

A retrospective analysis of poisoning cases admitted in tertiary care hospital



Anaesthesiology

KEYWORDS: Organophosphorus Poisoning, Socio Demographic Variables

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ABSTRACT

Acute poisoning with various substance is common everywhere. The earlier the initial resuscitations, gastric decontamination and use of specific antidotes, the better the outcome. The aim of this study was to assess the socio-demographic variables and type of poison consumed admitted to the tertiary care hospital, Department of Anaesthesiology and Critical Care, SSIMS&RC, Davangere.

Total poison cases were 216. Organophosphorous poisoning cases were predominant, amounting to 146 cases. Maximum cases (179) were in the age group of 20 to 35 years and were more (87) in the year of 2012. Male predominance was seen in the study population. Most of the cases admitted in ICU were from Davangere taluk (86) as compared to Harihara (51), Harapanhalli (49), Changiri (14), Honnali (09) and Jagalur (07) of Karnataka.

Introduction

Demise due to poisoning has been known since time immemorial. Poisoning is a major problem all over the world, although its type and the associated morbidity and mortality vary from country to country.¹

Organophosphorus poisoning (OPP) ensues very commonly in southern India², where farmers customise a significant fraction of the population who commonly use organophosphorus compounds like parathion as insecticides. Thus, due to the easy accessibility of these compounds, an enormous number of suicidal cases are stumble upon in this region.³

According to WHO, three million acute poisoning cases 22,000 deaths transpire in developing countries chiefly among agricultural workers. This digit could be even-handed the tip of the Iceberg, subsequently utmost cases of poisoning actually go unreported specially, in the third world countries.⁴ Acute Organophosphorus poisoning is a medical emergency and the patients are invariably admitted to the hospitals through emergency services. The poisoning may be suicidal, accidental or homicidal. Because the Organophosphorus compounds are readily available and relatively cheap and have a rapidly lethal action even in smaller doses, they are widely used as suicidal poison.⁵

Since there was increase in suicidal rates most of them through poisoning in India and also in Karnataka⁵, we intended to analyse the socio demographic variables of poisoning cases and also compare the region-wide distribution.

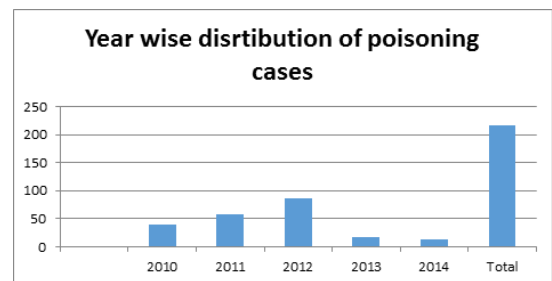
Materials and Methods

The study was conducted in the Department of Anaesthesiology and Critical care unit, SSIMS&RC Davangere. Records of all the cases of poisoning admitted in ICU SSIMS hospital from 2010-2014 were analysed. All the information was recorded on a specially prepared profama, which included age, sex, residence and nature of poison consumed. Data was entered in excel sheet and was analysed using epi info version 7.0. Results were expressed in the form of percentages and proportions.

RESULTS

In the study, a total of 216 cases were analysed in five years from 2010 to 2014. It was observed that, out of 216 cases, 146 cases (67.5%) were due to organophosphorus poisoning and 70 cases (32.4%) non-organophosphorus poisoning making op poisoning the predominant poison consumed and more number of cases noted in year of 2012.

Graph 1: year wise distribution of poisoning cases



Graph 2: Distribution of Study Participants based on type of poison

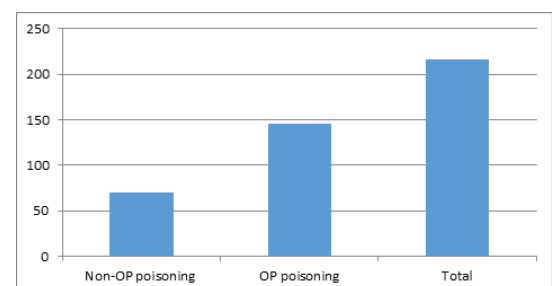


Table 1: Year wise distribution of male and female patients

Year	Gender		Total
	Male	Female	
2010	26	13	39
2011	38	20	58
2012	59	28	87
2013	11	7	18
2014	9	5	14
Total	143	73	216

Table 2: Distribution of cases according to year & District

Year	Taluk						Total
	Davangere	Harihara	Harpanahalli	Changiri	Honnalli	Jagalur	
2010	15	10	08	02	03	01	39
2011	22	12	15	04	02	03	58
2012	35	22	19	06	03	02	87
2013	06	04	05	02	01	00	18
2014	08	03	02	00	00	01	14
Total	86	51	49	14	09	07	216

Discussion

The use of organophosphorus pesticides is widespread in developing countries for increasing the yield of agriculture products to meet the mounting demand. This has resulted in increased incidence of ingestion of organophosphorus for self-harm purpose because of easy availability.^{6,7} The scenario is no different in India where consumption of these for suicidal purpose poses a major problem due to their extensive use in agriculture sector and uncontrolled sale. Overall case fatality rate ranges from 1020%.^{8,9}

In rural areas, majority of the people are involved in various types of agricultural activities. They are not economically strong and they suffer from mental stress in day to day life. Poor housewives suffered from excessive burden and disharmony in family life. Students are less stress tolerable.¹⁰

According to national crime records bureau India, every five minutes a person commits suicide and seven attempt to kill themselves, resulting in about 1,00,000 deaths per year.¹⁰ Suicide rate was highest in the state of Kerala and organophosphorus poison was the most common agent used for suicide purpose.

It is evident that increasing number of young population are becoming the victims of Organophosphorus poisoning.¹² It is essential to improve upon the legislation aspects on the availability of Organophosphorus compounds.¹³ Likewise it is prudent to straighten the preventive measure like educating people through drug awareness programme and promoting poison information centers.¹⁴ Upgradation of peripheral rural health care facilities with orientation programmes on management of poisoning cases will prevent any casualties & save more lives.¹⁵

Our present study of poisoning cases admitted in ICU SSIMS hospital over a vast period of four years and analysing these cases have helped us to draw some important conclusions:

- (1) Most of the cases of poisoning reported from Davangere taluk as compared to other taluks.
- (2) OPP was most common type of poisoning as compared to other poisons.
- (3) Males showed a highest incidence of poisoning as compared to females.
- (4) 20 to 35 years age group was highly affected.

As already discussed above, organophosphorus agents are widely used in the households and in the agriculture as compared to other pesticides that is why organophosphorus poisoning was the most common type of poisoning found.

Majority of victims were in the age group of 20 to 35 years, the reason being that this age group is the most active age group whether physically, mentally or socially and people in this age group are more prone to stress.

Effective measures on the sale, use and safe disposal of the remaining content of organophosphorus compounds have been suggested to counter this problem. Public education in is of utmost importance this regard.

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