

Unintentional Poisoning: Experience at a Medical Unit

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Abstract

Background: To note types of acute unintentional poisoning in patients presenting to Medical emergency of Rawalpindi Medical College, Rawalpindi.

Methods: This cross sectional observational study; was conducted in a Medical unit of Rawalpindi Medical College from January to December 2006. Adult, unintentional poisoning (when a subject poisoned him/herself without an intention to be harmed) cases presenting to medical emergency were included. Each patient was managed in standard way. Type of poisoning, and outcome (death or discharge) of each patient were noted.

Results: Twenty-eight patients were managed during the study period. Majority (60.7%) of patients were female. Mean patient age was 25.68±11.39 years. Snake bite (25%), various medicines like benzodiazepines and analgesics/NSAIDS (21.4%), organophosphate (17.9%), and corrosive intake (17.9%) were most frequently noted types of unintentional poisoning. Poisoning related mortality was 7.1%.

Conclusion: Snake bite and various medicines like benzodiazepines and analgesics/NSAIDS are commonest types of unintentional poisoning.

Key Words: Poisoning, Snake bite, Medicines, Benzodiazepines, Analgesics/NSAIDS.

Introduction

Poisoning is worldwide problem occurring in all regions and countries. It affects people of all ages, gender and income groups. It is an important cause of morbidity and mortality. About 2 million poison exposures reported to all poison centers in United States in the year 2004.¹ Majority of fatal poisoning occurs in developing countries. Causes and frequency of poisoning vary at different places.²

Based on intentions, poisoning can be divided into deliberate self poisoning, unintentional poisoning, and homicidal poisoning. Deliberate self poisoning is commonest of these types and has been receiving considerable attention locally and internationally compared to other types of poisoning.^{3,4} Detailed

knowledge of nature and magnitude of poisoning in a particular area are important for early diagnosis, and prompt treatment. It is also helpful for devising appropriate preventive measures.

Patients and Methods

This cross sectional, observational study was conducted at the medical emergency of one of the Medical Units of Rawalpindi Medical College, Rawalpindi for one year (January to December 2006). Study protocol was approved by departmental committee. Adult unintentional poisoning cases presenting during study period were included. Poisoning was defined as ingestion of a poison or excessive dose of a medicine. Unintentional poisoning was diagnosed when a subject poisoned him/herself without wanting to cause harm to his/her body. Informed consent was obtained from patients or their attendants.

Each patient was managed in standard way i.e., general measures including; hemodynamic stabilization, correction of dehydration, acidosis, hypoglycaemia etc and specific measures like; gastric lavage, administration of activated charcoal or anti snake venom wherever appropriate. After initial management and re-evaluation, unstable patients were admitted to Medical Unit or Intensive Care Unit according to clinical scenario for further management. Details regarding age, gender, occupation, educational level, urban or rural address, socio-economic class, and marital status were also collected. A specifically designed proforma was used to record data. Continuous data was expressed as mean ± SD. Categorical data was expressed as number of patients with a specified class of clinical variable.

Results

A total of 28 patients were managed with diagnosis of unintentional poisoning during study period. Majority (60.7%) of patients were female. Mean

patient age was 25.68±11.39 years. Most of the patients were married and belonged to urban area. Majority of patients (42.37%) had household related occupation.

Snake bite, various medicines, organophosphate, and corrosive intake were most frequently noted types of unintentional poisoning (Table 1). Two patients (7.1%) expired while the rest were discharged healthy. Patients who expired included one male and one female. Organophosphate intake and snake bite were cause of death in each respectively.

Table: 1 Types of Poisoning

Poisoning type	N and (%)
Snake bite	7 (25%)
Medicines*	6 (21.4%)
Corrosives	5 (17.9%)
Organophosphates	5 (17.9%)
Unknown	3 (10.7%)
Bhang	1 (3.6%)
Mixed	1 (3.6%)

*Medicines- Benzodiazepines (7.1%, n=2), analgesics and non steroidal anti inflammatory drugs- NSAIDS (7.1%, n=2), sedative/hypnotics (3.6%, n=1), oral hypoglycaemic agents (3.6%, n=1).

Discussion

Snake bite was commonest type of poisoning noted in this study. Snake bite poisoning is a frequently noted public health problem in countries like Pakistan. It is responsible for about 1,000 deaths per year in Pakistan.⁵ In various Pakistani studies 0.5-4% snake bite related mortality has been noted.^{6,7} Present study revealed a comparatively high percentage (14.28%).

In developed countries analgesics, tranquilizers, and antidepressants are common types of poisoning.⁸ Studies from our neighbourhood countries India, China, and Srilanka have shown that organophosphate pesticides poisoning is widespread.^{2,9,10,11} Over-the-counter availability of benzodiazepines and NSAIDS/analgesics is responsible for accidental intake and poisoning noted in our study. Similarly organophosphate poisoning is also common in Pakistan as these are freely available because of agricultural based economy and lack of effective regulatory measures.^{12,13}

Corrosive are chemicals which dissolve or

erode the tissue in which these come in contact.¹⁴ Bleach, toilet cleaner, detergents, sulphuric acid, and hydrochloric acid are included in this category. This kind of poisoning has been frequently noted in Pakistan.¹³ Corrosive (mainly bleach and toilet cleaner) intake was also common in our patients. This kind of poisoning is different from others as short-term sequelae (morbidity and death) are less compared to long-term (stricture etc).¹⁵

In Western countries poisoning related mortality is low, about 0.5%.^{10,16,17} Overall fatality in Asian acute poisoning patients is more than 10%.¹¹ Mortality in our study was comparatively less (7.14%) and relates with Pakistani studies.¹⁸⁻²⁰

Two limitations of this study are worth mentioning i.e., 1) number of patients, 2) study patients were mainly from urban area. Number of patients is less because the study represents one of the five medical units of Rawalpindi Medical College, Rawalpindi. Additionally we did not include other types of poisoning like deliberate self-poisoning which constitutes major bulk of poisoning patients.³ Characteristics of acute poisoning patients may be different in rural area which is under represented in the study. This study may thus represent trend in the area.

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