

Original Research Article

# TO KNOW THE EPIDEMIOLOGICAL PROFILE OF PATIENTS ADMITTED IN OUR HOSPITAL WITH HISTORY OF ACUTE DRUG POISONING

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## Abstract

**Background & Methods:** The aim of the study is to know the epidemiological profile of patients admitted in our hospital with history of acute drug poisoning, type of drug intake, quantity of consumption, Time of consumption, intent suicidal or accidental, demographic data and clinical presentations. Patients selected for the study will undergo blood investigations like complete blood picture, renal function tests, liver function tests, serum electrolytes, coagulation profile, chest X-ray, ecg, echo, ABG, urine analysis, toxic drug analysis and their reports will be included.

**Results:** Among the total study participants, 07 participants had consumed Benzodiazepines followed by 05 participants had consumed NSAIDs. 04 participants had Anti-hypertensive, 03 had Beta blocker, 03 had Anti-psychotic, 02 had Anti-epileptic, 02 had Anti thyroid, 02 had Vitamins, 01 had Oral hypoglycemic, 01 had Tricyclic antidepressant, 01 had Calcium channel blocker, 01 had Multiple tablets, 01 had Alpha blocker, 01 had Anti fungals, 01 had Anti helminthic, 01 had Anti histamines, 01 had Antibiotic, 01 had Barbiturate, 01 had opioid and 01 had Tetracyclines.

**Conclusion:** Mean age group of patients are 31-40 yrs. Mean time since consumption to arriving to hospital was 12-16hrs. Pre referral treatment done in 51.2%. Benzodiazepines are the most common drug poisoning in this study, Common symptoms of drug poisoning include vomiting, giddiness, abdominal pain.

**Keywords:** epidemiological, acute, drug & poisoning.

**Study Design:** Observational Study.

## 1. Introduction

Poisoning is a condition in which a substance that is injurious to physical health or can cause death is taken orally, inhaled, transdermally or parenterally[1]. Normally used substances such as water can be poisonous depending on the amount ingested.

Acute drug poisoning is the most common form of deliberate self-harm. As rough guide if the active dose by the mouth is considered as unit, the rectal dose is about one-and half to tow, and the hypodermic dose about one-fourth[2].

A lethal dose is usually ten or more times the maximum medicinal dose. The rate of absorption from the alimentary canal is variable. The stomach when empty without food it absorbs more quickly than the filled with substances, also the content of stomach nature is in

favour of dissolving the poison like when you take phosphorous poison and drink oil following it.

This will enhance the action of phosphorous by increasing its absorption. Gastro enterostomy hastens the entry of poisons into the small bowel[3]. Sleep, narcosis and trauma causing gastrointestinal stasis will retard it. Retardation during gastrointestinal absorption, dilution and alteration during digestion. The skin is on the whole a bad absorptive organ.

The most commonly used agents in acute drug poisonings include psychotropic drugs and analgesics, including opioids and non-opioid analgesics (paracetamol, NSAIDS). Medical products for neurological or cardiovascular diseases play a minor role In acute poisonings[4].

Pre hospital care can be classified to basic life support and advanced life support. Basic life support includes for example non-invasive airway management using oxygen mask and lateral decubitus position to protect airway and oral or rectal medications. ALS includes invasive airway management, intravenous fluids and medications[5].

The need for intensive care treatment in acute drug poisoned patients is mainly to stabilize the patients physiology, for special treatment to eliminate the substance that requires the intensive care setting and to manage the complications of poisoning such as pulmonary and cardiovascular complications[6-7]. The most common organ dysfunction is an altered level of consciousness.

## 2. Material and Methods

Present study was conducted 40 cases for 06 months, after selecting patients as per inclusion and exclusion criteria, detailed history will be elicited and clinical examination will be done after stabilisation of airway, breathing and circulation. Details regarding type of drug intake, quantity of consumption, Time of consumption, intent suicidal or accidental, demographic data and clinical presentations. Patients selected for the study will undergo blood investigations like complete blood picture, renal function tests, liver function tests, serum electrolytes, coagulation profile, chest X-ray, ecg, echo, ABG, urine analysis, toxic drug analysis and their reports will be included.

There is no single symptom, and definite group of symptoms, which are absolutely characteristic of poisoning. The closest resemblance to disease, may be produced in thallium poisoning. A detailed clinical history is of great importance.

### Inclusion criteria:

1. All the patients admitted above 18 years with history of acute drug poisoning admitted in toxicology ward.
2. With or without comorbidities like hypertension, diabetes mellitus, depressive disorder etc.
3. Patients giving consent to the study.

### Exclusion criteria:

1. Patients who had consumed multiple modes of poisoning.
2. Patients who didn't give consent to the study
3. Patients less than 18 years of age.

## 3. Result

**Table 1: Age group of the study participants**

Age group (in years)	No.	Percentage
11-20	02	05
21-30	07	17.5

<b>31-40</b>	17	42.5
<b>41-50</b>	08	20
<b>51-60</b>	05	12.5
<b>61-70</b>	01	2.5
<b>Total</b>	40	100

The mean age of the study participants was  $37.36 \pm 41$  years. Majority of participants were from 31 to 40 years. 08 participants were in 41 to 50 years age group, 07 were from 21 to 30 years age group, 05 were from 51 to 60 years age group, 02 were from 11 to 20 years age group and 1 participant was above 61 years.

**Table 2: Time since consumption participants**

<b>Age group (in years)</b>	<b>No.</b>	<b>Percentage</b>
<b>1 to 6 hours</b>	09	22.5
<b>7 to 24 hours</b>	30	75
<b>More than 24 hours</b>	01	2.5
<b>Total</b>	40	100

The mean time since consumption to arriving to hospital was  $11.67 \pm 5.15$  hours. 09 participants arrived from 1 to 6 hours, 30 participants from 7 to 24 hours and 1 participant arrived after more than 24 hours.

**Table 3: Type of drug consumed by the study participants**

<b>Type of drug</b>	<b>No.</b>	<b>Percentage</b>
<b>Benzodiazepines</b>	07	17.5
<b>NSAID</b>	05	12.5
<b>Anti hypertensive</b>	04	10
<b>Beta blocker</b>	03	7.5
<b>Anti psychotic</b>	03	7.5
<b>Anti epileptic</b>	02	05
<b>Anti thyroid</b>	02	05
<b>Vitamins</b>	02	05
<b>Oral hypoglycemic</b>	01	2.5
<b>Tricyclic antidepressant</b>	01	2.5
<b>Calcium channel blocker</b>	01	2.5
<b>Multiple tablets</b>	01	2.5
<b>Alpha blocker</b>	01	2.5
<b>Anti fungals</b>	01	2.5
<b>Anti helminthic</b>	01	2.5
<b>Anti histamines</b>	01	2.5
<b>Antibiotic</b>	01	2.5
<b>Barbiturate</b>	01	2.5
<b>Sedatives</b>	01	2.5
<b>Tetracyclines</b>	01	2.5
<b>Total</b>	40	100

Among the total study participants, 07 participants had consumed Benzodiazepines followed by 05 participants had consumed NSAIDs. 04 participants had Anti-hypertensive, 03 had Beta blocker, 03 had Anti-psychotic, 02 had Anti-epileptic, 02 had Anti thyroid, 02 had Vitamins, 01 had Oral hypoglycemic, 01 had Tricyclic antidepressant, 01 had Calcium channel blocker, 01 had Multiple tablets, 01 had Alpha blocker, 01 had Anti fungals, 01 had Anti helminthic, 01 had Anti histamines, 01 had Antibiotic, 01 had Barbiturate, 01 had opioid and 01 had Tetracyclines.

**Table 4: Symptoms of the study participants**

Type of drug	No.	Percentage
Vomiting	14	35
Giddiness	13	32.5
Abdominal pain	07	17.5
Altered sensorium	06	15
Drowsiness	02	05
Palpitation	02	05
No symptoms	01	2.5
Unconscious	01	2.5
Seizures	01	2.5
Loose stools	01	2.5
Diaphoresis	01	2.5
Confusion	01	2.5
<b>Total</b>	<b>40</b>	<b>100</b>

Majority of the study participants had vomiting as the main symptom (14 participants). 13 participants had giddiness, 07 participants had abdominal pain, 06 participants had altered sensorium, 02 participants had drowsiness, 02 participants had palpitations, 01 participants had no symptoms, 01 were unconscious, 01 had seizures, 01 had loose stools, 01 had diaphoresis and 01 had confusion.

#### 4. Discussion

The majority of the patients (46.68%) in this study were less than 25 years of age, comparable to other research studies. The highest number of acute adults poisoning patients was observed in 15 to 24 years old, comparable to other study findings. The high number of poisoning patients below 25 years old, the Millennials, can be attributed to increased peer pressure, competitiveness, stress, and heavy expectations from family and loved ones. A majority of unintentional/accidental poisoning patients in this study were children between 0 to 5 years of age. Similar high rates of unintentional poisoning among children 0 to 5 years old were found in other studies. This significant number of accidental poisoning among children can be attributed to chemicals and poisons stored in easily accessible places and lack of awareness among parents and family members and the society, resulting in increase in accidental poisoning among children [8].

A significantly higher number of poisoning patients in this study are unmarried, as there were a large number of children with accidental poisoning and students due to failure in examinations at school, love affairs, stress and peer pressure. The majority of the suicidal poisoning was observed in married patients, mostly females, which was comparable to other

investigations. A high number of patients in this study were married for 3 to 7 years, followed by 0 to 2 years. This can be due to abuse, marriage related issues, dowry related issues, extramarital affairs, divorce, impotence or infertility illness, unemployment or other family problems [9].

Most the poisoning patients based on their occupations were students, followed housewives, and businessmen. A significant number of the patients were farmers (6.62%). A similar study observed housewives accounted for the greatest number of the poisoning patients, then came farmers, shopkeepers, and laborers. Moreover, maximum number of the patients in this study had access to the poison either at their homes, or brought their poison from a pharmacy or a shop next to their home, or at their farms.

Furthermore, the intent for poisoning in the greatest number of the patients in this study was suicidal, followed by accidental poisoning, which was comparable to other investigations [10]. Three cases of homicidal poisoning (less than one percent) were reported in this study. On the psychiatric assessment of all poisoning patients, the reason for ingestion of poison in a maximum number of patients in this study was due to a quarrel with family members or loved ones. Other causes were depression, acute stress, family issues, failure in examinations, financial problems, other psychiatric illness and accidental poisoning. The psychiatric assessments in this study were comparable to findings in other studies.

The common type and classes of poisons consumed in this study include pesticides, tablet overdose; rodenticides and insecticides; corrosive agents; petroleum products; plant poison, and heavy metals. Among these poisons, unspecified pesticides were consumed by a maximum number of patients, followed by Organophosphate and carbamate insecticide poison, Benzodiazepine tablet overdose, Rodenticides, Acetaminophen tablet overdose and Petroleum products. A significant number of patients did present with Oleander seed poison.

## 5. Conclusion

Mean age group of patients are 31-40 yrs. Mean time since consumption to arriving to hospital was 12-16hrs. Pre referral treatment done in 51.2%. Benzodiazepines are the most common drug poisoning in this study, Common symptoms of drug poisoning include vomiting, giddiness, abdominal pain.

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