EVALUATION OF A WIRELESS HANDHELD MEDICATION MANAGEMENT PROGRAM IN THE PREVENTION OF DRUG-DRUG INTERACTIONS

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OBJECTIVES: Drug-related adverse events impose a substantial burden on patients and health care systems. Electronic prescribing (e-prescribing) systems have been identified as effective tools to improve quality, safety, and efficiency in health care delivery. The purpose of this study is to evaluate the effectiveness of a wireless medication management program in a commercially available e-prescribing system in the prevention of serious drug-drug interactions (DDIs).

METHODS: This study employed a retrospective pre-post with a control group design to evaluate the effectiveness of a wireless medication management program in preventing serious DDIs. A total of 1975 prescribers who received personal digital assistants (PDA) between August 1, 2004 and June 30, 2005 constituted the technology user group. The comparison group included 1063 prescribers who sent a request to obtain, but did not receive, the technology during the same period. Multivariate regression analysis was used to determine if there were differences between the two groups of prescribers in the rate of prescribing clinically important DDIs. RESULTS: Prescribers in the two groups were significantly different in their specialty practice areas and number of pharmacy claims and at baseline. However both groups were similar in their average age, profession, and practice type. Prescribers varied in their use of the e-prescribing system to access patient medication history, the average number of patient medication history updates requested per prescriber in the user group was 42.09 (ranging from 0 to 1073). The most widely prescribed DDIs included those involving warfarin with non-steroidal anti-inflammatory drugs (NSAIDs) and anticoagulants with thyroid hormones. Compared to the control group, PDA users did not have significantly greater number in the decrease of serious potential DDIs as compared to non users (p = 0.65). CONCLUSION: The availability of near real-time patient medication history did not have a significant impact on reducing the rate of prescribing clinically important DDIs.


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OBJECTIVES: Although the nephrotoxic and carcinogenic effects of Aristolochia acid (AA) have already been well documented, there is a distinct lack of evidence on the long-term consumption of Chinese herbal products (CHPs) which either contain Aristolochia herb species, or which have been adulterated by herbs suspected of containing AA (SAH herbs). We set out to identify the risks and to determine the prescription patterns in Taiwan of CHPs containing SAH herbs (SAH CHPs) prior to the promulgation of the regulations banning their use. METHODS: A longitudinal analysis was carried out on a randomly sampled cohort of 200,000 patients using 1997–2003 data obtained from the Taiwan National Health Insurance (NHI) reimbursement database. RESULTS: During the seven-year study period, a total of 78,644 patients had been prescribed with SAH CHPs on at least one occasion, the majority of whom were females and/or middle-aged. A total of 526,867 prescriptions were issued containing 1,218 licensed SAH CHP items. Over 85% of SAH-exposed patients took ≤ 40 gms of SAH herbs Administration was operationalised as a combination of five activities namely direct patient care (five tasks), indirect patient care (four tasks), administration (four tasks), miscellaneous (three tasks) and other. Time devoted to each medication administration and each task were evaluated by means of two pre-calibrated stop-watches. Perception of nurses regarding workflow burden during each medication administration was determined on a five point Likert scale as strongly disagree (1)–Strongly agree (5). Furthermore patient features (age, gender, number of co-morbidities, length of stay) and complexity of medication administration (frequency of each task, number of assistants involved, number of drugs administered through different routes) were used to predict medication administration time. Descriptive statistics were reported. Stepwise regression analysis was performed to examine predictors of medication administration time. RESULTS: Mean medication administration time per prescription (N = 101) and acute (N = 100) care units were 5.2 ± 3.7 minutes and 5.3 ± 3.5 minutes respectively. Overall nurses had positive perception regarding the supportive workflow structure of intensive (4.4 ± 0.08) and acute care (4.6 ± 0.5) units. Stepwise regression analysis indicated that significant (p < 0.05) predictors of medica- tion administration time in intensive care unit were time devoted to administration (β = 0.57), direct patient care (β = 0.30), and miscellaneous (β = 0.14) activities. Like- wise significant (p < 0.05) predictors of medication administration time in acute care unit were time devoted to administration activity (β = 0.67), gender of patient (β = 0.21) and number of inhalations (β = 0.16). Administration activity played a predominant role during medication administration in both units. Measures taken by hospital pharmacy to optimize such an activity may result in reduction of workflow burden encountered by nurses in the units.

LITERATURE REVIEW OF THE IMPACT OF OBESITY ON CARDIOVASCULAR OUTCOMES IN THE GENERAL POPULATION AND IN PATIENTS WITH TYPE-2 DIABETES

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OBJECTIVES: There is an established causal link between obesity and cardiovascular outcomes. The aim of this review was to determine whether an independent relationship exists between anthropometric measurements of weight (typically body mass index [BMI]) and cardiovascular outcomes (e.g., angina, myocardial infarction, congestive heart failure, stroke, mortality) in the general population and in patients with type-2 diabetes. METHODS: A review of the medical literature was conducted between 1988 and May 2008 using the PubMed, EMBASE, Cochrane and Center for Review and Dissemination databases. We included studies that were longer than 12 months, had greater than 500 adult subjects and were written in the English language. RESULTS: In studies conducted in general popuations there was an overall trend towards increased risk for cardiovascular outcomes with increasing BMI. However, a few studies reported a J-shaped or U-shaped between BMI measurements and cardio-vascular events. The nature and strength of this relationship varied according to the measurement used (e.g., BMI, waist circumference, waist-to-height ratio) and the population studied, with notable differences observed in Asian/Asia-Pacific based studies compared with those conducted in European or North American populations. There was limited data from prospective, long-term, longitudinal studies examining the relationship between degrees of weight and cardiovascular disease in patients with type-2 diabetes. CONCLUSION: In general, the degree of being overweight or obese