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Health Professionals and Public Awareness of Carbon Monoxide Poisoning in Vermont

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Background

- Carbon Monoxide (CO) is a colorless, odorless gas. It is the leading cause of poison-related deaths in the United States and is responsible for 450 fatalities each year.
- CO poses a significant public health risk in VT, especially during the winter months.
- Injury and death from CO poisoning is preventable through the use of CO detectors, increased awareness, and proper maintenance of heating systems.
- Objectives
  - Evaluate knowledge of CO poisoning and understanding of CO poisoning sources in the general public and among health care professionals.
  - Assess discrepancies between public and health care professional knowledge.

Methods

- A review of the available literature was conducted.
- Survey format based on the validated Chicago Lead Study.
- 21 true/false/unsure survey assessed sources of exposure, clinical symptoms of poisoning, and medical treatment. 15 additional questions assessed participant demographics, including healthcare provider status.
- General public, VT EMS District 3, Medicine Residents, and practicing physicians were surveyed.
- Surveys were distributed at Burlington Farmer’s Market, UVM-MC, District 3 EMS squads, and online.
- Survey results analyzed using IBM SPSS Statistics Software.

Results

- There is a statistically significant relationship between percent correct/overall score and whether the participant was a health care provider. (p=0.002. (Figure 2)
- While respondents in general were aware that CO could cause death (99.6% correct) and headache (85.9% correct), many respondents were not aware of risks of CO exposure at ice rinks and smoking.
- Frequent incorrect answers pertained to information about sources of CO specifically ice rinks and smoking.

Discussion

- While knowledgeable about some symptoms of CO poisoning, a substantial percentage of general public respondents were not aware that symptoms may be similar to the flu.
- As determined by the discrepancy between respondents’ current sources of information and preferred sources of information, information about CO in internet and printed materials is a priority for additional education.
- Despite history of large-scale poisoning events in Vermont, many respondents were not aware of risks of CO exposure at hockey rinks.

Recommendations

- Organizations concerned about CO poisoning should focus educational and outreach efforts through the internet and printed material.
- Healthcare providers should be encouraged to discuss CO poisoning with patients as winter months approach.
- Public education should address identified knowledge gaps, specifically:
  - Hockey arenas, a place where many people gather in the winter in VT, present an unrecognized risk of CO poisoning.
  - Opening windows is insufficient to reverse CO poisoning indoors.
  - The use of combustion engines indoors is dangerous and should be avoided.
- CO poisoning can cause flu-like symptoms.