backache was indicated by 31.7%, headache by 16.8%, and heartburn plus stomach-ache by 12% of participants. The most common complaint was caused by fatigue at 36.6%. The most frequent problems were cardiovascular-related at 37.9%, hypertension at 33.3% and sleeping disorder at 24.14%. Further investigation of the psychosomatic factors showed that backache has significant relation to depression ($p = 0.025$). Back- and lower back pain is significantly correlates to the presence of depression ($p < 0.05$). Work atmosphere is positively correlated to the support of the colleagues ($p < 0.05$). In terms of age, workers of 51-64 years have better health behaviour than younger nurses ($p < 0.05$). **CONCLUSIONS:** Results from this thesis enlightened the dangers of overwhelming stress, which causes physical and psychological problems for nurses. The debilitation of their life quality could be decreased by appreciation of their profession. Supporting groups would offer improvement or prevention through coping strategies could be implemented into their studies.

PIH72

HEALTH-RELATED QUALITY OF LIFE OF PEOPLE FROM LOW-INCOME FAMILIES IN HONG KONG, CHINA

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OBJECTIVES: To compare the health related quality of life (HRQOL) between adults of low-income families and sex-age matched subjects of the general population in Hong Kong, and to explore factors associated with poor HRQOL in people from low-income families. **METHODS:** A cross sectional health survey on 315 Chinese adults from low-income families was carried out in 2012 in Hong Kong. Each adult answered the Chinese (Hong Kong) SF-12v2 Health Survey and a structured questionnaire on socio-demographic & morbidity characteristics. Mean SF-12v2 domain and summary scores of the subjects were compared with those of age-sex matched subjects randomly selected from a database of 2,764 Chinese adults from the Hong Kong general population (ratio: 1:2), and the difference was tested by independent t-test. Multiple linear regressions were conducted to determine any independent association between low income and HRQOL, and to explore factors associated with poor HRQOL in people from low income families. **RESULTS:** 298 subjects from low income families who completed the survey reported significantly lower SF-12v2 bodily pain, general health, vitality, physical component summary (PCS) scores than subjects from the general population (N=596). Extreme low income (<50% median household income of <US\$1282/month) was independently associated with poorer SF-12v2 PCS and mental component summary (MCS) scores after adjustment for sociodemographics and co-morbidities. Amongst subjects from low-income households, extreme low income and younger age were associated with worse SF-12v2 MCS score while known chronic disease was associated with worse SF-12v2 PCS score. **CONCLUSIONS:** Extreme low household income was independently associated with poorer physical and mental health-related HRQOL.

PIH73

TEA CONSUMPTION AND HEALTH-RELATED QUALITY OF LIFE IN ELDERLY ADULTS

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OBJECTIVES: To examine the relationship between tea consumption and HRQOL among elderly adults. **METHODS:** We analyzed population-based cross-sectional data of 5,557 elderly Chinese individuals aged 60 years or older who participated in the Weitang Geriatric Diseases study. Information regarding tea consumption and HRQOL as assessed by the European Quality of Life-5 dimensions (EQ-5D) were collected by questionnaires. We estimated the effects of tea consumption on the EQ-5D index score using linear regression models and the association between tea consumption and self-reported EQ-5D health problems using logistic regression models. **RESULTS:** The EQ-5D index score was higher for habitual tea drinkers than their counterparts. In multivariate linear analyzes controlling for socio-demographic conditions, health conditions, and lifestyle habits, the difference in ED-5D index score between individuals with and without tea drinking habits was 0.012 (95% confidence interval, 0.006-0.017). In multivariate logistic analyzes, habitual tea drinking was inversely associated with reporting of problems in EQ-5D dimensions mobility (odds ratio [OR], 0.44; 95% CI: 0.23-0.84); pain/discomfort (OR, 0.74; 95% CI: 0.61-0.90); and anxiety/depression (OR, 0.60; 95% CI: 0.38-0.97). These effects were more evident for black or oolong tea than

green tea. **CONCLUSIONS:** Habitual tea consumption was associated with better HRQOL in elderly adults.

PIH74

HAEMODIALYSIS VERSUS NON-DIALYSIS THERAPY AMONG OLDER ADULTS WITH STAGE 5 CHRONIC KIDNEY DISEASE: A COMPARISON OF HEALTH-RELATED QUALITY OF LIFE

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OBJECTIVES: To compare the health-related quality of life (HRQoL) and the prevalence of depression of older adults with stage 5 chronic kidney disease (CKD) on haemodialysis versus non-dialysis therapy. **METHODS:** This cross-sectional study was conducted in six haemodialysis centres located in the Klang Valley, Malaysia. We administered the EuroQol EQ-5D and the 4-Item Geriatric Depression Scale (GDS-4) to older adults aged 65 and above with stage 5 CKD (eGFR <15 mL/min/1.73 m²): 100 participants were undergoing haemodialysis and 100 were on optimal medical therapy for at least 90 days. Demographic and clinical data were collected from the medical records. Independent t-test, Pearson's chi-square test, Fisher's exact test and the Mann-Whitney U test were used to compare participant characteristics, EQ-5D index, EQ VAS and GDS-4. **RESULTS:** Median age for the haemodialysis population was 71 years; 79% were Chinese, 14% Malay, 6% Indian and 1% were from other ethnic origin. Median age of the non-dialysis population was 73 years; 44% were Chinese, 34% Malay, 20% Indian and 2% were from the other ethnic origin. Gender and co-morbid conditions were not statistically different between the groups. The EQ-5D index was significantly lower in the haemodialysis population, median = 0.673 (IQR 0.363-0.814) compared to those on non-dialysis therapy, median = 0.727 (IQR 0.620-0.848), $p = 0.02$. The participants on haemodialysis scored lower EQVAS, mean (SD) = 54.9 (13.8) compared to the non-dialysis population, mean (SD) = 62.1 (13.4), $p < 0.001$. Older adults undergoing haemodialysis were more likely to be depressed (GDS-4: 1-4) than those on non-dialysis therapy, $\chi^2 = 14.5$, $p < 0.001$, OR 3.17. **CONCLUSIONS:** Among older adults with stage 5 CKD, HRQoL was significantly worse among those undergoing haemodialysis compared to those on non-dialysis therapy. Healthcare providers must move beyond traditional renal-specific goals and aggressively treat symptoms in older people undergoing haemodialysis.

INDIVIDUAL'S HEALTH – Health Care Use & Policy Studies

PIH75

CONTRACEPTION PATTERNS IN FRANCE: A REAL-WORLD DATABASE ANALYSIS

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OBJECTIVES: With nearly 210,000 abortions per year in France and a proportion of repeat abortions increasing steadily, the question of enhancing the use of contraceptive method allowing a better adherence and acceptability is raised. The objective of this study was to collect real-world data about the different relevant parameters of interest to document current contraception use, costs and effectiveness. **METHODS:** The EGB (Echantillon Généraliste des Bénéficiaires) database is a 1/97 random sample of the whole French population covered by public insurance. Women having used any reimbursed contraception in 2012 were selected and, persistence, unplanned pregnancies and associated costs were analyzed according to the profile of women. **RESULTS:** A population of 48,090 women was identified in the EGB with 67.6% of women globally using oral contraceptives (OCs), 28.1% Intrauterine Device (IUD) and 4.3% implant (Nexplanon®), a distribution highly dependent on women age, except for Nexplanon®. The 24-month persistence was highly variable according to the method with respectively 30.9% (CI 29.7-32.0) for OCs of 1st- 2nd generation, 35.1% (33.1-37.0) for OCs 3rd generation, 73.5% (66.4-79.3) for implant and 78% (72.0- 84.1) for IUD. Failures were identified depending on age group through the identification of a pregnancy leading to an unplanned delivery or an abortion among women under a stable contraception since at least 1 month. In the 25-35 years women, the failure rates ranged from 1.3% for implant to 2.3% for IUD, 6.0% for OCs 3rd generation and 8.3% for OCs of 1st- 2nd generation. The mean direct cost associated with an unplanned pregnancy was estimated at about € 2,500, a weighted average of normal delivery, abortion, miscarriage and extra-uterine pregnancy costs. **CONCLUSIONS:** The study demonstrated that Nexplanon® and intrauterine devices may represent an interesting alternative to decrease the number of unplanned pregnancies and related abortion in France.

PIH76

CHILDREN'S MEDICATION IN THE NORDIC COUNTRIES – SURVEY ON NATIONAL ADMINISTRATIVE REGISTER DATA

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OBJECTIVES: The Nordic countries have comprehensive nationwide prescription registers, which serve as exceptional data sources for pharmacoepidemiological studies. Only a few multinational register-based studies have been conducted, however, and almost none of these concern children. The objective of this study was to survey the drug utilization in 0-14-year-old children in four Nordic countries. **METHODS:** National prescription databases from Finland, Sweden, Norway and Denmark were used to identify drugs used in 0-14-year-old children during the years 2008-2013. The searches were based on Anatomical Therapeutic Chemical (ATC) classification codes, and the data on separate substances and drug groups were managed by sex, age, country and calendar year. **RESULTS:** When concerning

all the four nationwide datasets together at the end of the study period, the most common drug groups used in children were antibacterials for systemic use (ATC group J01), ophthalmologicals (S01) and drugs for obstructive airway diseases (R03). The most common individual drugs were phenoxymethylpenicillin, amoxicillin and salbutamol. The drug consumption increased remarkably at the age of one year, and decreases then by school-age. Drugs were more commonly used in boys than in girls, but this difference vanished along age. The use of psychoanaesthetics, methylphenidate in particular, increased in all countries during the study period. Also drugs used for constipation became more common. Decreases were noticed among antiobstructive, antiinflammatory and antirheumatic drugs. No remarkable between-country differences were observed within this cohort of about 4.4 million children. We saw, however, some differences in practices to prescribe drugs used for allergic symptoms. **CONCLUSIONS:** The national registers in the Nordic countries have exquisite potential as data sources for high quality and cost-effective pharmacoepidemiological studies. We indicated that Nordic citizens form an outstanding large and homogenous population for outpatient studies also in children. Future plans aim to survey use of contraindicated drugs in children.

PIH77

ANTI-DEMENTIA MEDICINE DISPENSING PATTERNS: A COMMUNITY PHARMACY DATABASE ANALYSIS

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OBJECTIVES: Studies reporting on the prescribing patterns of anti-dementia medicine in South Africa are scarce and most studies have been conducted on medical aid claims databases. The primary aim of this study was to determine the dispensing patterns and cost of anti-dementia medicine from a community pharmacy perspective. **METHODS:** A retrospective pharmacoepidemiological study was conducted on community pharmacy dispensing records in South Africa for 2013. All products in ATC subgroup N06D were extracted and analysed. **RESULTS:** A total of 12 307 products were dispensed to 2 244 patients. The average age of patients was 72.83 (SD=13.30) years. Slightly more males (53.07%) were prescribed anti-dementia products, they were prescribed 55.68% of anti-dementia products, and they were slightly older than female patients (74.40 versus 71.05 years). Four different active ingredients were prescribed, with donepezil the most often dispensed (61.58%), followed by memantine (27.81%). Only 1 278 prescriptions for galantamine were dispensed, and 27 prescriptions for rivastigmine. Rivastigmine was on average the most expensive per prescription (R856.68), followed by galantamine (R713.22), memantine (R532.79) and donepezil (R330.30). Donepezil was the only active ingredient with a generic equivalent (the average cost of the branded generic product was R303.58, compared to R485.72 for the originator product). Only 76.38% of products were partly or fully claimed from various medical aid schemes, the rest were paid for privately. Prescribing of combination therapy was not common. Only 5.57% of patients received more than one anti-dementia active ingredient during the year, and mostly not simultaneously. Most prescriptions (84.85%) were repeat prescriptions. ICD-10 codes were not specific. **CONCLUSIONS:** The cost of the branded generic of donepezil was 62.50% of the cost of the originator product. This finding was in agreement with other South African studies on generic prescribing. Further studies should focus on the impact of anti-dementia medicine on the quality of life of patients.

PIH78

INAPPROPRIATE DRUG PRESCRIPTION: STILL ON-GOING AMONG MALAYSIAN OLDER ADULTS

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OBJECTIVES: Despite advancements in the healthcare system and availability of several guidelines for appropriate prescribing, inappropriate drug prescription remains a noteworthy problem among older adults. Therefore, this study designed to identify inappropriate drug prescriptions and their predictors in older adults. **METHODS:** Prospective cohort study included 142 outpatients aged 60 years or over, of both sexes. Identified inappropriate drug prescription using the Modified Updated AGS Beers Criteria 2012 and also identified associated predictors. **RESULTS:** The patients had an average age (\pm SD) of 69.8 \pm 7.4 years and on an average (\pm SD) were prescribed 4.7 \pm 1.6 medications. Twenty three patients received at least one inappropriate drug (16.2%). 29 potentially inappropriate drugs were identified in 142 patients. Therefore, the total inappropriate drug use was found to be 20.42% (29/142). The most common inappropriate classes/drugs according to the first list of AGS Beers criteria 2012 were aspirin, prazosin, diclofenac, methylodopa and nifedipine. According to the second list were prazosin in syncope, followed by aspirin in bleeding and chlorpheniramine in chronic constipation. Increased inappropriate prescription was likely to be associated with patients with an advanced age of >74 years (OR-2.5; p <0.05) and number of diagnosis (OR-2.38, p <0.05). **CONCLUSIONS:** The assessment of inappropriate drug prescription has shown a lower prevalence (16.2%) as compared with other countries (up to 87%). Although lower prevalence, drug monitoring and education to physicians, other healthcare professionals and patients required to reduce inappropriate drug prescription to avoid any adverse effects among older patients. Despite advancements in healthcare system and availability of several guidelines for appropriate prescribing, inappropriate drug prescription remains noteworthy problem among older adults. Therefore, this study designed to identify inappropriate drug prescriptions and their predictors in older adults.

PIH79

CHARACTERISTICS OF GERIATRIC PATIENTS DIAGNOSED WITH MULTIPLE SCLEROSIS TAKING DISEASE MODIFYING AGENTS IN THE UNITED STATES

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OBJECTIVES: Understanding the heterogeneous characteristics of Multiple sclerosis (MS) patients is not properly studied in the past. The objective of this study is to

assess the characteristics of geriatric patients diagnosed with MS and taking disease modifying therapies (DMTs) in the US. **METHODS:** A large US administrative retrospective claims database was used to identify patients diagnosed with MS and were prescribed DMTs between January 2010 to December 2012 were included in the study. All patients were \geq 65 years of age and continuously enrolled in the same health plan for at least a year. Descriptive statistics and chi-square tests were performed on the data and statistical significance level was set a priori at 0.05. **RESULTS:** There were a total of 88,921 patients that met the study inclusion criteria. Of these, 67,335 (75.7%) were females, mean age was 68.2 \pm 3.4 years, and majority of the patients were between 65 and 75 years of age (95.4%). Thirty five percentage of the patients were from Midwest, 31.6% were from East, 22% from south and 11.4% from West of the USA. Majority (66.9%) of the patients was taking subcutaneous injections, 31.2% were taking IV/IM and 1.9% was taking oral DMTs (p <0.001). 48.8% of the patients was under a group coverage, 58.8% of the patients were taking a DMT that was under their health plan formulary with a significant variation between the groups (p <0.001). The mean number of days of DMT supply was 33.3 \pm 16.1 with a significant difference between the three groups (p <0.001). Females enrolled continuously 5.5 \pm 3.4 years with mean total number claims of 637.1 \pm 504.7 during the study period. **CONCLUSIONS:** Majority of the patients taking DMTs was females and was between 65 and 75 years of age. Most of the patients were taking subcutaneous injections compared to other forms of DMTs.

PIH80

ROLE OF PUPPET PLAYS IN IMPROVING CHILDREN'S KNOWLEDGE ABOUT HAND WASHING AND USING NORMAL SALINE TO RINSE NOSE AND THROAT

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OBJECTIVES: According to the IRAN NCRUM (National Committee Rational Use of Medicine) reports, assuming each prescription as an individual patient, 45% of patients received antibiotics. Decreasing of infections in the school community by improving of hygiene lead to decrement of consumption of antibiotics in children. The objective of this study was to assess the impact of the effectiveness of the puppet plays in improving children's knowledge about hand washing and using normal saline to rinse nose and throat to decrease the spread of infection and unnecessary antibiotic use. **METHODS:** Evaluation was undertaken with 4 grade students (10 years) in primary schools in Fasa. 200 Students watched puppet plays in 5 groups which each groups contain 40 students. During the experiment, 2 puppet shows were used in one day. Then Students were required to complete identical knowledge questionnaires at two time points (before, and immediately after puppet show), to assess knowledge change. The questionnaires had 4 type questions include: group 1 about story, group 2 about hand washing, group 3 about how to use normal saline and group 4 about rational use of medicine. **RESULTS:** Our results demonstrated a significant improvement in student's knowledge in all groups after puppet plays (P <0.0001). **CONCLUSIONS:** Although the puppet plays has significant improve in knowledge of the students, modifications are needed in puppet plays for more achievement.

PIH81

THE DRIVERS OF FACILITY-BASED IMMUNIZATION PERFORMANCE AND COSTS. AN APPLICATION TO MOLDOVA

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OBJECTIVES: This paper identifies factors that affect the cost and performance of the routine immunization program in Moldova through an analysis of facility-based data collected as part of a multi-country costing and financing study of routine immunization (EPIC). **METHODS:** A nationally representative sample of health care facilities (50) was selected through multi-stage, stratified random sampling. Data on inputs, unit prices and facility outputs were collected during October 3rd 2012–January 14th 2013 using a pre-tested structured questionnaire. Ordinary least square (OLS) regression analysis was performed to determine factors affecting facility outputs (number of doses administered and fully immunized children) and explaining variation in total facility costs. **RESULTS:** The study found that the number of working hours, vaccine wastage rates, and whether or not a doctor worked at a facility (among other factors) were positively and significantly associated with output levels. In addition, the level of output, price of inputs and share of the population with university education were significantly associated with higher facility costs. A 1% increase in fully immunized child would increase total cost by 0.7%. **CONCLUSIONS:** Few costing studies of primary health care services in developing countries evaluate the drivers of performance and cost. This exercise attempted to fill this knowledge gap and helped to identify organizational and managerial factors at a primary care district and national level that could be addressed by improved program management aimed at improved performance.

PIH82

PSYCHIATRIC HEALTHCARE UTILIZATION AND RELATED COSTS IN NEWLY DIAGNOSED INDIVIDUALS WITH AUTISM SPECTRUM DISORDER (ASD) IN QUEBEC (CANADA)

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OBJECTIVES: Characterize the temporal course of psychiatric healthcare utilization and related costs in a cohort of newly diagnosed ASD individuals. **METHODS:** A cohort was built using RAMQ databases. Newly diagnosed subjects with ASD were selected (\geq 2 diagnoses ICD-9 codes: 299.X, excluding 299.2) between January 1998 and December 2010. Cohort entry was the date of first diagnosis confirmed by absence of ASD diagnosis in previous 5 years. Participants aged \geq 26 years, those without full RAMQ drug plan coverage for 5 years after cohort entry, or not covered in the year preceding cohort entry were excluded. Demographic and clinical characteris-