THE PRESCRIBING OF CHINESE HERBAL PRODUCTS IN TAIWAN: A CROSS-SECTIONAL ANALYSIS OF THE NATIONAL HEALTH INSURANCE REIMBURSEMENT DATABASE

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OBJECTIVES: The consumption of Chinese herbal products (CHPs) is increasing exponentially. However, the scientific evidence is lacking and there is an urgent requirement for detailed pharmacoepidemiological information on CHP usage. This study was to investigate CHP prescription patterns in Taiwan.

METHODS: We carried out a cross-sectional analysis on a cohort of 200,000 patients, based on 2004 data from the National Health Insurance (NHI) reimbursement database. Data mining techniques were applied to explore CHP co-prescription patterns. RESULTS: A total of 46,938 patients had been prescribed CHPs on at least one occasion in 2004. Patients using CHPs were generally female and middle-aged, made more outpatient visits, had fewer hospitalizations and consumed more medical resources than non-users of CHPs. A total of 1,073,030 CHPs were contained within 220,123 prescriptions, for which acute nasopharyngitis was the most common indication. Yan hu suo and Jia Wei Xiao Yao San were the most frequently prescribed single herb (SH) and herbal formula (HF), respectively. The results of the data mining showed that the best predictions were provided by co-prescriptions of “Mo yao and Ru xiang”, “Ye jiao teng and Suan Zao Ren Tan” and “Dang Gui Nian Tong Tang and Shu Jing Huo Xue Tang” in the groups of SH-SH, SH-HF and HF-HF, respectively.

CONCLUSIONS: This study provides national-level CHP prescription profiles and utilization rates, and documents, for the first time, HF-HF prescription combinations in Chinese medicine practices in Taiwan. We conclude that more studies are needed to validate the safety and effectiveness of CHP prescriptions.

PHARMACY STUDENTS’ ABILITY TO RECOGNIZE DRUG-DRUG INTERACTIONS (DDIS)

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OBJECTIVE: Drug interactions have been associated with increased incidence of adverse events, hospitalizations, and death. Our objective was to determine the degree of knowledge of clinically significant DDIs by third- and fourth-year pharmacy students.

METHODS: Two independent questionnaires designed to measure knowledge of DDIs were utilized in this analysis. Both questionnaires asked students to categorize the potential severity of various DDI pairs. The first questionnaire was disseminated to fourth year Class of 2005 pharmacy students (n = 68) at one school of pharmacy and consisted of 22 DDI pairs. A second questionnaire was distributed to third-year Class of 2007 pharmacy students at two schools of pharmacy (School A, n = 70; School B, n = 120) and it contained ten DDI pairs for students to categorize. A year later, the second questionnaire was re-administered to Class of 2007 students at School A (n = 75).

RESULTS: Forty-seven (69%) fourth year pharmacy students completed the first questionnaire. Respondents correctly categorized an average (SD) of 42% (12%) of the DDI pairs. Sixty-six (94%) and 115 (96%) of third year pharmacy students from School A and School B, respectively, completed the questionnaire. The average (SD) number of drug interaction questions answered correctly by third year students was 56% (±18%) at School A and 59% (±16%) at School B, p = 0.22. Forty-three (57%) fourth year students from the Class of 2007 completed the questionnaire and the average percentage of correct responses was 59% (±17%), p = 0.36 for third year versus fourth year Class of 2007 students from School A.

CONCLUSION: This study suggests that pharmacy student knowledge of DDIs is poor. Modifications in pharmacy school curriculum may be necessary to increase students’ ability to correctly identify drug interactions.