

Title:**ASSESSING CALIFORNIA PHARMACISTS' KNOWLEDGE ON ORAL CHEMOTHERAPY AGENTS****Rationale for Study:**

Cancer is the second most common cause of death in the U.S. and is responsible for approximately 1 of every 4 deaths. Since 2005, several new important oral chemotherapy agents (OCAs) have become available on the U.S. market. These new agents, in addition to the roughly 25% of chemotherapy agents undergoing research and investigation as oral formulations, are likely to be dispensed in an outpatient setting by community pharmacists. Community pharmacist's knowledge of these "newer" OCAs, and their ability to safely handle and provide consultation to patients regarding their use remains unknown.

Methodology

A 32-question survey using Qualtrics® was developed to query four primary areas: 1) pharmacist demographics, 2) their general knowledge of OCAs, 3) safety in handling OCAs at their workplace, and 4) their overall attitudes toward OCAs. The survey's format and content was evaluated during a pilot test in April and May 2014. The survey was subsequently distributed electronically to 14,155 members of the California Pharmacist Association (CPhA) via a series of e-mails containing an active web link to Qualtrics®. The survey was open during June 2014.

Results

A total of 276 surveys were attempted. Among these, 130 surveys were excluded for the following reasons: 87 were incomplete, 7 did not provide consent, and 36 were completed by individuals that were not registered community pharmacists. These exclusions resulted in a final analytical cohort of 146 California pharmacists.

Demographically, there was equal representation of respondents from Southern California (50%) and Northern California (49%). Approximately half (51%) of the respondents had 10 years or less of experience practicing as a pharmacist and the majority (80%) of respondents reported dispensing less than 5 prescriptions per week for OCAs.

The mean correct response rate for the 13 knowledge based questions was 49% (range 7.5% to 88%) with a mean incorrect response rate of 16% (an answer of "I don't know" was not counted as correct or incorrect). Respondents choosing "I don't know" ranged from 8% to 66% across the 13 knowledge based questions.

Combining responses for all four safe handling practices, respondents reported that recommended "safe practice actions" were "always" performed an average of 34.9% of the time and "never" performed an average 30.3% of the time. When asked about plans to improve OCA handling practices, 13.7% of the respondents selected "yes."

Finally, only 5.5% of respondents self reported being strongly comfortable with dispensing OCAs, and only 2.1% felt strongly that there is an adequate amount of continuing education programs available for OCAs.

Conclusion

Based on self-reported knowledge, described workplace practices and self-reported attitudes, results suggest a majority of California pharmacists are not sufficiently prepared to provide proper consultation to their patients or always safely handle OCAs at their practice site. This study also suggests a need for ready access to more resources, including continuing education OCA programs. However broader

generalizations are limited given the relative low response rate and the distribution of the survey exclusively to CPhA pharmacists. Future steps include gaining a sample from another state for comparison and expanded generalizations.