

Some countries' pharmaceutical benefits programs such as Australia, Canada, or U.S. listed DEs for pancreatic insufficiency due to chronic pancreatitis, carcinoma of the pancreas, or cystic fibrosis, however, those reimbursed by Taiwan NHI had broader scope of indications. In addition to more medical orders prescribed by varied health care specialties, we observed the expenditure increased by approximately two times over the past 10 years.

#### PHP31

##### KNOWLEDGE AND PRACTICE OF DISPOSAL OF DATE EXPIRED AND UNUSED DRUGS

Muragundi PM<sup>1</sup>, Priyendu A<sup>1</sup>, Janodia M<sup>1</sup>, Ligade VS<sup>1</sup>, Udupa N<sup>2</sup>, Naik AN<sup>2</sup>  
<sup>1</sup>Manipal University, Manipal, India, <sup>2</sup>Manipal College of Pharmaceutical Sciences, Manipal, Karnataka, India

**OBJECTIVES:** Knowledge and practice of disposal of date expired and unused drugs among college students and people having a health science background and to find the most widely used method of drug disposal for the expired drugs in the study group. **METHODS:** A pilot study questionnaire was prepared and a survey was done among students with Health Science background to understand the appropriateness of content. Further 500 University students and people having a health science background were interviewed personally using the validated questionnaire prepared. Results were presented percentage responses and interpretation of the results helped in the derivation of the final conclusion. **RESULTS:** When asked about the awareness of the existing guidelines for the safe disposal of drugs in various countries 56% of the respondents knew about it while 44% were unaware. A total of 52.2% of the respondents agreed that the wrong drug disposal methods can lead to adverse environmental effects while 25.6% strongly agreed to it. A mere 4.8% disagreed to the statement while another 17.4% somewhat agreed to it; 56.8% strongly agreed to the fact that there was a need of a drug take back system in their place of residence. A total of 57.2% opined that there was a need of public awareness programs to increase the awareness about drug disposal in the general public. A majority 91.2% of the respondents admitted that they simply throw the expired drugs into the dustbins. 46.8% of the people said there was no work being done in this context by any organization. **CONCLUSIONS:** The study clearly indicates lack of awareness and good practices of date expired drugs among surveyed population. There is a need to create awareness regarding disposal of drugs among the population which should be done either by the government or any organization.

#### PHP32

##### ANALYZING THE UTILITIES OF FLUOROQUINOLONES AT A REGIONAL TEACHING HOSPITAL OF SOUTHERN TAIWAN

Lin PT  
 Chiayi Chang Gung Memorial Hospital, Chiayi, China Taiwan, Chiayi, Taiwan

**OBJECTIVES:** Adequate use of antimicrobial agent is critical issue in hospital. It would enlarge the burden, for instance increase medical expenditure and antimicrobial resistance rate, if misuse. To evaluate the annual use of the third line antibiotic agents - fluoroquinolones, including ciprofloxacin, moxifloxacin and levofloxacin, and that could be took a reference to manage the use in a regional teaching hospital. **METHODS:** The data, including patient-days and the consumption quantity of ciprofloxacin, moxifloxacin and levofloxacin, was extracted monthly from Hospital Information System of a regional teaching hospital from January 2010 to December 2011. Consumption quantity was transferred to "1000DDD /patient-days". Data management and analysis was performed using student t test. **RESULTS:** Number of 1000DDD /patient-days in all fluoroquinolones were 202.47 in 2010, 202.47 in 2011 and there was no significantly difference ( $p=0.067$ ). Number of 1000DDD /patient-days in ciprofloxacin significantly decreased ( $p=0.0023$ ) in 2011(1000DDD /patient-days =127.35) comparing with 2010 does (1000DDD /patient-days = 181.69). Number of 1000DDD /patient-days in moxifloxacin were 38.95 in 2010 and 48.08 in 2011. In the aspect of levofloxacin, number of 1000DDD were 25.46 in 2010 and 27.03 in 2011. The number of 1000DDD /patient-days in Moxifloxacin and levofloxacin both were no significantly difference between 2011 and 2010. **CONCLUSIONS:** The fluoroquinolones consumption decreased especially on ciprofloxacin, but the levofloxacin and moxifloxacin mild increased. Although no significantly difference on the amount of all fluoroquinolones between 2010 and 2011 may be good and stand for well control. But extending the study to the outcomes of infection control and the association of the culture results would be more objective.

#### PHP33

##### DRUG-RELATED PROBLEMS AND LENGTH OF STAY IN THE MANAGEMENT OF INFECTION IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Nasution A<sup>1</sup>, Syed Sulaiman SA<sup>1</sup>, Shafie AA<sup>2</sup>  
<sup>1</sup>Universiti Sains Malaysia, Pulau Pinang, Malaysia, <sup>2</sup>Universiti Sains Malaysia, Penang, Malaysia

**OBJECTIVES:** To identify the nature and frequency of DRPs (drug interaction and irrational dose), and their impacts on length of stay (LOS) of patients with chronic kidney disease (CKD) stage 4 and 5 hospitalized in Haji Adam Malik (HAM) Hospital, Indonesia. **METHODS:** This retrospective cohort study was conducted on 80 patients based on JAMKESMAS database for 6-month period (October 2009 - March 2010). Inclusion criteria were patients administered antibiotics and GFR of  $\leq 30$  mL/min/1.73 m<sup>2</sup>. Exclusion criteria were patients under 18 years old, patients with cancer, and patient with Human Immunodeficiency Virus (HIV). Data collected include type of drugs administered, laboratory tests, and clinical outcomes. Identification of drug interaction and analysis of antibiotics dose rationality were performed using Stockley's drug interactions, Medlines, and Handbook of Clinical Drug Data. The impacts of DRPs on LOS were performed by multiple linear regression analysis. **RESULTS:** Of the sample, male was 66% and female was 34%; CKD

stage 4 was 17% and CKD stage 5 was 83%. Most drug interactions were between NSAIDs and ACE inhibitor, ranitidine and furosemide, ranitidine and ciprofloxacin, metoclopramide and NSAIDs, dexamethasone and furosemide, NSAIDs and furosemide. Mean value of drug interaction was  $1 \pm 1.31$ . Most frequent irrational doses of antibiotics involved ceftriaxone, ceftazidime, cefadroxyol, ciprofloxacin, and amoxicillin. Mean value of irrational doses was  $0.43 \pm 0.67$ . Means of LOS was  $6.64 \pm 5.76$ . Multiple linear equation obtained:  $y = 3.91 + 2.16x_1 + 0.97x_2$ ;  $y = \text{LOS}$ ;  $x_1 = \text{drug interaction}$ ;  $x_2 = \text{irrational dose of antibiotics}$ . **CONCLUSIONS:** This finding must be highlighted and considered to optimize treatment of CKD. Impact of drug interaction on LOS of CKD patients was higher compared to that of irrational dose of antibiotics.

#### PHP34

##### THE CLINICAL EFFECTIVENESS AND RESOURCE UTILIZATION OF DRUGS WHICH CONTAIN HERBAL EXTRACTS - THE EXAMPLES ON SILYMARIN

Huang LY<sup>1</sup>, Liao CH<sup>2</sup>, Pwu JRF<sup>1</sup>  
<sup>1</sup>Division of Health Technology Assessment, Center for Drug Evaluation, Taipei, Taiwan, <sup>2</sup>Center for Drug Evaluation, Taipei, Taiwan

**OBJECTIVES:** Although most of the medications containing herbal extracts have been used in the treatment of diseases for many years, the evidence on the clinical efficacy and safety are still in controversy. It is necessary to conduct an evaluation on these products. **METHODS:** First, we defined the "medications containing herbal extracts" in this study, as well as identified the items reimbursed in National Health Insurance. In the next step, we analyzed the 2001-2007 National Health Insurance Research Database (NHIRD) to find the most frequently used items in the category. Silymarin was identified as the most used during 2001-2007. We conducted the literature search and review on the clinical effectiveness of the ingredient. **RESULTS:** In this review, we summarized the reports published by the literature. These reports had systematically reviewed on the topic of the effectiveness of silymarin in patients with alcoholic and/or hepatitis B or C liver diseases. In the report by The Cochrane Collaboration - a total of thirteen randomized trials assessed silymarin in patients with alcoholic and/or hepatitis B or C liver diseases were included in the meta-analysis. Results from these trials showed a significant effect of silymarin on liver-related mortality (RR 0.50, 95% CI 0.29 - 0.88), but no significant effects could be demonstrated if the analysis were restricted on only high quality trials (RR 0.57, 95% CI 0.28 - 1.19). For the resource utilization of silymarin, we found that the total claims on silymarin increased 59.83% from year 2001 to 2007. **CONCLUSIONS:** As mentioned above, the effectiveness of silymarin in patients with liver disease has not been established. Further studies on mechanisms of action, as well as related well-designed clinical trials are needed.

#### PHP35

##### IS THERE A DIFFERENCE IN PRESCRIPTION MEDICATION UTILIZATION BETWEEN AGED ADULTS WITH AND WITHOUT DISABILITY IN THE UNITED STATES?

Liu CM, Batra P, Erickson S, Farris K  
 The University of Michigan, Ann Arbor, MI, USA

**OBJECTIVES:** To quantify the association between disability and prescription medication use among older adults. Individuals with disability may consume more or varying types of prescription medication, thereby requiring special services. **METHODS:** Data from the nationally-representative Health and Retirement Study 2006 and the Prescription Drug Study 2007 in the United States were used to examine associations between disability and prescription medication use among 2,755 adults. The dependent variable, disability versus no disability, was determined based on responses to questions assessing functional, mobility, and cognitive status. Subjects responding affirmatively to one of these types of disabilities were classified as disabled. Chi-square tests assessed the dependent categorical variables by disability. Negative binomial regressions were used to examine the relationship between disability and prescription medication use, controlling for accessibility, affordability, beliefs in medication, health conditions and socio-demographic variables. **RESULTS:** Of the 2,755 subjects, 70.8% were classified as disabled. Female, older, non-white, widowed, less educated, living in rural area, lower income, having three chronic diseases, poor health status, no alcohol or smoking habits, hardly exercise, taking prescription drugs regularly, and consulting with medical doctors more were all statistically significant variables indicative of greater risk of disability ( $P<0.0001$ ). Subjects classified as disabled [IRR=1.09 (95% CI, 1.03-1.15)], with three or more chronic conditions [IRR=2.08 (95% CI, 1.93-2.35)], not exercising [IRR=1.08 (95% CI, 1.04-1.10)], taking medications regularly [IRR=1.85 (95% CI, 1.51-2.27)] and seven more times doctor visits [IRR=1.46 (95% CI, 1.36-1.57)] had a greater incidence of prescription medication uses. Subjects with lower income [IRR=0.99 (95% CI, 0.99-0.99)], no alcohol or smoking habits [IRR=0.93 (95% CI, 0.88-0.98)] had a lower incidence likelihood of prescription medication uses. **CONCLUSIONS:** Disability was a statistically significant predictor of prescription medication use. Further research is necessary to examine the associations between specific disability types and medications use.

#### PHP36

##### COMPARING ORAL 5-AMINOSALICYLIC ACID TREATMENT PERSISTENCE AND ADHERENCE IN PATIENTS WITH ULCERATIVE COLITIS IN THE UNITED STATES

Yen L<sup>1</sup>, Wu J<sup>2</sup>, Hodgkins P<sup>1</sup>, Nichol MB<sup>2</sup>  
<sup>1</sup>Shire Development LLC., Wayne, PA, USA, <sup>2</sup>University of Southern California, Los Angeles, CA, USA

**OBJECTIVES:** Compare oral 5-aminosalicylic acid (5-ASA) treatment persistence and adherence in patients with mild/moderate ulcerative colitis (UC). **METHODS:** IMS LifeLink™ Health Plan claims data were analyzed to identify patients  $\geq 18$  years with  $\geq 1$  UC diagnosis (ICD-9-CM: 556.x) and had  $\geq 1$  prescription for 5-ASA (sul-