Pattern of Accidental Poisoning in Karachi Children

Pages with reference to book, From 212 To 215

K.N. Shakya, A.G. Billon (Department of Paediatrics, Dow Medical College and Civil Hospital, Karachi.)

Abstract

One hundred and ten children were admitted with accidental poisoning over a period of six months. The highest frequency was in 1-2 years age group, and 79.9% episodes occurred in patients under 5 years. Mortality rate was 13.6% and pesticides were the most common fatal poisons. One third of the fatalities were due to the medicaments (JPMA 32 212 -1982).

Introduction

Accidental poisoning is one of the preventable causes of morbidity and mortality in children. The differences observed in the agents responsible for accidental poisoning in different countries and different communities depend on the social status and prevalent cultural practices. The pattern of accidental poisoning observed in children form the basis of this report.

Material and Methods

One hundred and ten consecutive cases of accidental poisonings attending the Emergency Section of the Department of pediatrics between January to June 1981 were included in this study. The diagnosis of accidental poisoning was made from the history of ingestion, contact with the poison and the circumstancial evidence. Clinical evaluation was done in eacn case. Patients who did not develop any observable symptoms or signs of poisoning as explained by Haggerty (1979), were also included within the diagnosis. Seven cases of opium sedation of infants and 4 cases of self administered poisoning in which the children showed suicidal motives were excluded.
An attempt was made to classify the poisons into medicaments, household poisons and plant poisons in order to facilitate comparison with figures from other countries.

Results

The group of poisons and their incidence are shown in Table I.

Table I

Type and Incidence of Accidental Poisoning (110 Cases)

Group	*Male*	*Female*	*Total*	*%*
Medicaments:	19	6	25	22.72
For Internal Use	16	2	18	
For External Use	3	4	7	
Household poisons:	51	28	79	71.81
Kerosine	27	15	42	
Pesticides	9	7	16	
Others	15	6	21	
Plant Poisons:	4	2	6	5.47
Total:	73	37	110	100.00

The commonest were household poisons (71.8%) followed by medicaments in 22.7% which included 18 for interna! use and 7 for external use. The most important agent was kerosine which accounted for 42 out of 79 cases. There were 16 cases of pesticide poisoning which included rat poisons and insecticides. The non medicinal agents are listed in Table II.

Table II

Accidental Poisoning by Non-Medicinal Substance: Type and Incidence

Name	*Male*	*Female*	*Total*	*%*
Household Substances:	51	28	79	92.94
Kerosine	27	15	42	
Pesticides	9	7	16	
Caustic Soda	3	—	3	
Naphthlene	3	1	4	
Mosquito Coil	—	2	2	
Spirit	1	—	1	
Ink remover Solution	1	—	1	
Opium	5	—	5	
Coal dust	—	1	1	
Mobil Oil	—	1	1	
'Chooran'	—	1	1	
Tobacco	1	—	1	
Lime ('Choona')	1	—	1	
Plant Poison:	4	2	6	7.06
Total:	55	30	85	100.00

Of these, 5 cases of opium poisoning occurred as they were left within easy reach of the children. Plant poisons accounted for 6 cases who belonged to 2 families of the same locality.

Age and Sex

Table III

Age Distribution of Accidentally Poisoned Children: (110 Cases)

Age (Years)	*Male*	*Female*	*Total*	*%*
Below 1	6	2	8	7.27
1 —	17	12	29	26.36
2 —	21	6	27	24.54
3 —	13	6	19	17.27
4 —	10	3	13	11.81
5 +	6	8	14	12.75
Total	73	37	110	100.00

Table III shows that 1-2 years age group had the highest incidence (50.90%) of the poisonings, and that most (79.98%) cases occurred in children under 5 years. Kerosine caused 27 out of 64 cases under 2 years and 15 out of 46 over 2 years. There were 66.36 males and 33.64% females in this series.

Mortality

There were 15 deaths, a mortality of 13.6%. Seven deaths occurred in boys. Out of 15 deaths (Table IV),

Table IV

Age Incidence of Accidental Poisoning Deaths: (15 Cases)

Age (Years)	Male	Female	Total	%
Below 1	—	—	—	—
1—	1	2	3	20.00
2—	3	4	7	46.68
3—	2	2	4	26.66
4—	1	—	1	6.66
5+	—	—	—	—
Total:	7	8	15	100.00

(Mortality Rate: 15/110 = 13.6)

9 (60%) were due to household poisons, 5 (33.33%) due to medicaments and one due to a plant poison. All deaths occurred in children under 4 years of age with the highest mortality (46.68%) in those 2 years old.

Pesticides were responsible for l/3rd of the fatalities and 3 out of 42 children with kerosine poisoning (7.14%) died. Among poisoning with medicaments most deaths (3 cases) occurred due to ingestion of unidentified tablets. The fatal poisons and their incidence have been listed in Table V.

Table V

Fatal Poisons and Incidence of Deaths

Group	*No. of Deaths*			
	Male	*Female*	*Total*	*%*
Household Poisons:	5	4	9	60.00
Pesticides	3	2	5	
Kerosine	1	2	3	
Opium	1	—	1	
Medicaments:	2	3	5	33.33
Unidentified tablets	2	1	3	
Ativan	—	1	1	
'Malish' Oil	—	1	1	
Plant Poison:	—	1	1	6.67
Total:	7	8	15	100.00

Most deaths occurred within first 24 hours.

Discussion

The pattern of accidental poisoning in childhood shows a preponderance of poisoning due to household agents (71.81%), followed by medicaments (22.72%). The figures available for other developing countries are comparable but medicaments head the list in U.S.A. and U.K., as shown in Table VI.

Table VI

Pattern of Accidental Poisoning: Comparison with Figures from other Countries

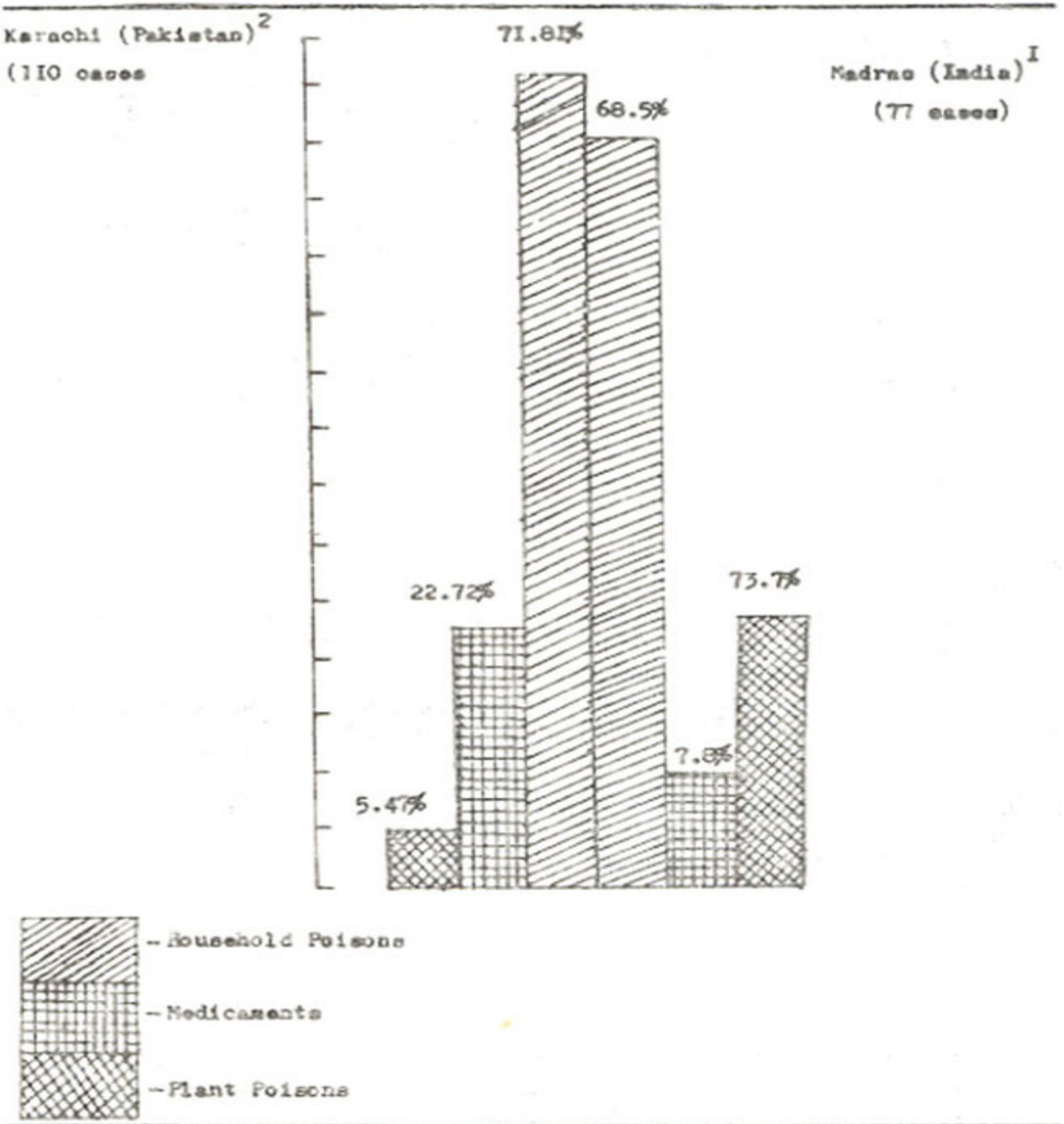
Type	*Karachi* (1) %	*Madras* (2) %	*Uganda* (3) %	*U.K.* (4) %	*U.S.A.* (5) %
Household Poisons	71.81	68.5	60.0	25	37
Medicaments	22.72	7.8	36.9	55	50
Plant Poisons	5.47	23.7	3.1	20	13

1. Present studies at the Department of Paediatrics, Dow Medical College, and Civil Hospital, Karachi Pakistan (110 cases).
2. Anandi Rao (1967), cited by Achar, 1973 (77 cases).
3. Bwibo, 1969 (130 cases)
4. Meadow (1979)
5. Silver et al. (1980)

Poisoning with house hold substances is more common in Pakistan and with plant poisons in India (Figure).

Fig.

Pattern of Accidental Poisoning : A Comparison.



1. Anandi Rao (1967), cited by Achar (1973), (13)
2. Present study at Department of Paediatrics, Dow Medical College & Civil Hospital, Karachi, Pakistan.

Kerosine is the commonest cause of accidental poisoning in Karachi and other countries of the tropics (Jellife and Stanfieed, 1968) including India (Achar, 1973) ana Uganda (Bwibo, 1969). Although pesticides are a less frequent cause of accidental poisoning, they however are more fatal than kerosine.

Drugs (unidentified tablets) are the second most common cause of deaths. A single case of aspirin ingestion was recorded, while no poisoning occurred due to barbiturates or ferrous sulphare. The pattern of accidental poisoning by medica-ments reflects the prevalent prescribing habits and the fashions in self-medicatior among adults (Mitchell, 1978; Fraser, 1980).

Accidental poisoning, occurring in 110 cases in 6 months (or 4.5 cases every week) is a relatively small incidence. But it has to be weighed against parental anxiety, expense and bed-blockage. The mortality rate of 13.6% is more than 2 times that of 5.4% from a retrospective study in Uganda (Bwibo, 1969). This high rate probably reflects the severity of the cases.

Most (79.98%) of the children were under 5, and the highest incidence was in 1 -2 year age group. This is in agreement with Haggerty (1979) and Bwibo (1969) as shown in Table VII.

Table VII

Comparison of Age Incidence of Poisoned Children

Age	*Karachi (110 cases)* %	*Uganda (Bwibo, 1969) (130 cases)* %
Below 1	7.27	20.0
1—	26.37	36.2
2—	24.54	14.6
3—	17.27	10.8
4—	11.81	11.5
5+	12.75	6.9
Total:	100.00	100.0

The sex distribution was similar to that reported by Mitchell (1978).

The introduction of synthetic detergents and newer drugs is likely to change the pattern of accidental poisoning in children.

Accidental poisoning could be reduced by educating the parents at MCH centres, well baby clinics and the paediatric outpatients departments of the hospitals. National information media could play an important role in the education of the public about the damages of accidental poisoning in children with Kerosine, pesticides and medicaments.

Reduction in morbidity and mortality of accidental poisoning will occur with wider use of emetics and

free availability of antidotes, establishment of poison information centre (Arbab, 1977) although expensive, will go a long way in the management of poisoned children and dissemination of relevant information.

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