Medical Education Needs for Rural Practitioners Concerning Farm Toxicology

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RATIONALE/NEED

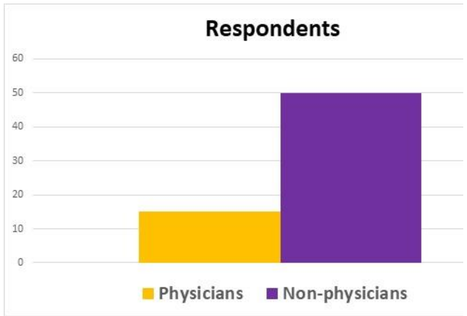
Healthcare workers in rural settings must be prepared to diagnose and treat injuries caused by exposure to pesticides, fertilizers, and other agricultural chemicals. Our goal was to survey health care workers in eastern North Carolina to assess their level of training, knowledge and comfort in treating patients with toxic exposures from farming. This study is also intended to compare the knowledge of groups with different levels of education and serve as a needs assessment for continuing medical education (CME) courses.

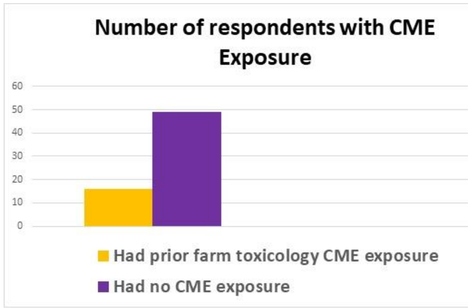
METHODS

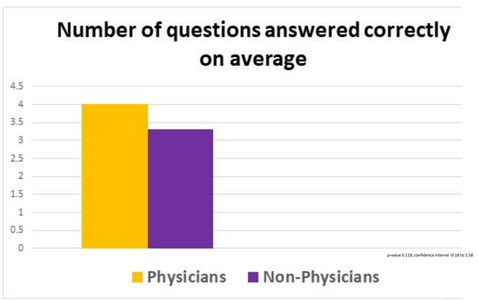
An online survey was developed using RedCap and distributed by email to 12,855 physicians, advanced practice providers, nurses, and pharmacists across 23 counties in eastern North Carolina. The survey included questions about demographics, training, education, experience, and perceived knowledge of farm toxicology. It also included a test of knowledge section which included eight multiple choice questions with topics including pesticides, herbicides, fertilizers, toxic gases and cancer risks associated with farming. Results were compared among different subgroups using a two tailed t-test.

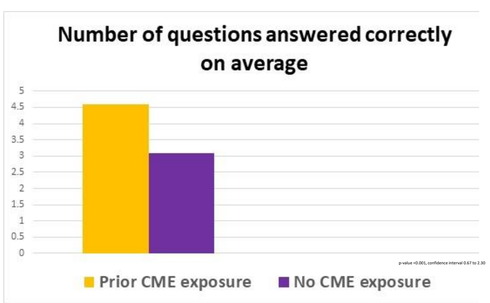
RESULTS

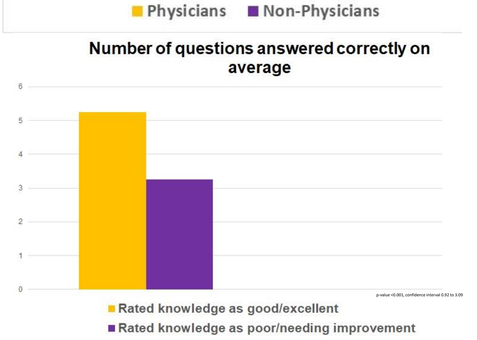
We received 65 responses, which included 15 physicians and 50 non-physician health care workers. 49 (75.4%) respondents reported they had never had CME exposure to farm toxicology and had never taken a dedicated farm toxicology course. Only 8 respondents (12.3%) considered their knowledge of farm toxicology "good" or "excellent." Participants answered 3.49 of the 8 knowledge questions correctly on average (standard deviation 1.57). The mean score among physicians was 4.00 compared with 3.30 among non-physicians (p-value 0.119, confidence interval -0.18 to 1.58). Respondents with prior exposure to a farm toxicology course or CME averaged 4.59 compared to 3.10 among those with no exposure (p<0.001, CI 0.67 to 2.30). Respondents who considered their knowledge good or excellent averaged 5.24 compared to 3.25 with those who rated their knowledge poor or needing improvement (p <0.001, CI 0.92 to 3.09)











CONCLUSIONS

Our survey suggests that most health care workers have little formal training in the field of farm toxicology. On the knowledge section of our survey, participants who had exposure to farm toxicology education outperformed those who did not. Wider availability of farm toxicology CME courses would likely improve the care of patients with farm related exposures.

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