

Changing Trends in Deliberate Self Poisoning at Hyderabad

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ABSTRACT

OBJECTIVE: To document changing trends in deliberate self poisoning in patients admitted in intensive care unit of Accident & Emergency (A & E) Department of Liaquat University Hospital Hyderabad.

DESIGN: Descriptive Retrospective

SETTING: Intensive care unit of A & E Department at Liaquat University Hospital Hyderabad from January to December 2008.

METHODS: Medical records of 236 patients of poisoning admitted in intensive care unit of A & E Department at Liaquat University Hospital Hyderabad from January to December 2008 were reviewed; relevant data like history and clinical finding were collected and analyzed.

RESULTS: During study period, 236 patients of poisoning were admitted in intensive care unit of A&E Department at Liaquat University Hospital Hyderabad. The mean age was 31.24 ± 10.72 , females were 130(55.08%) & males were 106(44.91%), poisoning observed was common (44.49%) in age group 20-30 years. The changing trend was more towards suicidal 160(67.79%) than accidental 76(32.20%). The drugs used for poisoning were organophosphate (73.30%), benzodiazepines (14.40%), powders (rat killer/ anti lice) (7.62%) and oil (phenyl, kerosene) (4.66%). The fatal out come was (9.32%) and the survival rate was (60.67%). The route / exposure of cases by ingestion was 160(67.79%), by inhalation 50(21.18%) and topical 26(11.01%).

CONCLUSION: This study shows marked decline in the use of benzodiazepines and other agents as compared to organophosphate poisoning which shows increase in their usage resulting in changing trends of poisonous agents. The reasons of this change were due to easy availability of the toxic agents over the counter. Preventive measures are to be taken to stop the easy availability of these toxins by appropriate legislation. Awareness and education to the people is recommended to avoid such mishaps.

KEYWORDS: Organophosphate poisoning, benzodiazepine poisoning, deliberate self poisoning.

INTRODUCTION

According to estimates of World Health Organization (WHO) nearly 200,000 people die from organophosphate poisoning each year.¹ The poisoning is usually accidental or non accidental. The non accidental is either suicidal or homicidal, suicidal is either deliberate suicidal attempt, or an attempt to gain sympathy or manipulate the environment, called Para suicide.² Self harming behavior has been noticed since ancient time.³

In terms of intent, persons who commit deliberate self-harm can be divided into those who die, and those who harm themselves.⁴

Deliberate self poisoning is an important public health problem through out the world especially in developing countries⁵. It is a source of considerable morbidity and mortality as well as consuming scarce medical resources. Environmental and cultural factors are known to influence the rate of self poisoning⁶. Organophosphate (OP) poisoning is widely used in agriculture and is common suicidal agents in Pakistan and other

Asian and South Asian Countries. It causes ill health and kills hundreds of thousands of people each year especially in developing countries.⁷

The exact prevalence of organophosphate poisoning is not known in Pakistan as many cases are not reported, due to religious, social or cultural reasons. However reported incidence of deliberate self poisoning in Pakistan is about 8 per 100,000 in men and women.⁸ Benzodiazepines and organophosphate compounds are commonly used for deliberate self poisoning.

PATIENTS AND METHODS

A retrospective study of 236 patients of poisoning admitted in the intensive care unit of A & E Department at Liaquat University Hospital Hyderabad during the year 2008. Liaquat University Hospital is a teaching hospital and caters all cases from urban and rural areas, no other Hospital in the city of Hyderabad have fully equipped ICU to treat the cases of poisoning. Available medical records of these patients were reviewed and the data entered in the pro-forma for fur-

ther analysis. Statistical analysis was done using SPSS 12.0 version. Qualitative data such as gender, age (in groups), outcome of the patients, trends, drugs/poisoning used and route of exposure were presented as n(%).

RESULTS

There were 236 cases of poisoning which were brought to intensive care unit of A & E department at Liaquat University Hospital. The diagnosis was made on the basis of history of exposure or contact, physical examination and characteristic clinical picture. The cases reported with poisoning with age range of 9-60 years, however it was most common in younger age group 21-30 year (44.49%), as shown in **Table I**, the females were 130(55.08%) & males were 106 (44.91%) **Table II**, the fatal out come was (9.32%) and the survival rate was (90.67%) **Table III**. During study period 67.79% cases were reported as suicidal, while 32.20% cases were accidental; no homicidal case was recorded during this period as shown in table-04.

The drugs used were organophosphate (73.30%), benzodiazepines (alprozolan, diazepam) (14.40%), powders (rat killer/ anti lice) (7.62%) & liquids like phenyl, kerosene in 4.66% as shown in table-5. The route exposure of cases by ingestion was 160 (67.79%), inhalation 50 (21.18%) and topical 26 (11.01%) as shown in table-6.

TABLE I: DEMOGRAPHIC CHARACTERISTICS (n = 236)

Characteristics	Frequencies	Percentage
Gender:		
Male	106	44.91%
Female	130	55.08%
Age (in groups):		
0-10	10	4.23%
11-20	30	12.71%
21-30	105	44.49%
31-40	50	21.18%
41-50	30	12.71%
51-60	11	4.66%
Above 60 year	Nil	0%
Trends:		
Suicidal	160	67.79%
Accidental	76	32.20%
Homicidal	0	-
Route of exposure:		
Ingestion	160	67.79%
Inhalation	50	21.18%
Topical	26	11.01%

TABLE II: FREQUENCY OF POISONOUS AGENT USED (n = 236)

Drugs/ Poisons	Frequencies	Percentage
Organophosphorus (OP) poisoning	173	73.30%
Benzodiazepines drugs (Xanax, diazepam.etc)	34	14.40%
Powders (rat killer, anti lice etc)	18	7.62%
Oil (phenyl, kerosene	11	4.66%

TABLE III: OUTCOME OF THE PATIENTS (n = 236)

Outcome	Frequencies	Percentage
Dead	22	9.32%
Alive	214	90.67%

DISCUSSION

The results of this study showed that the trend from accidental poisoning has shifted in favor of deliberate self poisoning because during period of study nearly 68% cases were suicidal poisoning. The deliberate self poisoning constitutes a major cause of morbidity and mortality in United States⁹. About a million people die by suicide each year world wide. Deliberate self harm is the important predictor of suicide¹⁰. Organophosphates are the commonest agent not only for accidental cases but also for deliberate self poisoning. Organophosphate compounds are acetyl cholinesterase inhibitors. They are the used globally for pest control over 100 years¹². The use of organophosphate (OP) poisoning is a major clinical problem in developing countries. The purpose of this study was to observe the changing trend of suicidal poisoning, their demographic characteristics, and clinical diagnosis and out come of patients who self poison within a specific catchments area. We found increase in the use of organophosphate poisoning (73.30%) as compared to benzodiazepine (14.40%) for deliberate self poisoning. This finding is sharp contrast to study by Khurram et al¹¹ who showed that the self poisoning with benzodiazepines (31.3%) is more common than with organophosphate (21.3%). M.M Khan and H. Raza¹² from Karachi Pakistan reviewed 1900 cases and showed suicidal attempts in 1330(70%) of the cases, of whom 40% used organophosphate as poison, which support our current study. Another evidence that trend of self poisoning is changing is that in our study poisoning was common in 21-30 years (44.49%), and females outnumbered (55.08%) males (44.91%) when compared to the study by Dr. J. M

Shaikh et al¹³ where the males were (60.4%) and the females were (39.6%) showing shift of trend more towards females in the current study. The trend was more towards suicidal than accidental, no homicidal case was recorded. The reason for this change is probably easy availability of toxin used the frequency and type of psychiatric disorder diagnosed, and the recourses taken up by this activity¹⁴. The major limitation of this study is the retrospective information collection; despite this good clinical notes enable accurate demographic and relevant data collection.

CONCLUSION

Deliberate self poisoning is an important predictor of suicide. In our study deliberate self poisoning was common in females. This study shows marked decline in the use of benzodiazepines and other agents as compared to organophosphate poisoning which shows increase in their usage resulting in changing trends of poisonous agents. The reasons of this change are due to easy availability of the toxic agents over the counter.

RECOMMENDATIONS

Preventive measures are to be taken to stop the easy availability of these toxins by appropriate legislation. Awareness and education to the people is recommended to avoid such mishaps. A national wide data is recommended, which will be helping in order to understand the problem of deliberate self poisoning.

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