To Evaluate the Knowledge and Attitude Regarding Management of Acute Poisoning amongst the Emergency Medical Professionals in Pune, India

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Abstract

Introduction: Poison is any substance, which causes ill effects, or death when inhaled, ingested or injected in living cells. Emergency Medical Professionals working in Ambulances play a very important role in initial management of poisoning. Hence, it is imperative that the EMS professionals should have requisite knowledge and possess the right attitude to be effective caregivers in cases of poisoning.

Objective: To evaluate the Knowledge and attitude regarding management of Acute Poisoning amongst the Emergency Medical Professional in Pune, India.

Methodology:

The study was conducted amongst 170 Emergency Medical Professionals in Pune, India. The eighteen-item questionnaire comprised of two key parameters – eight items testing Knowledge and ten items measuring Attitude. Each item on the questionnaire required a binary response. All items were required to be mandatorily filled.

Discussion: The study evaluated the knowledge and attitude of the EMS professionals in initial management of cases of acute poisoning. Majority of the respondents possessed the right general knowledge about poisoning except that most felt that it was more important to treat the poison rather than patient but could not correctly differentiate between the early stage and late stage symptom of poisoning.

Conclusion: The study attempts to evaluate the knowledge and attitude of the EMS responders in acute poisoning and provides with significant areas with scope of improvement that can guide educators to accordingly tailor the teaching curriculum of the subject of poisoning.

Keywords: *Acute Poisoning, Knowledge, Attitude and Practices (KAP), Prehospital Management, Emergency Medical Services Professionals*

Introduction

Poison is any substance, which causes ill effects, or death when inhaled, ingested or injected in living cells.[1]Poisoning can be differentiated into three types viz. Suicide, Homicide or Accidental.

As per study conducted by Raut Asawari et *al*[2], *India* has the highest incidence of poisoning in the world with more than 50,000 people dying every year due to toxin exposure. The National Poisons Centre (NPIC) at the All India Institute of Medical Sciences, New Delhi, India has held household products, followed by pharmaceuticals, agricultural pesticides and industrial chemicals, responsible for high incidence of poisoning.[3]

Rakesh Sharma *et.al*[4] in a study conducted in 2019, highlighted that the morbidity and mortality of poisoning can be reduced by development and implementation of effective intervention at primary level by health care providers and strategies on preventive aspect.

Emergency Medical Professionals working in Ambulances play a very important role in initial

management of poisoning. A study conducted by Fridtjof Heyerdahl *et al*[5] observed that majority of the poisoned patients who were treated in prehospital settings were discharged without any requirement of hospital transfer and thus deemed prehospital treatment of poisoning as safe.

Being first responders, the EMS professionals have a crucial role to play in detection and management of ill effects of poisoning. Hence, it is imperative that the EMS professionals should have requisite knowledge and possess the right attitude to be effective caregivers in cases of poisoning.

Objective

To evaluate the Knowledge and attitude regarding management of Acute Poisoning amongst the Emergency Medical Professional in Pune, India

Methodology

The study was conducted amongst 170 Emergency Medical Professionals in Pune, India. A previously tested and validated questionnaire by Fatmah Ali Abdullah Hakam *et.al*[6] was utilized for the study. Majority of the respondents possessed the right general knowledge about poisoning except that most felt that it was more important to treat the poison rather than patient.

The eighteen-item questionnaire comprised of two key parameters – eight items testing Knowledge and ten items measuring Attitude. Each item on the questionnaire required a binary response. All items were required to be mandatorily filled.

The questionnaire was administered through online mode after obtaining informed consent from the respondents. The respondents were given two days to fill the questionnaire and revert. Any queries pertaining to questionnaire was clarified during data collection.

All 170 respondents reverted with completely filled questionnaire. The data was tabulated and statistically analysed with the help SPSS version 23.

RESULTS:

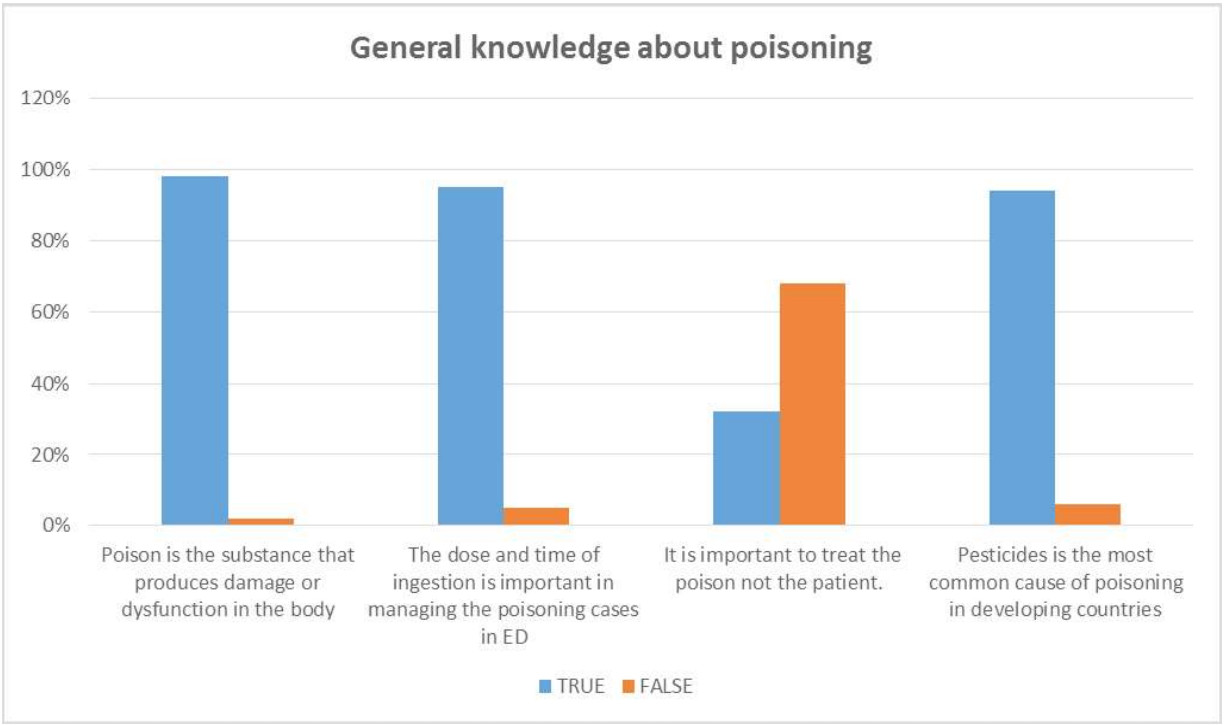

Figure 1.

As seen in figure 1. More than 95% of the respondents had the knowledge of the definition of poison and the importance of the dose and time of ingestion. 94% were aware that pesticides are the most common cause of

poisoning in developing countries. However as many as 32 % of the respondents felt it more important to treat the poison rather than patient.

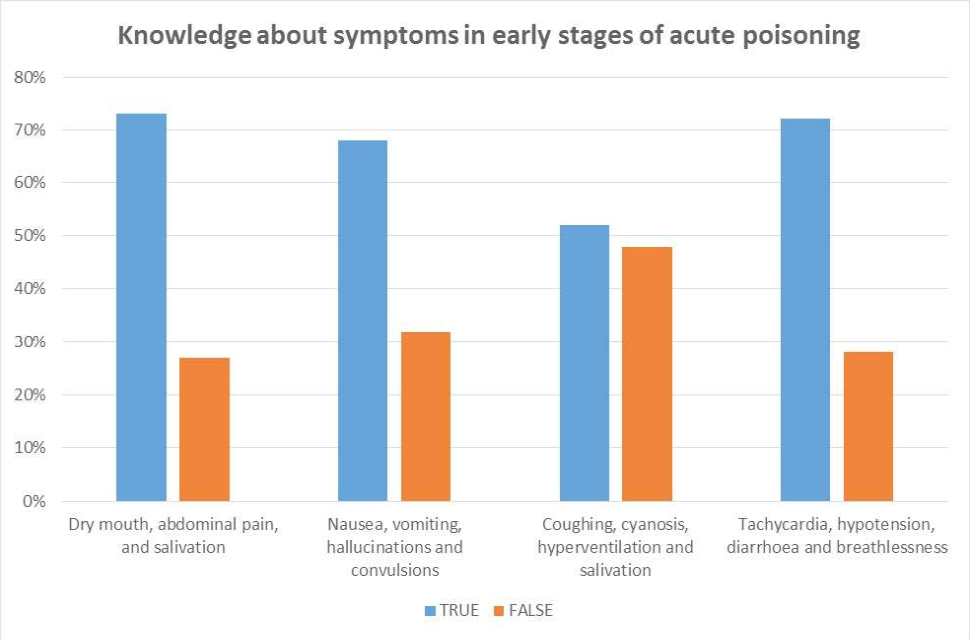

Figure 2.

As seen in figure 2. 73% of the respondents could identify Dry Mouth, Abdominal Pain and Salivation as the early symptoms of poisoning.

However majority of respondents incorrectly classified the late stage symptoms into early stages of acute poisoning.

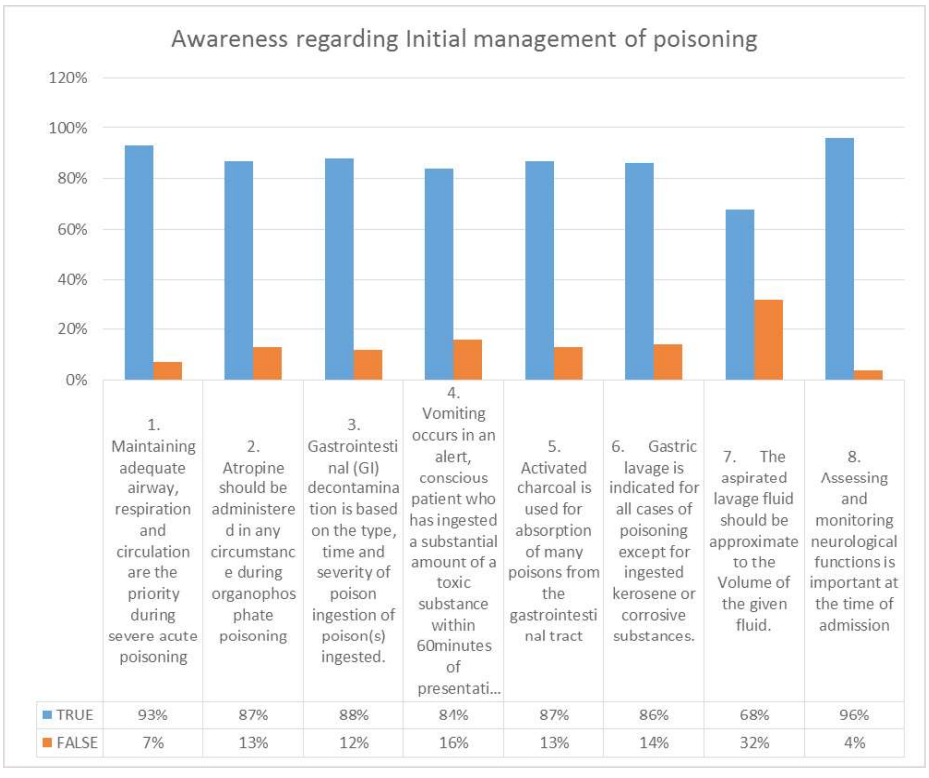

Figure 3.: As seen in figure 3. More than 80 % of the respondents correctly answered on the various initial

management strategy of poisoning.

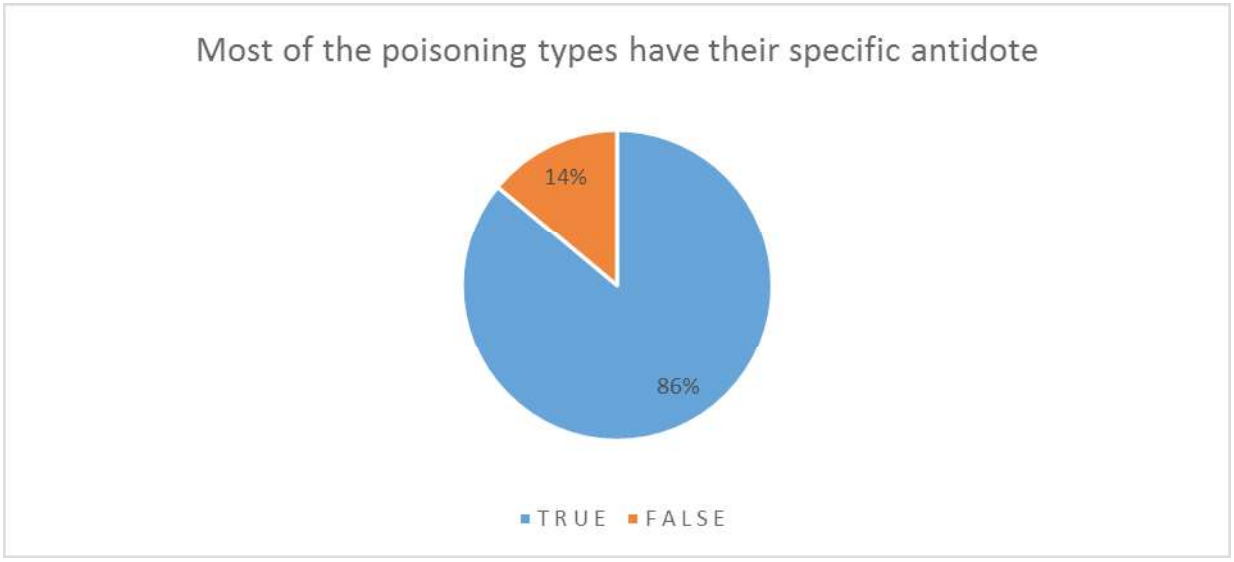

Figure 4: As seen in Figure 4. As many as 86% respondents felt that most poisoning type have their specific antidotes.

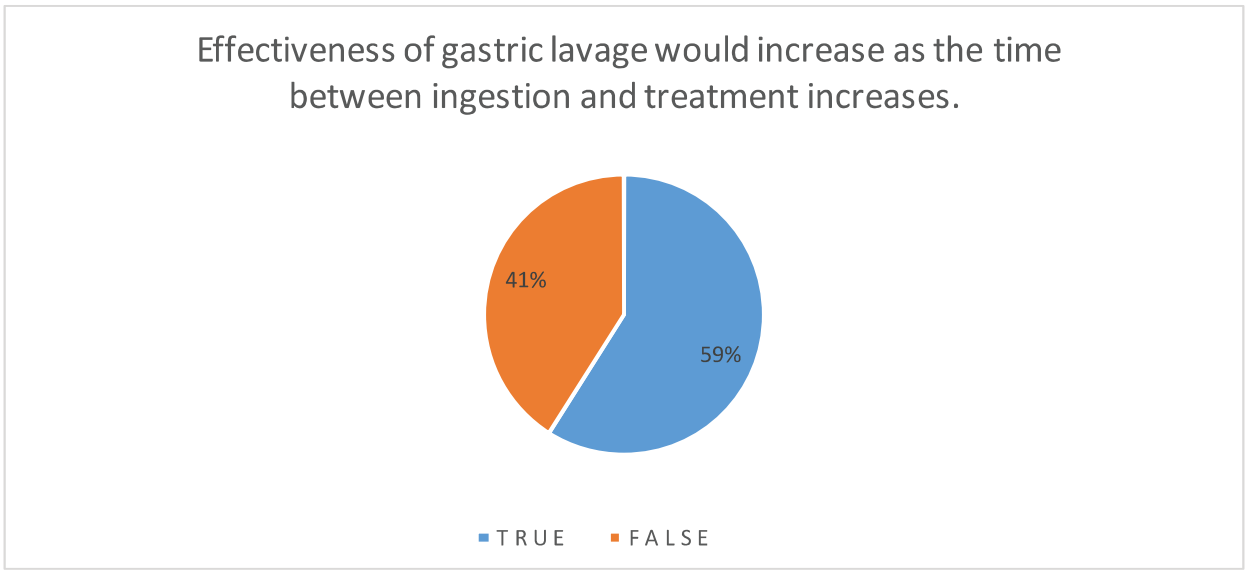

Figure 5.

As seen in Figure 5. 59% of the respondents felt that effectiveness of gastric lavage would increase as the time between ingestion and treatment increases.

DISCUSSION

The study evaluated the knowledge and attitude of the EMS professionals in initial management of cases of acute poisoning.

Majority of the respondents possessed the right general knowledge about poisoning except that most felt that it was more important to treat the poison rather than patient. This approach can adversely affect the initial management of the patient because the EMS respondents should focus on stabilizing the patient and providing symptomatic relief rather than finding the exact poison.

Majority of the respondents could not correctly differentiate between the early stage and late stage symptom of poisoning. This could be due to lack of practical experience and can be corrected by increasing the exposure of the Emergency Medical Professionals to real world cases. The respondents scored well on all aspects of awareness about initial management of poisoning. This is significant because it showed the preparedness of the EMS Professionals in providing standard care in the initial management of poisoning. Surprisingly, only 14 % of the respondents were aware that most poisons do not have a specific antidote. Management of most poisoning cases is based on general principles and these needs to be effectively communicated to the Emergency Medical Professionals. This will help them prioritize the management of poisoning effectively rather than waste precious time in searching specific antidotes. Another noteworthy point that needs to be emphasized is that majority of respondents that effectiveness of gastric lavage would increase as the time between ingestion and treatment increases. This is incorrect, as this would allow the poison to be absorbed into bloodstream thereby drastically reducing the effectiveness of gastric lavage.

Conclusion

The study attempts to evaluate the knowledge and attitude of the EMS responders in acute poisoning and provides with significant areas with scope of improvement that can guide educators to accordingly tailor the teaching curriculum of the subject of poisoning. It throws light that there should be clarity regarding application of theoretical knowledge to the practical management of acute poisoning.

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