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Socio-Demographic Profile of Poisoning Cases in a Tertiary Care Teaching Hospital of Uttarakhand.

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ABSTRACT

Background: Introduction: WHO reports estimate poisoning as one of the leading cause of increased morbidity and mortality rate Worldwide. In India, the exact incidence of poisoning cannot be defined as there is gross under reporting of cases of poisoning. The study was undertaken to study the socio-demographic profile of poisoning cases and to find out the factors affecting time interval between time of poisoning and first medical care. **Methods:** A descriptive cross-sectional study was conducted in Medicine ward of Government Medical College and Associated Sushila Tiwari Memorial Hospital HaldwaniThe study was conducted during October 2014 to February 2015 .Data were collected on the day of admission. Finally 200 cases were studied. **Results:** Majority of cases were Hindu, housewives, in 20-29 years age group, of general caste, from rural and nuclear families. 18.5% of cases were illiterate Majority belonged to lower or upper-lower socio-economic class. Only 28.8% of cases sought health care within 2 hours of poisoning. Caste and residence were significantly associated ($p<0.05$) with the time interval between first care seeking and time of ingestion of poison. Organophosphorous was the most commonly used poison. Dispute with close family members was the major reason for intake of poisons. **Conclusion:** Awareness should be generated among people about the harmful effects of agro-chemicals. Psychological counselling of adolescents with problems is to be done.

Keywords: Socio-demographic profile, poisoning.

INTRODUCTION

Human deaths following poisoning are not uncommon and it carries high mortality and morbidity. It is a global matter occurring all over the world involving people of all age groups, both sex, from all economic and ethnic groups. The reason for poisoning can be accidental or intentional. It results into approximately 7 lacs death annually. About 345,000 occur from unintentional poisoning, and more than 370,000 from suicidal causes.[1] WHO in year 2012 reported that more than 90% of fatal poisoning cases are seen in middle and low income countries i.e. the developing countries in general and agricultural countries in particular.[2] Organophosphate (OP) compounds are being universally used for pest control in agriculture. The estimated mortality rates with OPP in India are around 7-12%.[3] National Poison Information Centre India, reported that suicidal poisoning with house - hold agents such as OPs, carbamates, pyrethrinoids, etc. being cheap, highly toxic, capable of being taken along with food or drink and easily availability, is the most common modality of poisoning. Recent data from National crime bureau of India shows suicide by consumption of pesticides account for 14.7%, 14.4% and 10.9% of all cases of suicidal poisoning in the year 2012, 2013 and 2014 respectively.[3] The word poison means "a substance that causes injury, illness, or death, especially by chemical means". The number of poisoning cases was reported to be 30478 in 2012. Poisoning cases contributed to 8.3% of total number of accidental deaths in India where West Bengal contributed maximum almost one-fifth of accidental deaths.

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However, in India, the exact incidence cannot be defined as there is gross under reporting of cases of poisoning and also due to lack of research in this area. Poisoning is a medical emergency and a patient is always invariably rushed to the hospital at the

earliest possible moment, irrespective of the amount and nature of poison ingested. All the cases of poisoning are admitted through emergency services where the safety of life of the patient is the main issue for the doctor. Acute pesticide poisoning is one of the most common causes of intentional deaths worldwide.[4] High doses of analgesics, tranquillizers, and antidepressants are the commonly used agents for intentional poisoning in industrialized countries.[5] In spite of spectacular contribution of pesticides in agriculture they are used in Asian region for self-poisoning particularly in rural areas. Studies have revealed that agrochemicals are the commonly used poisoning agents for intentional poisoning in India.[6,7] As it is a medical emergency any delay in seeking health care may be disastrous.

Aims:

The study was undertaken to study the socio-demographic profile of poisoning cases and to find out the factors affecting age, gender, and type of poising

MATERIALS AND METHODS

The study was conducted in Medicine Emergency and Indoor Ward of Medical College and Hospital. It is situated in Haldwani town which is about 281 km. Km from Delhi, national capital of India. The town is situated at foothills of Kumaun range, surrounded by rural areas which are rich in agricultural practice and also by forests. The study period was from October 2014 to February 2015. The study population was all cases of poisoning admitted in the hospital.

Data

Data was collected after obtaining informed consent from the patients or the patient party in case of seriously ill patients. A pre-tested and pre-designed questionnaire was used for data collection. Interview method was used in data collection. Variables used were age, sex, religion, place of residence, educational status, occupation, marital status, per capita monthly income, type of family, type of poison and cause of poison intake.

RESULTS

Out of 200 cases, 47.5% cases were in 21-30 years age group. Majority of patients (88%) belongs to productive age group i.e. in 16-50 years age group. females were found to slightly outnumber male (58% vs.42%). In our study Hindus were majority (56.5%). In present study patients were more common from urban and semi-urban areas (60.5%-30.5%). In our study literacy seems to more commonly associate with incidence of poisoning (57.5% vs.42.5). About two-third of the cases came from nuclear families(74.5% vs.24.5%).Incidence of poisoning were more common in house wives which was closely followed by persons without employment. Majority of patients belongs to lower and upper-lower socio-economic status as per modified B G Prasad Scale low socioeconomic class (94.5%). According to present study most of poisoning were resulted from insecticides and celphos ingestion (82.5%). In our study majority of poisoning incidence were preceded by quarrel (69.5%).

Table 1: Distribution of cases according to socio-demographic characteristics. (n=200)

Socio-demographic characteristics	Number	Percentage
Age(in years)		
16-20	35	17.5
21-30	95	47.5
31-40	33	16.5
41-50	13	6.5
51-60	17	8.5
61-70	4	2
≥ 71	3	1.5
Sex		
Male	84	42
Female	116	58
Religion		
Hindu	113	56.5
Muslim	70	35
Others	17	8.5
Residence		
Rural	79	39.5
Urban	121	60.5
Marital status		
Married	139	69.5
Unmarried	61	30.5
Literacy status		
Illiterate	41	20.5
Literate	159	79.5
Occupation		
Housewife	78	39
Business	65	32.5
Service	15	7.5
Unemployed	42	21
Type of family		
Nuclear	149	74.5
Joint	51	25.5
Socioeconomic class		
Class I	1	0.5
Class II	10	5
Class III	53	26.5
Class IV	94	47
Class V	42	21

Table 2: Distribution of cases according to features of poisoning. (n=200)

Features	Number	Percentage
Type of poison		
Insecticide	117	58.5
Drugs	18	9
Celphos	48	24
Others	17	8.5
Cause		
Quarrel with spouse	98	49
Quarrel with others	41	20.5
Failure	20	10
Miscellaneous	11	5.5
Nil	30	15

DISCUSSION

Poisoning being an important public health problem and having significant mortality and morbidity, we studied few factors behind poisoning incidences .Similar age distribution of cases was also found in different studies conducted at Western Maharashtra, west bengal, Dehradun, Bangalore, Aligarh and Berhampur.[9-13] People of productive age group more commonly involve in suicidal poisoning case as they bear increasing amount of mental stress. We found that near similar sex distribution (with slightly increased incidence in males) was found in several studies conducted in various part country.[9-11] About half of cases in our study were Hindu but the number of poisoning cases in other communities are also which was also found in a study at Aligarh.[11] Patients from rural area were outnumbered by persons from urban and semi-urban areas which is different trend from majority of studies from other part of country.[9-13] It may be probably because nowadays there is mass mobilization of population from rural area to urban area, facing high level of stress for their livelihood, rural areas are remotely placed and having limited access to hospital. Mostly people consumed substances used in agricultural and are easily available which we found in most of studies available from our country.[9-13] People of lower socio-economic class had high incidence of poisoning as they faces more complex problems related to their employment again common with most of studies. Married people outnumbered unmarried like in other studies also.[10,11] Marital disharmony probably causing stress and leading to extreme steps like poisoning. Organophosphorus and celphos was used in majority of cases in various other studies.[9-13]

CONCLUSION

Organophosphorous and celphos was the most commonly used poison. These should be stored in a secured position in houses. Awareness should be generated among people about the harmful effects of agro-chemicals. Psychological counselling of adolescents with problems is to be done. Women empowerment, better employment for underprivileged should be done.

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