websites, data on file and miscellaneous. The Journal articles were browsed in PubMed and Google. All collected full length articles and abstracts were examined for key worlds Pharmacoeconomic, Cost effectiveness, Cost utility, Cost minimization, Cost benefit and quality of life by two independent reviewers. Descriptive statistics was used for reporting the results. **RESULTS:** All 14 journals searched contained 1435 advertisements of 237 brands. The total references quoted in these advertisements were found to be 242. Of these 242 references 57.43% were from articles published in journals, 25.2% from miscellaneous sources and 11.15 % from data on file. Only 4 (0.2%) references among the published research articles were having pharmacoeconomics and humanistic outcomes research evidence. **CONCLUSIONS:** The present study clearly indicates the negligible number of pharmacoeconomics and humanistic outcomes research evidence used in advertisements published in scientific journals and there is a further need to extend this study for other mode of advertisements such as detailing aids, leave behind literature and official websites of pharmaceutical companies.

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AN ANALYSIS OF INTERNAL MEDICATION ERRORS USING INCIDENT REPORTS AT A TEACHING HOSPITAL IN JAPAN: A RETROSPECTIVE STUDY

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OBJECTIVES: Few studies regarding clinical epidemiology of internal medication errors are published in Japan. This study aims to explore the frequency and type of internal medication errors using incident reporting. **METHODS:** A total of 1706 incident reports related with internal medication errors were collected and examined at a teaching hospital with 1354 beds in Japan. Frequency, type, and injury level of internal medication error, and health care professionals involved are investigated in the internal medication use process (e.g., ordering, dispensing, transcription, and administration). **RESULTS:** We detected a total 1706 intravenous medication errors between January, 2006 and March, 2010. In each stage the frequency of intravenous medication errors were ordering: 2 (0.1%), transcription: 2 (0.1%), dispensing: 604 (35.4%), and administration 1,061 (62.3%). And, numbers of reports by injury level were 732 (42.9%)reports with level 1, 328 (77.8%) reports with level 2, 26 (1.5%) reports with level 3a, 3 (0.2%) reports with level 3b, and one (0.06%) report with level 5. The most common type of health care professionals were nursing staff (1,072: 62.8%), pharmacist (590: 34.6%), care worker (24: 1.4%) and physician (13: 0.9%), in decreasing order. Pharmacists were much more involved in internal medication errors than in intravenous medication errors in our study. **CONCLUSIONS:** Different hospitals in Japan might lead to these results, and we believe deeper analyses can be conducted along this theme. Furthermore, it would be very important not only for junior residents and new nursing staff, but for newly-hired pharmacists to be taught with emphasis that the drugs indicated above through residency and education programs have a higher tendency to be involved with internal medication errors. The internal medication errors involved will be discussed with specificity during our presentation.

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AN ANALYSIS OF INTRAVENOUS MEDICATION ERRORS USING INCIDENT REPORTS AT A TEACHING HOSPITAL IN JAPAN

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OBJECTIVES: Few studies regarding clinical epidemiology of medication errors are published in Japan. This study aims to explore the frequency and type of intravenous medication errors, and drugs involved using incident reporting. **METHODS:** 1,855 incident reports were collected and examined at a teaching hospital with 1,354 beds in Japan. Frequency, type of medication error, and type of drugs are investigated in the medication use process, prescription/ordering, dispensing, transcription, and administration. **RESULTS:** We detected a total 1,885 intravenous medication errors between January, 2006 and March, 2010. In each stage the frequency of intravenous medication errors were ordering/prescription: 28 (1.5%), transcription: 3 (0.2%), dispensing: 155 (8.2%), and administration 1,699 (90.1%).The most common type of error throughout the medication use process were omission of drug, wrong drug, wrong dose and wrong time. And, the most common type of drugs were central nervous system drugs, anti-diabetic drugs (insulin), and anticoagulant (heparin), in decreasing order. Furthermore, the most common health care professional involved was nursing staff (1,593: 84.5%) and the next was pharmacist (168: 8.9%). **CONCLUSIONS:** Different areas in Japan might lead to these results, and we believe deeper analyses can be conducted along this theme. Nursing staff is the number one health care professionals involved in the medication errors, given that he/she administers most medications and is the final individual in the medication use process. Therefore, it would be very important for newly-hired nursing staff to be taught with emphasis that the drugs indicated above through education programs have a higher tendency to be involved with errors. The intravenous medication errors involved will be discussed with specificity during our presentation.

PHP58

EFFECTIVENESS OF AUTOMATED TELEPHONIC REMINDERS ON MEDICATION ADHERENCE

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BACKGROUND: Improving patient adherence to medication regimens is an important public health and clinical goal. Numerous studies have shown that non-adherence to medication is associated with increased hospitalization, progression of disease, and higher mortality. There are many practical and behavioral factors that influence non-adherence; one of the top reasons cited is patient forgetfulness. Automated telephonic reminders are among the most common technologies used to help improve patient medication adherence. **OBJECTIVES:** To evaluate the effectiveness of an automated telephonic reminder system at improving patient adherence to medications used to treat chronic conditions. **METHODS:** We conducted a test-control cohort analysis using administrative data from a large chain pharmacy. The cohorts included patients with maintenance prescriptions that were scheduled to be refilled in April 2010. The intervention group had 82,150 patients from Colorado; these patients received refill reminder calls, as needed, over 12 months. The control group included 182,326 patients from Washington State; these patients did not receive reminder calls. Other than location, both groups had similar demographic characteristics. Medication adherence and persistence were calculated and compared between the intervention and control groups in a 12-month follow-up. Medication adherence was evaluated using both continuous and categorical Medication Possession Ratio (MPR) measures. Clinical adherence was defined as MPR≥80%. Medication persistence was measured as days on therapy and percent of patients remaining on therapy. **RESULTS:** At 12-month follow-up, the MPR for the intervention group was 2.4% higher than the control group ($p<0.001$), and the intervention group had a 2.3% higher proportion of clinically adherent patients ($p<0.001$). Persistence for the intervention group was 7.8 days higher than the control group ($p<0.001$), and 51.3% of patients in the intervention group stayed on therapy compared to 49.6% in the control group ($p<0.001$). **CONCLUSIONS:** Automated telephonic reminders significantly improved patient adherence to medications used to treat chronic conditions.

PHP59

THE ROLE OF PHARMACIST FOR PATIENT SAFETY: A NATIONWIDE SURVEY ON PATIENT SAFETY MANAGEMENT SYSTEM

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OBJECTIVES: This study aims to explore the role of pharmacist for patient safety activity in Japan. **METHODS:** We surveyed nationwide the situation of patient safety activities in hospitals allowed for additional costs on patient safety measures under the social insurance medical fee schedule using a questionnaire. We send the questionnaire including 14 fields and 93 items, to targeted 2,674 hospitals (all hospitals: 8,706 as of 1st June in 2010) in Japan, 669 hospitals responded (response rate: 25.0%). **RESULTS:** In the assignment of risk manager, mean number of full-time risk manager as a physician was 0.04 ± 0.24. Likewise, mean number of full-time risk manager as a nurse and a pharmacist were 0.88 ± 0.96 and 0.07 ± 0.25. And, mean number of incident reports filed by physicians, nurses, and pharmacists were 17.7 ± 44.6, 510.0 ± 753.7, and 30.8 ± 112.5 in FY 2007, 17.7 ± 45.4, 579.9 ± 782.5, and 31.4 ± 86.6 in FY 2008, and 20.5 ± 57.0, 651.7 ± 946.4, and 39.3 ± 171.2 in FY 2009. Mean number of full-time risk manager as a pharmacist was higher than that as a physician, and mean number of incident reports from pharmacists was larger than that from physicians in Japan. **CONCLUSIONS:** The role of pharmacists is getting increasingly larger for securing patient safety and pharmacists at hospitals are required to be much more involved in patient safety activity, as medication errors highly accounts for adverse events and Japan is suffering from a serious shortage of physicians. Instead, this study is required to be statistically investigated with adjusting number of beds.

PHP60

OUTCOMES OF INTEGRATED MEDICAL CARE SERVICE PROVIDED IN OUTPATIENT UNITS IN A MEDICAL CENTER: TWO-YEAR EXPERIENCE

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OBJECTIVES: The majority of patients with multiple chronic diseases tended to visit single hospital persistently, which accounted for 3.5% of all beneficiaries and 19.3% of covered national health insurance expenses in Taiwan. The aim of this research was to describe the implementation of Integrated Medical Care (IMC) services for loyal outpatients in China Medial University Hospital (CMUH) and its two-year outcomes. **METHODS:** We used the pre-post study design. Those 15,311 patients who were loyal health care users and with multiple chronic illnesses were involved. Upon patients' disease characteristics and preference, they were offered pluralistic IMC services, including through integrated, geriatric and/or pharmaceutical care clinics, in addition to via usual primary and specialty clinics, in the outpatient units during December 2009 to December 2011. While the integrations of outpatient care were facilitated by the collaboration of administration focus group and clinical care team, those severe and vulnerable patients' medication related problems, health care utilizations in CMUH were reviewed periodically by clinical care team and continuously monitored by the clinical pharmacist. The differences of medical expenditure, number of OPD visits, number of prescribed medication (Rx) and emergency department (ED) visits in CMUH during the same period but one-year prior (baseline) and the implementation periods were examined. **RESULTS:** After two consecutive years of IMC interventions, the medical expenditures and number of OPD visits per person per month were reduced profoundly (up to 7.67%), while comparing to the baseline. The numbers of Rx and ED visits, however, were not greatly different. **CONCLUSIONS:** There were positive outcomes of offering pluralistic IMC services toward loyal, chronically ill patients on medical expenditures and outpatient visits. The outcomes would be more significant across time if the IMC services were provided proactively toward more mild to moderate ill patients.