



ORIGINAL RESEARCH PAPER

Pharmacy

A STUDY ON PROSPECTIVE MONITORING OF POISONING CASES IN A TERTIARY CARE TEACHING HOSPITAL

KEY WORDS: Poisoning, Organophosphorus compound, Suicide.

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ABSTRACT

A poison can be defined as any substance that causes harmful effect either by accident or design, produces ill health, disease or death to a living organism.

MATERIALS AND METHODS: A total 90 study populations in between 18 to 70 years age group was taken and patients enrolled based on inclusion and exclusion criteria. This Prospective observational study performed for a period of 12 months. Patients divided according to type of poisoning and complete care, day to day improvement and other changes in treatment was observed up to discharge.

RESULTS: 90 poisoning cases recorded in our tertiary care teaching hospital. Out of them the majorly 21-30 years married women of low SES are prone to suicides mainly with insecticides, particularly OP compounds.

CONCLUSION: Out of 80% of poisoning cases, 77.8% of cases received the treatment which included Atropine and PAM and surgical intervention like Fasciotomy, tracheostomy and well again.

INTRODUCTION:

A poison can be defined as any substance that causes a harmful effects through any route either by accident or design, produces ill health, disease or death to a living organism. While poisoning refers to a stipulation or a procedure in which an organism becomes chemically harmed by a toxic substance (1,2). It has been estimated that about 5-6 persons per lakh of population die due to poisoning every year(3) The occurrence and deaths due to poisoning in developing countries have been increasing gradually in recent years (2). Poisoning takes place in all areas and affect all age and income groups. Commonly, unintended poisoning is more usual in children, whereas suicidal poisoning is normal in young adults (5). Deliberate self-harm may occur both in clinical and nonclinical samples. It is vital to know the nature, severity and outcome of acute poisoning cases to take up appropriate planning, prevention and management techniques (4). To reduce deaths from self-harm require interventions to both lower the incidence of harmful behaviour and improve medical management(6). The hurry of the person comes to clinical attention; the degree to which the poisons toxicity and patients severity was understood; and the readiness of medical care to provide intense monitoring and treatment affect the outcome due to acute poisoning. (7). A majority of physicians depend on clinical signs and symptoms for diagnosis. The onset of symptoms takes time to develop, by which the toxicity become irreversible. (8) Among the poisoning cases Op poisoning occurs commonly in southern India, due to the availability of these compounds to the farmers who use organ phosphorus compounds like parathion as insecticides. In addition to that, snakebite is a common acute medical emergency. (9)

AIM OF THE STUDY

To monitor the various poisoning cases admitted at Rajiv Gandhi Institute of Medical sciences (RIMS).

MATERIALS AND METHODS

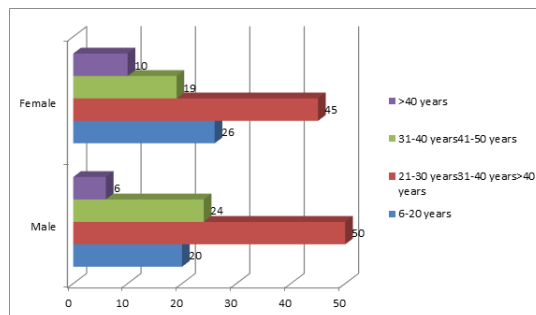
This Prospective observational study performed for a period of 12 months from January 2017 to December 2017 in general medicine department at Rajiv Gandhi Institute of Medical sciences, a south Indian tertiary care teaching Government hospital Kadapa. This study got ethical approval from the IEC of RIMS, Kadapa. A total 90 study populations was taken and patients were enrolled based on inclusion and exclusion criteria by using study materials like specially designed patient data collection form, informed consent form. Both males and females of age group between 18 to 70 years who has consumed poison of any type. Exclusion criteria includes patients are who have violated the treatment against medical advice. Patients were divided according to type of poisoning and complete care and other changes in treatment was monitored up to discharge.

RESULTS:

Patient demographics:

Out of 90 study subjects, 46% were males 54% Females, 21-30 years of age group is more among males compared to females as shown in figure 1. Majority of them were married (75%). Around 50% from rural population among which 65% are of low SES.

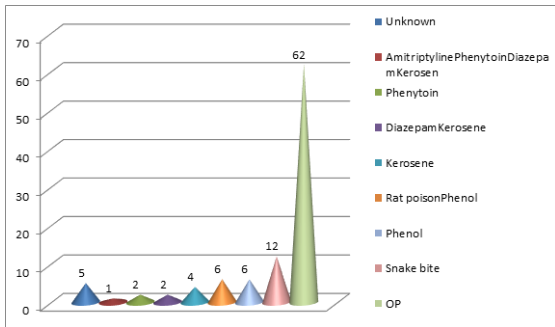
Fig 1: Shows age and sex distribution of patients.



Modes of poisoning:

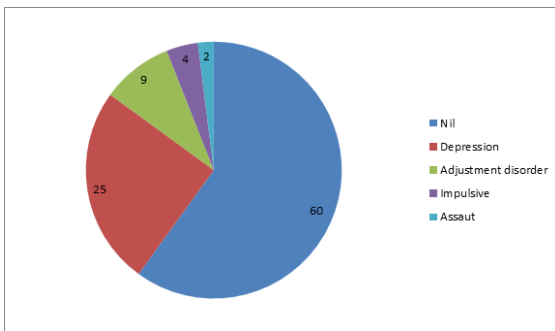
The most common type of poisoning is OP Poisoning (58.8%) as shown in Fig no 2. Among these 77.8% are suicidal cases, most common route of poisoning being oral (80%).

Fig No.2: Shows type of poisoning.



40% of the study subjects had precipitating factors among which depression (30%) was the leading precipitating factor as shown in Fig no.3.

Fig No 3: Shows precipitating factors.



Majority of the patients were visited the hospital for the treatment after 3 to 4 hrs of poisoning (48%) as shown in Table no. 1.

Table.no.1: Distribution of study subjects based on time period b/w poisoning and seeking for treatment

Time in hrs	Frequency	Percentage
<1 hr	08	8.8%
1 – 2 hrs	12	13.3%
3 – 4 hrs	48	53.3%
>4 hrs	22	24.4%
Total	90	100%

Most All the recovered OP cases were treated with Atropine (50%) and PAM (47%). Other drugs used in the treatment were Ranitidine/ Pantaprazole(86%), Ceftriaxone(44%), Metronidazole (22%), Ampicillin(30%), Ciprofloxacin(22%), Phenobarbitone(2%), Phenytoin (2%), Vit K (6%) etc. The other modalities of treatment used are Stomach wash (60%), Body wash (4%), ASV (10%), catheterisation(52%), Intubation and Ventilation(11%),MgSO4 dressing (8%), Fasciotomy(4%).

The relation between marital status, relation between mode and type of poisoning outcome are found. They are shown in following Tables.

Table.no.2: Relation b/w marital status and type of poisoning

Type of poisoning	Marital status		Total
	Married	Unmarried	
OP	41(77.4%)	12(22.6%)	53(58.8%)
Snake bite	08(72.7%)	03(27.3%)	11(12.2%)
Phenol	05(83%)	01(17%)	06 (6.6%)
Rat poison	06(100%)	00	06 (6.6%)

Kerosene	04(100%)	00	04 (4.4%)
Diazepam	00	02(100%)	02 (2.2%)
Eptoin tab	01(50%)	01(50%)	02 (2.2%)
Amitryptalin	00	01(100%)	01 (1.1%)
Unknown	03(60%)	02(40%)	05 (5.5%)
Total	68(75.5%)	22(24.5%)	90(100%)

Table.no.3: Relation b/w mode and type of poisoning

Type of poisoning	Mode of poisoning		Total
	Accidental	Suicidal	
OP	03(5.6%)	50(94.4%)	53(58.8%)
Snake bite	11(100%)	00	11(12.2%)
Phenol	00	06(100%)	06 (6.6%)
Rat poison	03(50%)	03(50%)	06 (6.6%)
Kerosene	02(50%)	02(50%)	04 (4.4%)
Diazepam	00	02(100%)	02 (2.2%)
Eptoin tab	00	02(100%)	02 (2.2%)
Amitryptalin	00	01(100%)	01 (1.1%)
Unknown	01(20%)	04(80%)	05 (5.5%)
Total	20(22.2%)	70(77.8%)	90(100%)

Discussion:

The WHO intelligence recommends pesticides are currently most common mode of suicide worldwide. Poisoning is one of the major causes of morbidity and mortality. In our study out of the 90 cases, 70 of them were suicidal in nature which was alike to the previous studies done by Maharani *et al.* and Shoaib *et al.*^(10,11) 46% of them were male and 54% were female which was related to studies done in Nepal but studies done in Tamil Nadu and other parts of Karnataka showed incidence of high in males compared to females.^(9, 10) It can be attributed to early marriage in the rural population along with its additional familial responsibilities, social custom, limited resources. The major type of poisoning was OP compound poisoning (58.8%) related to the results of other studies done in southern India and Nepal in contrast to studies done in North India which showed most familiar poisoning is Aluminium phosphide.⁽¹¹⁻¹⁴⁾ which relates to the availability of compounds. The most common age group affected was 21-30 yrs of age group which was similar to most of the previous studies conducted.⁽¹⁰⁻¹²⁾ which can be explained by the fact that the peoples of this age suffer from stress of the modern lifestyles, failure in love, family problems, nuclear family concept etc. 25% of the study subject had precipitating factor majorly depression which was similar to the studies of Ramesh *et al.*⁽¹⁵⁾ Factors like dowry, cruelty by the in-laws, family quarrels, maladjustment in married life are accountable for the higher incidence of poisoning among house wives which was in regular with other study result.^(12,15) Most of them arrived to the hospital after 3-5 hrs of poison consumption similar to other study result,⁽¹²⁾ which attributes to the trying with local level management and then recommendation to higher centre or incapability to reach medical care to the periphery. Majority of the cases treated adequately with pharmacological and non pharmacological treatment.⁽¹⁴⁾ Most of them were treated sufficiently and recovered and discharged (77.8%) similar results of previous studies.⁽¹²⁾ This description intended for the proper supervision in tertiary care set up inspite of disturbance in the journey time in looking for treatment.

Conclusion

90 poisoning cases recorded in our tertiary care teaching hospital. Out of them the majority of middle aged married women of low SES are prone to suicides mainly with insecticides, particularly OP compounds. Out of 80% of poisoning cases referred and admitted in tertiary care centre, 77.8% of cases received the treatment which included Atropine and PAM and surgical intervention like Fasciotomy, tracheostomy and recovered fully well. This highlights the proper emergency care in spite of the interruption in transportation.

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