

Study Of Poisoning Cases Admitted In Manipal Teaching Hospital

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Received: June 1, 2022

Accepted: January 25, 2023

Published: July 31, 2023

Cite this paper: Jwarchan B, Acharya RR, Dhungana D, Dhakal A. Study of poisoning cases admitted in Manipal Teaching Hospital. *Nepal Journal of Medical Sciences*. 8(2): 22-6. <https://doi.org/10.3126/njms.v8i2.59982>

ABSTRACT

Introduction: Poisoning is a critical public health issue in Nepal, posing a significant threat to the well-being of its population. This study aims to provide a concise overview of the details, types and issues related to poisoning incidents in Nepal.

Methods: Patient records during the period from 1st March 2021 to 28th February 2022 were included in the study. Details of the patients of the age of 18 years and above were included and entered as per the structured proforma. Statistical analysis was done by SPSS in terms of frequency and percentage.

Results: Out of 90 poisoning cases, 54 cases were intentional. Snakebite was the most common acute poisoning. 16 had consumed organophosphate compounds. The majority of the cases were female (58.9%). Two deaths were reported among the total admitted cases.

Conclusion: As we strive for a safer Nepal, it is imperative to emphasize education and awareness-raising efforts at both the community and national levels. Empowering individuals with knowledge about the risks and preventive measures against poisoning is key to safeguarding lives and fostering a healthier nation.

Keywords: Nepal; Organophosphates; Snake Bites

INTRODUCTION

Acute poisoning can have a variable presentation depending on multiple factors. Clinical presentation of acute poisoning can be nausea, vomiting, altered consciousness, respiratory depression, cardiac arrhythmias, miosis, hypotension and multiple organ dysfunctions.[1-3] As per the World Health Organization (WHO), 0.3 million people die

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each year.[4] The most commonly implicated substances are agricultural pesticides (mostly organophosphates) in developing countries and the misuse of drugs in developed countries.[5-7]

Our study aims to address the clinical and epidemiological profile among patients presenting to the emergency department of a hospital in Nepal following intentional or accidental poisoning.

METHODS

This hospital-based cross-sectional study was conducted among admitted patients of Manipal Teaching Hospital, Pokhara, Nepal. Permission was taken from the Institutional Ethical Committee (MCOMS/IRC/517) of Manipal Teaching Hospital (MTH), Pokhara, before the commencement of the study. All the patients presenting to the emergency department following confirmed or suspected poisoning from 1st March 2021 to 28th February 2022 were included in the study. The study was conducted from 30th May to 24th June 2022. Convenient sampling method was employed and all cases that came to the emergency of Manipal Teaching Hospital during that period were included and included ninety cases in total.

Study procedure

Patients presenting to emergency with acute poisoning were enrolled in the study. Data entry, compiling and editing were done manually in a predesigned proforma. For statistical analysis, the SPSS statistical program, version 16.0 (SPSS Inc.; Chicago) was used. Quantitative variables of groups were calculated as arithmetic averages \pm SD. Descriptive analysis was done in terms of frequency and percentage.

RESULTS

Table 1: Baseline characteristics (N=90)

Variables	N (%)
Mean Age (\pm S.D)	36.18 (\pm 13.48)
Female	53 (58.9%)
ICU admission	63 (70%)
Married	67 (74.4%)
Outcome-death	2 (2.2%)
Intentional harm	54 (60%)
Underlying psychiatric diseases	18 (20%)
Hospital duration (in days)-mean	4(\pm 3.3)
Co-ingestion of alcohol	15 (16.67%)

Table 1 shows the baseline characteristics of the patients. Most of the cases were admitted to the intensive care units with middle-aged females as the predominant population. One-fifth of the cases had some underlying psychiatric illness.

Table 2: Presentation of acute poisoning at emergency

Clinical features	Number (%)
Vomiting	55 (61.1)
Abdominal pain	25 (27.8)
Altered sensorium	13 (14.4)
Breathlessness	9 (10)
Palpitation	5 (5.5)

Table 2 shows that gastrointestinal symptoms like vomiting and abdominal pain were the most common presentations of acute poisoning in the hospital.

Accidental snake bite mainly non-venomous was the predominant type of poisoning. Cases of organophosphate were the second most common with incidental cases of copper sulphate and other poisoning.

DISCUSSION

The mean age of the patients was 36.18 \pm 13.8 years. The minimum age was 19 years whereas the maximum age was 76 years. Among

those with intentional intent, 60 years was the maximum age while those over 60 years were mostly cases of snake bite or poisoned by others.

Table 3: Type of poison

Type of poisoning	Number (%)
Snakebite	26 (28.9)
Organophosphate	16 (17.8)
Bromadiolone	8 (8.9)
Wasp/Hornet sting	7 (7.8)
Paracetamol	4 (4.4)
Acid/Corrosive	3 (3.3)
Multidrug ingestion	3 (3.3)
Pheniramine, paracetamol, cetirizine	1
Ibuprofen, paracetamol, azithromycin	1
Paracetamol, pantoprazole, propranolol	1
Zinc phosphide	3 (3.3)
Methanol	3(3.3)
Imidacloprid	3(3.3)
Aluminium phosphide	2 (2.2)
Aconite	2(2.2)
Lorazepam	2(2.2)
Cypermethrin	1(1.1)
Paraquat	1(1.1)
Phenol	1(1.1)
Copper sulphate	1(1.1)
Phenytoin overdose	1(1.1)
Carbamazepine overdose	1(1.1)

The majority of cases were among the middle-aged group and this finding was similar to studies conducted in Nepal.[8,9] These findings were also in agreement with the studies done in other countries.[10,11] Hence issues related to poisoning and suicide-related issues should be focussed on young adults and middle-aged people.

Females accounted for the majority (58.9%) of the cases. Findings from other studies also had females presented to the hospital with acute poisoning features.[1,7-9,11] This was in contrast to the study done in Pakistan

that reported that males comprised 68% of all patients.[10] The exact reason for the variability from a study in Pakistan can't be clearly defined however the likely reason may be that female has poor access and availability to the healthcare system in Pakistan. With this finding, it is clear that educational and motivational programs should focus on females more and explore the possible reasons for poisoning attempts on different aspects at individual, family, social and national levels. The death rate was only 2.2%. Similar mortality was reported in other studies done in other hospitals in Nepal too.[8,12] Higher mortality rate of 6.6% was reported in a study done in Pakistan. The disharmony between the findings is likely due to the difference in the type of poisons consumed and the accessibility and availability of health care services.

Multiple studies have been conducted in Nepal on poisoning cases in different centres and regions. A retrospective record-based profile of 134 poisoning patients in a hospital in Nepal for 3 years found that organophosphate was the most common compound consumed with female preponderance.[9] Studies done in Bardiya Hospital, Pokhara, Birat Medical College Teaching Hospital, and Nepal Medical College Private Limited and Teaching Hospital showed that the commonest poisoning was organophosphate with females as the majority. [8,12,13,14] Timely diagnosis of poisoning and appropriate treatment is vital to prevent morbidity and mortality.

Among the acute poisoning cases, the most common was snake bite. Other studies usually have not taken into account snake bites as acute poisoning. Among the rest, organophosphate poisoning stands as the most common form of acute poisoning. Other studies done in Nepal, India, Sri Lanka and Pakistan also support this finding.[8,9,12] Likely reasons are the dependence of the populations of these countries on agriculture as the main occupation, easy availability

of the compounds in the market and poor implementation of the rules and regulations related to such compounds in these countries. This data is different to those done studies done in Denmark where the common agents as poison were mainly paracetamol and other drugs. Insecticides and pesticides aren't used commonly over there and paracetamol is available as over-the-counter medication over there.[6]

CONCLUSION

Snakebite was the most common poisoning. Organophosphate poisoning was the most common type of intentional poisoning. Females were more prone to poisoning mostly in those of the age group in their thirties. The issue of poisoning in Nepal demands immediate attention and comprehensive action to ensure the well-being of its population. The prevalence of poisoning cases, particularly in hospitals, highlights the urgency to address this public health challenge. Throughout this article, we have shed light on the significant burden that poisoning incidents place on healthcare facilities in Nepal.

CONFLICT OF INTEREST

None

SOURCES OF FUNDING

None

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