comparison was applied to compare entecavir with interferon and the combination of interferon and lamivudine. When compared with lamivudine, the combination of interferon and lamivudine yielded the best efficacy which was about two times more likely to increase HBeAg seroconversion rate (OR = 2.38, 95% CI = 1.21–4.70) than entecavir (OR = 1.04, 95% CI = 0.56–1.94) and interferon (OR = 1.17, 95% CI = 0.44–3.24). The addition, when compared with either interferon or entecavir, interferon plus lamivudine was about two to three times more likely to enhance HBeAg seroconversion rate with the OR of 2.48 (95% CI = 1.05–5.42) or 2.71 (95% CI = 1.13–5.33), respectively. CONCLUSIONS: There was a significant increase in HBeAg seroconversion rate in patients with HBeAg positive CHB receiving the combination of interferon and lamivudine compared with lamivudine, entecavir and interferon.

PG13

EFFECTIVENESS AND COST ANALYSIS OF PARENTERAL REGIMEN IN CRITICAL ILLNESS PATIENTS OF POSTOPERATIVE: THREE-COMPARTMENT BAG SYSTEM AND TRANSITIONAL SEPARATE BOTTLE SYSTEM

Haisl Hj, Chan AL
Chai-Mei Medical Center,Tainan, Taiwan

OBJECTIVES: To evaluate clinical outcome and direct medical cost using Kabiven in traditional peripheral parenteral nutrition for postoperative patients in ICU. METHODS: This is a retrospective study. Medical records of postoperative patients in ICU were reviewed by clinical pharmacists from July 2008 to July 2009. The retrieved patients were divided into two groups, kabiven group (n = 49) and separate bottle group (SB) (n = 50). Patients, characteristics were evaluated and compared between the two groups. The measured outcomes were the clinical effectiveness and direct medical costs. One way ANOVA were used for analysis. RESULTS: There were no statistically significant difference in patients, characteristics between two groups. Survival rate was higher in kabiven group than in SB group (40% vs. 31%, respectively). The length of stay in hospital in kabiven group was longer than that in SB group (47.51 ± 38.63 vs. 31.86 ± 21.99 days, respectively, P = 0.015). Total direct medical costs of survivors in kabiven group was more expensive than SB group ($11796.9 vs. $9794.5, respectively). CONCLUSIONS: Although the direct medical cost of kabiven group were higher than SB group, use of kabiven is likely to improve mortality rate of postoperative patients in ICU.

GASTROINTESTINAL DISORDERS – Cost Studies

PG14

BUDGET IMPACT ANALYSIS OF ORAL ANTIVIRAL AGENTS FOR THE TREATMENT OF CHRONIC HEPATITIS B IN SOUTH KOREA

Na JH, Lee IK
Sookmyung Women's University, Yongsan-gu, Seoul, South Korea

OBJECTIVES: Hepatitis B is prevalent in South Korea and chronic hepatitis B (CHB) infection is an important public health issue due to its potential to evolve to cirrhosis, hepatocellular carcinoma. This study estimated the direct medical cost of CHB-related diseases in South Korea and compared the cost of South Korea with that of Australia and China. It also aimed to analyze the impact of three therapeutic alternatives for CHB by Budget Impact Analysis (BIA). METHODS: Dynamic budget impact analysis was conducted based on a Markov model for 5 years. Three treatment scenarios were selected as follows: first-line treatment of lamivudine, second-line combination of lamivudine and entecavir and development of drug resistance. first-line treatment of lamivudine, second-line treatment of entecavir 1.0 mg on the development of drug resistance, first-line treatment of entecavir 0.5 mg, second-line treatment of adefovir on the development of drug resistance, no treatment available. RESULTS: The BIA results of scenario A, B, C and no treatment were 75, 74.7, 85.9, and 48.1 billion Korean Won (KRW), respectively. The results were relatively insensitive to the TP and sensitive to the number of treated patients based on sensitivity analyses. The costs of annual direct medical costs in South Korea were 23.2%–65.8%, 16.2%–59.1%, and 75.8%–381.7% of the annual direct medical costs in the United States, Australia, and China. CONCLUSIONS: Scenario C (first-line treatment of entecavir 0.5 mg, second-line treatment of adefovir) was found to be 10.9–11.2 billion KRW more expensive than scenario A and B from payer’s perspective. In South Korea, the direct medical costs of CHB-related diseases are cheaper than the United States, Australia and China. It suggests that such factors as the difference of GNP (Global National Product), health-care system and others contribute to the difference of the direct medical costs.

PG15

EVALUATION OF OCTREOTIDE COST AFTER PHARMACEUTICAL CARE IMPLEMENTATION AT SURGICAL WARD

Srisuebsakmuang
Department of Pharmacy, Roi-et Hospital, Muang, Thailand

OBJECTIVES: Our objective was to compare cost saving before and after of pharmaceutical care implementation and Octreotide use evaluation at surgical ward. METHODS: This study was conducted during October 1, 2008 to April 30, 2009. The research instruments were octreotide use criteria with approval by surgical staffs. Pharmaceutical care implementation and Octreotide use evaluation at surgical ward. OBJECTIVES: Department of Pharmacy, Roi-et Hospital, Muang, Thailand, Thailand
Sawatpanit A

RESULTS: There were 302 patients received Octreotide. One hundred eight (42.5%) were prescribed Octreotide appropriately. Appropriately related problems were found in 109 patients (36.1%). The most frequent problems were inappropriate duration (44.95%), inappropriate indication (34.86%) and inappropriate route of administration (20.18%). The cost of Octreotide use for inappropriate duration, inappropriate indication and inappropriate route of administration were significantly decreased after pharmaceutical care implementation 3,062,160 versus 1,946,400 baht, 657,000 versus no money, and 919,800 versus 226,800 baht, respectively (P < 0.005). The total cost of Octreotide use was 9,529,950 baht reducing to 7,015,008 baht after pharmaceutical care implementation with statistically significant (P < 0.005). CONCLUSIONS: The implementation of pharmaceutical care and evaluation of Octreotide use resulted in significant cost saving. The drug utilization program, consisting of deriving quality criteria for prescribing, structured order form and good cooperation between physicians and pharmacists with strong support of the therapeutics committee, was an effective strategic approach to promote rational drug use and develop Octreotide use guidelines.

GASTROINTESTINAL DISORDERS – Patient-Reported Outcomes Studies

PG17

THE EFFECT OF ANTIVIRAL THERAPY ON QUALITY OF LIFE IN CHRONIC HEPATITIS PATIENTS: A SYSTEMATIC REVIEW

Pangas S, Mapphantha S
Naresuan University, Muang, Phitsanulok, Thailand

OBJECTIVES: Chronic viral hepatitis B and C are treated primarily with interferon (IFN) and/or nucleotide analogs e.g., ribavirin (RBV) which produced sustained viral response in more than 50% of treated patients. However, the combination may cause numerous side effects that could reduce patients' quality of life (QoL). To determine the effect of antiviral therapy on QoL of chronic hepatitis patients. METHODS: Key words were “Quality of life” AND “chronic hepatitis” AND “antiviral therapy,” “lamivudine,” “ribavirin,” “adefovir,” “entacavir,” “telbivudine” “tenofovir” and were searched from PubMed and EMBASE database. Study selection criteria were original articles as well as patients receiving antivirals for chronic hepatitis B or C, and assessed QoL. The comparators were no treatment, placebo or at least one other antiviral. Studies that involved co-HIV infection were excluded. One independent researcher reviewed titles and abstracts to determine relevance. Study design, dose, reaction, baseline values, and QoL scores were extracted. For each study met all the criteria. Four QoL instruments were used in those studies. SF 36 and HQLQ questionnaires were the most common. Patients who received peginterferon-α2a plus placebo reported better QoL than peginterferon-α2a plus ribavirin during the treatment (week 2–48) in two RCTs. However, the results were less consistent and less prominent during the week of 72 and 96. The effect seemed to be dose related. One RCT showed that interferon μ plus ribavirin produced better QoL than untreated when measured with EQ 5D questionnaire, but it did not reach statistical significant. In similarly, peginterferon-α2a plus ribavirin did not showed a significant better fatigue scale at week 72 when compared with peginterferon-α2a plus placebo. CONCLUSIONS: Antiviral therapy (interferon plus ribavirin) reduced QoL only during the treatment. Results seemed to be consistent across all four types of QoL questionnaires.

GASTROINTESTINAL DISORDERS – Health Care Use & Policy Studies

PG18

ANTIBIOTIC PRESCRIBING PRACTICES OF PRIMARY CARE PHYSICIANS FOR DIARRHEA IN NEW DELHI, INDIA

Korean A, Roy Chaudhury K, Holloway K
Valabhipani Patel Chest Institute, Univ of Delhi, Delhi, India; Indraprastha Apollo Hospitals, New Delhi, India; World Health Organisation, Geneva, Switzerland

OBJECTIVES: This study was conducted to obtain information on current prescribing practices for diarrhea in public and primary sector facilities from New Delhi, following a methodology recently used in a tertiary care hospital where the antibiotic resistance work was being conducted. The 10 public sector facilities (eight primary and two secondary health care) were selected to study in the area under Delhi government were enrolled. For private sector, 20 willing and cooperative general practitioners from different hospital facilities from New Delhi were selected to get a random sample. Patients in the chosen areas were selected. Patients after consultation with prescriber were asked if they had diarrhea but without blood. Patients with diarrhea were enrolled for exit interview and his/her prescription was monitored. Antibiotic use data was collected every month over 1 year (March 2007–November 2008). The percentage of patients receiving antibiotic and pattern of consumption for various antibiotics was analyzed. RESULTS: At public facilities 43% (171/398) and at private facilities 69% (76/110) of patients with diarrhea were prescribed at least one antibiotic. Main antibiotic class that was prescribed in public and private sector was fluoroquinolones (89% and 94%);...
the second group in public sector was cephalosporins (4%) and in private sector were penicillins (3%). In private sector pediatricians prescribed antibiotics to 52% (17331) of children with diarrhea and fluoroquinolone group was prescribed to all. At public facilities, main members from fluoroquinolones were norfloxacin, followed by ofloxacin and ciprofloxacin. At private clinics, it was ofloxacin followed by ciprofloxacin. Pediatricians mainly prescribed ofloxacin, followed by norfloxacin. CONCLUSIONS: This study clearly shows over-prescription and irrational use of antibiotics for treatment of diarrhea that warrants intervention strategies.

HEALTH CARE USE & POLICY STUDIES – Consumer Role in Health Care

A STUDY EVALUATING PATTERN OF NON-PRESCRIPTION PURCHASE BY CONSUMER FROM COMMUNITY PHARMACIES IN MALAYSIA
Ahmad Hussian MA, Shafie AA, Mohamad Yahaya AH
Universiti Sains Malaysia, Penang, Penang, Malaysia

OBJECTIVES: To analyze the pattern of non-prescription medicine purchase by consumer from community pharmacies in Malaysia. METHODS: A cross-sectional survey comprised a sample of 799 community pharmacy consumers was conducted nationwide. A pharmacy “exit survey” was developed and administered to pharmacy consumers of randomly selected community pharmacies in order to collect information on the purchased nonprescription medicine(s) including its costs. In this study, the nonprescription medicine definition was adopted from the Malaysian Poison Act 1952. Data were analyzed using Kruskal-Wallis, Mann-Whitney, chi-square and Spearman correlation test in SPSS v15. RESULTS: A total of 2175 nonprescription medicines were purchased by consumers interviewed in 2 weeks study period. The total cost estimated for all item purchased was RM1,000 (USD131,000). About 39.6% of the purchased items are listed under schedule poison, 45.5% were unscheduled poison and 12.5% are those listed as traditional and complementary medicine. Medicine for alimentary tract and metabolism, musculo-skeletal system and respiratory system as categorized by Anatomical Therapeutic Coding were among the highest purchased medicine. Factors such as gender especially females, area of origin especially those from urban area, ethnicity especially Chinese consumers and those earning high income level shows to have a significant influence in the spending for non-prescription medicine purchasing. This study also showed purchasing for non-prescription medicine significantly increased as aging. Consumers spent significantly more on non-controlled medicine such as vitamins and herbal preparations compared to other categories of medicines ($2 = 185.07, P < 0.001). CONCLUSIONS: The evaluation on pattern of non-prescription medicine purchasing in Malaysia reveals that consumers in Malaysia are able to spend money for buying medicines to treat minor ailments and its related ailments and practice of self-medication. The socio-demographic factors that associated with non-prescription medicine purchase will serve as useful information for policymakers and also the pharmaceutical industry for future development in rational medicine use education among consumers in the country.

HEALTH CARE USE & POLICY STUDIES – Disease Management

RARE DISEASES, ORPHAN DRUGS, AND THE LEGISLATION IN CHINA
Zhang YJ, Guo JJ, Wang JB
University of Cincinnati, Cincinnati, OH, USA; 2People's Liberation Army 309 Hospital, Beijing, China

OBJECTIVES: To analyze the pattern of non-prescription medicine purchase by consumer from community pharmacies in Malaysia. METHODS: A cross-sectional survey comprised a sample of 799 community pharmacy consumers was conducted nationwide. A pharmacy “exit survey” was developed and administered to pharmacy consumers of randomly selected community pharmacies in order to collect information on the purchased nonprescription medicine(s) including its costs. In this study, the nonprescription medicine definition was adopted from the Malaysian Poison Act 1952. Data were analyzed using Kruskal-Wallis, Mann-Whitney, chi-square and Spearman correlation test in SPSS v15. RESULTS: A total of 2175 nonprescription medicines were purchased by consumers interviewed in 2 weeks study period. The total cost estimated for all item purchased was RM1,000 (USD131,000). About 39.6% of the purchased items are listed under schedule poison, 45.5% were unscheduled poison and 12.5% are those listed as traditional and complementary medicine. Medicine for alimentary tract and metabolism, musculo-skeletal system and respiratory system as categorized by Anatomical Therapeutic Coding were among the highest purchased medicine. Factors such as gender especially females, area of origin especially those from urban area, ethnicity especially Chinese consumers and those earning high income level shows to have a significant influence in the spending for non-prescription medicine purchasing. This study also showed purchasing for non-prescription medicine significantly increased as aging. Consumers spent significantly more on non-controlled medicine such as vitamins and herbal preparations compared to other categories of medicines ($2 = 185.07, P < 0.001). CONCLUSIONS: The evaluation on pattern of non-prescription medicine purchasing in Malaysia reveals that consumers in Malaysia are able to spend money for buying medicines to treat minor ailments and its related ailments and practice of self-medication. The socio-demographic factors that associated with non-prescription medicine purchase will serve as useful information for policymakers and also the pharmaceutical industry for future development in rational medicine use education among consumers in the country.

HEALTH CARE USE & POLICY STUDIES – Drug/Device/Diagnostic Use & Policy

EFFECTIVENESS OF TWO POLICIES TO REDUCE DIPHENOXYLATE CONSUMPTION IN IRAN
Jaberi Doost M, Abdollahzadeh A, Safavi Homami N, Farshchi A, Ghiasi G, Anabi M
Tehran University of Medical Sciences, Tehran, Iran; 2Ministry of Health, Tehran, Iran

OBJECTIVES: Iran had one of the highest uses of Diphenoxylate in the world in 2008. About 1 billion tablets of Diphenoxylate 2.5 mg have been consumed during that year. In the last months of 2008 the ministry of health tried some policies to reduce the consumption. One was rationing in production the other was doubling the price of 10 medicines which likely were abused including Diphenoxylate. This study tries to show the effectiveness of these two interventions by evaluating monthly consumption of Diphenoxylate during recent 5 years ended to March 2010. METHODS: Data were gathered from the distributors and wholesalers of this medicine from whole the country. These data were crosschecked with importation data in the ministry of health. We did a trend analysis on tabulated data. RESULTS: There are some variations in monthly use of Diphenoxylate but the trend shows a significant decrease after the rationing in production. In 2009 the average consumption has reached to less than 6.50 millions of tablet, four Defined Daily Dose per 1000 Inhabitants per day which shows 36% decrease in comparison with the previous year. In second half of 2009 and first 2 months of 2010 after the second intervention, there is no significant change in the trend. CONCLUSIONS: Although the high consumption of opiates in Iran is a multi factorial phenomena but this study shows; the first intervention has been able to control the abuse of Diphenoxylate due to the reduction of market supply and decrease in Diphenoxylate's unofficial promotion. Considerable result wasn’t seen in the second approach. The user price of Diphenoxylate tablet in Iran is too cheap and doubling the price doesn’t work at all. A significant tax mark-up and increasing the price based on label use may affect on affordability of Diphenoxylate's abuse.