

Accidental Childhood Poisoning in Ilorin

D FAGBULE* and A OJUAWO†

Summary

Fagbule D and Ojuawo A. Accidental Childhood Poisoning in Ilorin. *Nigerian Journal of Paediatrics* 1986; 13: 21. One hundred and four cases of accidental poisoning in children admitted to the University of Ilorin Teaching Hospital during a three-year period, were reviewed. Kerosene was the commonest poisoning agent, accounting for 51.9% of all the cases; this was followed by drugs (27.9%). The other poisoning agents were food and household chemicals. Children aged one to two years were the most vulnerable. There was a mortality of 1.9%. This study indicates that improved living conditions, proper storage of drugs and chemicals as well as health education of parents, will help in reducing the incidence of poisoning and its attendant morbidity and mortality.

Introduction

ACCIDENTAL poisoning is an important cause of childhood morbidity and mortality^{1 2}. The frequency of poisoning and the agents vary from place to place.³⁻⁶ There has been no previous report on accidental childhood poisoning in Ilorin. The present retrospective study was therefore, conducted to review the local pattern of childhood poisoning with the hope that such information will provide a basis for the prevention of accidents in the home environment, as well as early detection and health education.

University of Ilorin Teaching Hospital, Ilorin

Department of Paediatrics and Child Health

* Lecturer

† Registrar

Correspondence: Dr Doyin Fagbule

Materials and Methods

The case notes of children admitted to the Emergency Paediatric Unit (EPU) and Children's ward of the University of Ilorin Teaching Hospital (UIITH) with accidental poisoning during a 3-year period (January 1982 to December 1984) were reviewed. Cases who received cow's urine as part of the management of febrile convulsion were excluded. The data extracted from the records included the patient's age, sex, date of admission, residence, poison ingested, clinical features, home and hospital management, duration of stay in hospital, outcome and recurrence of poisoning.

Results

During the 3-year period under review, there were 10,000 paediatric admissions of which 104 (1.0%) were cases of accidental poisoning. The

yearly admissions due to poisoning and the percentage of total paediatric admissions are shown in Table I. The number of cases admitted each year varied from 18 in 1982 to 48 in 1984.

Age and sex distribution

The children were aged between 6 weeks and 10 years, with a peak at 1 year. Sixty-five (62.5%) of the 104 cases were below 2 years of age (Table II). There were 66 males and 38 females, a male female ratio of 1.7:1.

Social background

Eighty-two (78.8%) of the 104 cases were from the high-density areas of Ilorin, while the remaining 22 (21.2%) were from the low-density areas such as the Government Residential Areas (GRA) and various housing estates. In twenty-three (22.1%) cases, the children were looked after by relatives (32.5%) or househelps (67.5%) when both parents went to work.

Types of poison

Kerosene was the commonest poisoning agent accounting for 54(51.9%) of the 104 cases (Table III). This was followed by drugs in 29 (27.9%) cases. Drugs ingested included *Aspirin*, cow's urine concoction (accidentally ingested by the children), barbiturates, *Largactil*, paraldehyde, iodine (5 ml given to a 6-week old baby), *Paludrine*, chloroquine, clonidine, illicit gin and other unidentified drugs. Food poisoning accounted for 17(16.3%) of the cases. The various food items identified included beans in 3 sibs (17.6%), boiled cassava with egusi (melon soup) in 4 sibs (23.5%), rice and beans in 4 sibs (23.5%), beans and yam in 3 sibs (17.6%) and *amala* (yam flour) with okro soup in 3 sibs (17.6%). All patients presented within 6 hours of ingestion of the food. Other poisoning agents included ingested household chemicals such as caustic soda, insecticide and 2 unidentified agents. The ages of the patients in relation to the types of poisoning are shown in Table IV.

TABLE I

Yearly Admissions of 104 cases of Accidental Poisoning

Year	No of Cases	Total Paediatric Admissions	% of Total
1982	18	3223	0.6
1983	38	3151	1.2
1984	48	3626	1.3
Total	104	10,000	1.0

TABLE II

Age Distribution in 104 Cases of Accidental Poisoning

Age (yrs)	No of Cases	% of Total
<1	20	19.2
1	45	43.3
2	13	12.5
3	7	6.7
4	6	5.8
>4	13	12.5
Total	104	100.0

All forms of poisoning except food, were predominantly in children aged below 3 years (75%); food poisoning was mainly in school-age children.

Clinical features

Kerosene

It was impossible to quantify with any accuracy, the amount of kerosene ingested and symptoms could not be related to the quantity taken. The

commonest presenting feature was vomiting, occurring in 44 (81.1%) cases, followed by fever in 19 (35.1%), cough in 17 (32.4%) and diarrhoea in 4 (8.1%). Clinical signs of pneumonitis consisting of dyspnoea, intercostal and subcostal recession and crepitations were present in 28 (51.4%) cases. Radiological examination confirmed pneumonia in 12 (43%) of the clinical cases.

TABLE III

Yearly Admissions and Types of Poison

Year	Kerosene	Drugs	Food	Others	Total
1982	15	2	-	1	18
1983	16	17	3	2	38
1984	23	10	14	1	48
Total	54(51.9)	29(27.9)	17(16.3)	4(3.8)	104

Figures in parentheses are the percentages of total number of cases.

TABLE IV

Age related to Types of Poison in 104 Cases of Accidental Poisoning

Poison	Age (yrs)						Total No of Cases
	<1	1	2	3	4	>4	
Kerosene	15	28	3	2	3	3	54
Drugs	4	11	9	3	1	1	29
Food	1	3	1	2	2	8	17
Others	-	3	-	-	-	1	4
Total	20	45	13	7	6	13	104

Drugs

Of the 29 children admitted with drug poisoning, 20 (68.4%) presented with vomiting. Eleven cases presented in varying degrees of unconsciousness, and there was hypotension in 3 (10.5%) cases. Laboratory evidence of metabolic acidosis was obtained in 6 (21.1%) of the cases. On urine testing, 3 (60%) cases of aspirin poisoning gave a positive ferric chloride reaction.

Foods

The various groups were sibs, who had eaten the same meals within 6 hours of presentation. Of the 17 children, 10 (58.8%) presented with vomiting, and 6 (35.2%) with abdominal pains. Five (29.4%) patients had profuse diarrhoea, while 4 (23.5%) were febrile. One (5.9%) patient each had haematemesis, tachycardia and dyspnoea.

Other poisons

The presenting features included vomiting, diarrhoea with dehydration and restlessness in 2 (50%) of the 4 patients. Two (50%) children were asymptomatic.

Home treatment

Fifty (48.1%) of the 104 patients were given first-aid treatment at home; they were mainly children who ingested kerosene. This consisted of oral administration of palm-oil to 25 (23.9%) patients, milk to 8 (7.5%), and a combination of milk and palm-oil to 9 (8.9%) patients. Others were given sugar, mist magnesium trisilicate or cow's urine as antidotes. Forty two (40.3%) patients received no domestic treatment while the records were silent on 12 (11.9%) cases.

Hospital management

Gastric lavage was performed on 39 (37.3%) patients; these were all non-kerosene poisoning. Of the 54 patients with kerosene poisoning, 28 (51.4%) with clinical evidence of pneumonitis received antibiotics and hydrocortisone. The

antibiotics included penicillin and gentamycin, or ampicillin and gentamycin. Intravenous 5% dextrose solution was administered to the two children with alcohol poisoning. Exchange blood transfusion was performed on the 3-year old patient with *Paludrine* poisoning who was admitted in circulatory shock; this patient also received hydrocortisone and sodium bicarbonate. Those who remained asymptomatic were admitted for observation.

Morbidity and Mortality

Forty (38.9%) patients were discharged within 24 hours of admission and only 12 (11.1%) patients stayed beyond 96 hours. The mean duration of hospitalisation was 48 hours. There were 2 deaths, an overall mortality of 1.9%. One was a case of kerosene poisoning and the other that of aspirin poisoning.

Discussion

The present study has shown that kerosene was the commonest cause of accidental poisoning at the UITH, accounting for 51.9% of the cases, a percentage similar to the 50% reported from Ibadan.⁴ It also compares with 44%, 62%, 68% and 75% from Calabar,⁵ London,⁶ Zaria,⁷ and South Africa⁸ respectively. However, it is much higher than 19.8%, and 14.1% reported from Lagos³ and Ilesha⁹ respectively. As indicated above, a large proportion of affected cases in the present series lived in the high-density areas of Ilorin. This fact might explain the high frequency of kerosene poisoning, as a large proportion of residents in these areas use kerosene for heating, cooking and lighting. Careless storage of kerosene in familiar beverage containers on the floor, places it within easy reach of toddlers. The situation in Ilorin is similar to that in other parts of Nigeria.^{5, 6}

Drug poisoning was prominent in this series, accounting for 27.9% of the cases. This result is similar to that obtained by Sinnette.¹⁰ Uncontrolled and indiscriminate sale and purchase of

drugs from chemists and medicine stores, both of which abound in the country, are contributory. A further contributory factor is the dispensing of drugs in loose envelopes rather than in child-resistant containers. Careless storage on tables or shelves at home rather than under lock and key also makes drugs and household chemicals available to children who are often attracted by the colours and sweetness of some drugs. In this series, aspirin was the commonest drug, accounting for 17.2% of cases of drug poisoning, and a case fatality of 20%. It is one of the commonest drugs available in many homes for prompt treatment of fever and various types of pains. Salicylates are acidic and irritant to the gastric mucosa causing vomiting, fever, sweating, metabolic acidosis, CNS depression and haemorrhage when taken in large doses.¹¹ One vital tool in the successful management of salicylate poisoning is the serial measurement of serum levels, but this was not available at our institution. A high level of illiteracy in Nigeria makes identification of drugs and therefore, appropriate remedy difficult.

Alcohol poisoning was not a major problem in this series. This is contrary to the experiences in Calabar⁶ and Benin.¹² However, it is significant that the two cases of alcohol poisoning were due to ingestion of locally brewed gin (*Ogogoro*). This is in line with the findings in Calabar⁶ and Benin.¹² In keeping with reports by other workers,³⁻⁶ the age distribution in our series showed the toddler age group to be most vulnerable, while the overall preponderance of male over female patients indicates the more inquisitive nature of boys.

The increasing number of cases of poisoning over the three-year period of the present study calls for greater public health awareness. Health education of parents and others in charge of young children will help to reduce the morbidity and mortality from accidental poisoning. Careless storage of drugs and chemicals which places them within easy reach of children under 2 years of age should be discouraged. Child-resistant containers should be provided for drugs, and the practice of drug retailing should be reviewed.

Establishment of zonal poison treatment centres will be a right step towards rapid identification and treatment of poisoning.

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