Evaluation of Pharmacist Knowledge and Attitude Toward Pharmacogenomics

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BACKGROUND: Pharmacogenomics is defined as the collection of genomic factors that influence an individual's variability to drug response, including absorption, metabolism, distribution, excretion, and targeted enzyme-substrate activity. Pharmacogenomics has the potential to shift current guidelines in patient care practices. Personalized pharmacogenomics targeted pharmaceuticals involve the use of drug companion tests and other genetic tests to increase drug efficacy while minimizing unwanted side effects by identifying biomarkers in patients early in the course of drug treatment. Pharmacists are experts in drug therapies, and thus are the most logical health care professionals to bridge and integrate pharmacogenomics into drug therapy management.

OBJECTIVE: The objective of our study is to develop and conduct a survey to assess pharmacists' knowledge of approved oncology pharmacogenomic companion tests and attitude toward pharmacogenomic tests in general.

METHODS: An electronic survey was utilized to collect data on demographics, knowledge base, and attitudes toward pharmacogenomic tests and approved oncology companion tests on the market and distributed to pharmacists through state pharmacy organizations and alumni associations between May through July of 2012. The survey evaluated demographic data, attitudinal scales, a 12-item pharmacogenomic knowledge test, and policy/utilization data at their respective organizations. The study was approved by investigational review board of the University of Texas.

RESULTS: Analysis of 104 returned surveys was conducted. Of the pharmacists surveyed, 31% indicated that they work in a managed care/health plan institution or have managed care as specialty practice area, 20% have previous coursework or continuing education in pharmacogenomics and 39% are aware of existing policies on pharmacogenomic tests at their institution. The average score on the knowledge test was 2.7 (maximum score of 12). Pharmacist who have engaged in prior pharmacogenomic continuing education or coursework scored higher than those without prior education in this area (p<0.0001). Also, pharmacists who have knowledge of existing institutional policies surrounding pharmacogenomics scored higher than those who did not know of or have institutional policies (p<0.0008). Additionally, 46% of the respondents indicated that pharmacists are the best equipped healthcare provider to receive and interpret pharmacogenomic test results to relate to a patient's drug therapy management.

CONCLUSIONS: The findings in this study indicate that pharmacist are more likely to answer correctly about approved oncology related pharmacogenomic tests, if they have previous education and are exposed to policies dealing with pharmacogenomics at their workplace. However, for the overall target population, there is still a great need for pharmacy continuing education and training programs in this area.

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