

Characterize and quantify the epidemiology of patient toxicity and management at Karl Heusner Hospital in Belize

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Introduction

- As in many middle-income nations, Belize has a shortage of physicians, particularly specialists, including toxicologists.
- Karl Heusner Memorial Hospital (KHMH) is the flagship hospital of the country of Belize.
- A teletoxicology program is being considered to provide a resource to the KHMH healthcare providers from the Medical College of Wisconsin Department of Emergency Medicine, Section of Medical Toxicology to enhance the quality of medical care.
- This project provides a baseline for assessment of this potential program's impact on KHMH healthcare providers and the effectiveness of clinical toxicology management.

Study Aims

- Characterize and quantify the epidemiology of human toxicity, patient characteristics, and disposition after treatment provided by KHMH emergency physicians in Belize.
- Strengthen knowledge base in medical toxicology.

Methods

- Approval for this study was provided by the leadership at KHMH and MCW/FH Institutional Review Board PRO00029625.
- In July 2017, reviewed admission diagnoses to KHMH Accident and Emergency ward to characterize burden of medical toxicology cases:
 - Cases presenting May 31, 2016 – May 31, 2017
 - gender
 - age
- Basic data analysis was conducted in excel.

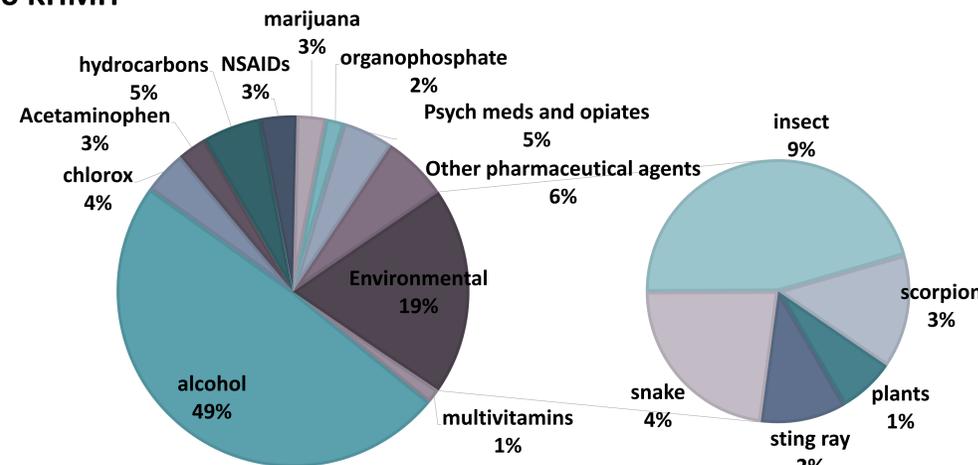
Results

Percent of Patients	Outcome
82%	discharge
15%	admit
1%	morgue
1%	self discharge

Figure 1: Disposition of patients presenting with a potentially toxic exposure.

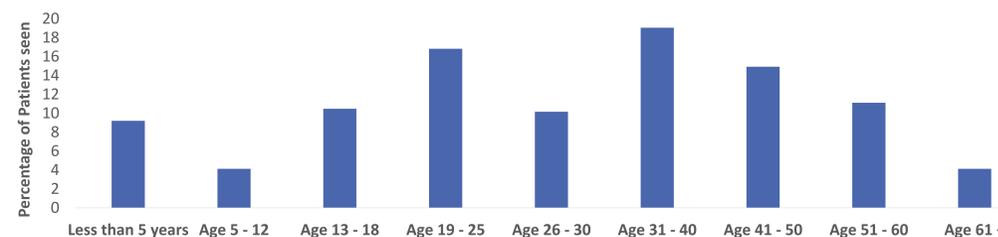
Results

Figure 2: Distribution of toxic substances seen in patients that presented to KHMH



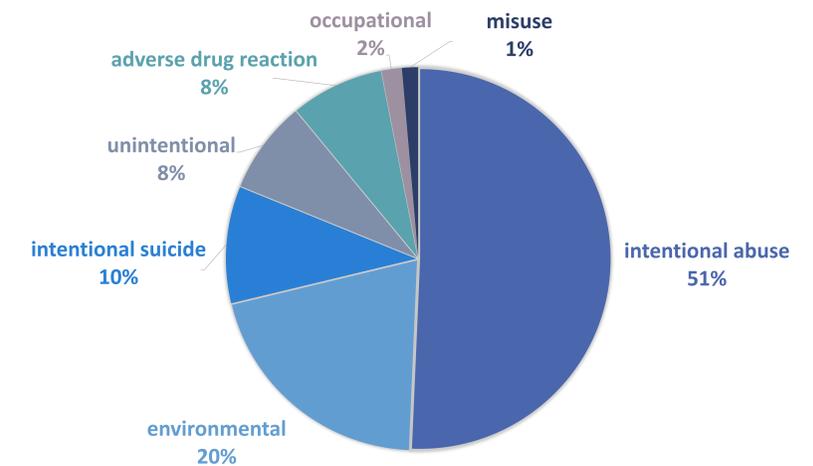
- 24,129 serial admissions included
- 1.3% of all patient visits involved potentially toxic exposure;
 - 49% ethanol
 - 21% drugs or pharmaceutical agents:
 - psychiatric meds and opioids 5%
 - acetaminophen 3%
 - NSAIDs 3%
 - marijuana 3%
 - multivitamins 1%
 - 19% environmental toxins: insect, snake, scorpion, sting ray, plants
 - 5% hydrocarbons
 - 2% organophosphates
 - 4% household chemicals

Figure 3: Age distribution



The age distribution of patients seen with a toxicology related presentation, largest population being between 31-40.

Figure 4: Reason for exposure.



51% of all intoxication cases were determined to be intentional abuse, while 10% were from intentional suicide

Conclusion

- Toxicology cases are common in the Accident and Emergency Room patient population at KHMH.
- The development of a Teletoxicology program may strengthen clinical management of patients presenting with toxicologic problems.

Future Directions

- Establish a teletoxicology program
- Prospective data capture to monitor outcomes.
- A survey of KHMH healthcare physicians, nurses and pharmacists to assess level of comfort managing potential toxic exposures, medical knowledge and physician satisfaction with the program.

Acknowledgments

Dr. Elaine Kohler Summer Academy of Global Health Research and the Medical College of Wisconsin Office of Global Health.