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Accidental Childhood Poisoning in Calabar

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Summary

Asindi AA. Accidental Childhood Poisoning in Calabar. *Nigerian Journal of Paediatrics* **1984; 11:19.** A review of 87 cases of childhood poisoning admitted to the University of Calabar Teaching Hospital during a 3-year period has revealed that kerosene poisoning was the commonest, accounting for 44% of the cases, followed by alcohol (25%). All drugs combined (17%) and household chemicals (14%) accounted for the rest. The low mortality of 1.1% was probably due to early consultation and the practice of minimal or no first-aid administration at home before admission. Improved living conditions, restriction of drugs sales and elaborate health campaigns regarding safe keeping of chemicals, alcohol and drugs away from children should help in reducing the incidence of poisoning.

Introduction

ACCIDENTAL poisoning is an important cause of admission of children into hospitals throughout the world. It also contributes significantly to childhood morbidity and mortality in both developed and developing countries.[1–3] The frequency of poisoning and the types of poisons ingested vary from place to place.[4–9] To our knowledge, there has been no previous report on accidental poisoning in childhood in Calabar. The present retrospective study was therefore, undertaken to identify the frequency, age distribution, causative agents, morbidity and mortality of accidental poisoning among children admitted to the University of Calabar Teaching Hospital (UCTH).

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Materials and Methods

Records of children admitted to the UCTH during a 3-year period (January 1980 through December 1982) were reviewed. In 1979, the UCTH commenced using the facilities available at St Margaret's Hospital, Calabar, which belonged to the Cross Rivers State Government. The hospital has 60 cots/beds for children and serve as the main referral centre for other hospitals in the State. The Children's Emergency Room (CHER) of the hospital started functioning in October, 1982 to complement the existing Children's Ward.

The subjects of the present study comprised children admitted to the Children's ward during the 3-year period and also those admitted into the CHER during the last three months of 1982. The data abstracted from the records included the patient's age, sex, date of admission, the poison ingested, the presenting clinical features and

the complications. The intervals between ingestion and the time of arrival in hospital, first aid measures administered at home, treatment given in the hospital and the outcome were also noted in each case.

Results

During the 3-year period under review, there were 10,616 admissions of which 87 (0.8%) were cases of accidental poisoning. The number of cases admitted each year and the major poisons are shown in Table I. The number of cases admitted each year varied from 28 in 1980 to 30 in 1981.

Age and Sex Distribution

The children were aged between 3 months and 10 years (mean, $6\frac{1}{2}$ months). Forty-seven (54%) of the 87 cases were below the age of 2 years (Table II); the youngest was 3 months old. Only 16 (18.4%) of the 87 children were aged, 5 years and above. Fifty-three (61%) of the 87 cases were males and 34 (39%) females, a male to female ratio of 1.6:1.

Types of Poison

Kerosene was the commonest poison ingested accounting for 38 (44%) of the 87 cases (Table I). This was followed by alcohol in 22 (25%) cases. Ingestion of drugs and other household chemicals was encountered in 15 (17%) and 12 (14%) children, respectively. The ages of the patients in relation to the types of poison ingested are shown in Table III.

Presenting Features

Kerosene

The quantity of kerosene ingested by each child could not be ascertained from the parents. However, the breaths of all the children smelt of kerosene, on admission. Twenty-one (55%) of the 38 patients had respiratory distress on arrival and clinical and radiological examinations confirmed

TABLE I

Yearly Admissions and Type of Poisons

Year	*Kerosene*	*Alcohol*	*Drugs*	*Other Household Agents*	*Total No of Cases*
1980	13	5	5	5	28
1981	12	10	3	5	30
1982	13	7	7	2	29
Total	38 (44)	22 (25)	15 (17)	12 (14)	87

Figures in parenthesis are the percentages of total number of cases

TABLE II

Age Distribution in 87 Cases of Poisoning

Age (years)	*No of Cases*	*% of Total*
<1	11	12.7
1	36	41.4
2	10	11.5
3	8	9.2
4	6	6.9
5–9	15	17.2
10–14	1	1.1
Total	87	100.0

TABLE III

Types of Poisons and Age Distribution

Poison	*Age (years)*							*Total No of Cases*
	<1	1	2	3	4	5–9	10–14	
Kerosene	5	26	1	2	2	2	0	38
Alcohol	1	1	5	5	2	8	0	22
Drugs	3	5	2	0	1	3	1	15
Other Household Agents	2	4	2	1	1	2	0	12
Total	11	36	10	8	6	15	1	87

pneumonia of varying degrees of severity in each case. Eleven (29%) of the 38 presented with fever only. The remaining six (16%) patients were asymptomatic on admission and remained so throughout the period of admission.

Alcohol

Locally distilled gin was the most common alcohol ingested. Twenty (91%) of the 22 patients ingested gin, while the remaining two (9%) drank whisky. Seventeen (77%) of the 22 children were admitted in a state of coma and five (23%) were asymptomatic.

Drugs

Of the 15 children admitted with drug poisoning, only one who ingested a barbiturate, was drowsy on admission, while the child who took isoniazid (INH) had convulsions at home, before admission. All the others were asymptomatic.

Other Poisons

Household chemicals identified included *Parazone* bleach, *Dettol*, *Gamalin*, rat poison and *Izal* (Table IV). The child who ingested *Izal* died soon after admission. The other children were asymptomatic.

TABLE IV

Types of Drugs and Household Chemicals Ingested

Drug	*No of Cases*	*Chemicals*	*No of Cases*
Aspirin	2	Parazone Bleach	1
Barbiturate	2	Dettol	1
Iron tablets	1	Gamalin	2
Calamine lotion	2	Cement	1
Isoniazid (INH)	1	Rat poison	1
Unidentified	7	Izal	1
		Unidentified	5
Total	15		12

Treatment at Home

Twenty-four (28%) of the 87 patients were given first-aid treatment at home. This comprised oral administration of palm oil, milk and *Lucozade*. These first-aid measures were offered mainly to children who ingested kerosene and very rarely to children who took other poisons.

Hospital Management

Seventy-nine (91%) of the 87 patients arrived at the hospital within the first two hours of ingesting the poisons. Treatment in the hospital included the administration of oxygen to 9 children who were very breathless following ingestion of kerosene. Gastric lavage was done in 9 of the children who took alcohol and in all the children who ingested barbiturate, iron and INH tablets. The 21 children who had respiratory symptoms and the children who presented with fever only, following kerosene poisoning, received penicillin. The other six patients who smelt of kerosene, but were otherwise asymptomatic were observed without treatment. All the 22 cases of alcohol poisoning received intravenous 5% dextrose solution, on admission. Patients who ingested other agents were asymptomatic and so did not receive any medication.

Mortality

The only child who drank *Izal* died within 4 hours of admission. Thus, the mortality from accidental poisoning during the 3-year period was 1.1%.

Discussion

In the present study, kerosene was the commonest cause of accidental poisoning accounting for 44% of the cases. This finding is similar to those reported from other parts of Nigeria,[4–6] London,[8] South Africa,[9] and India,[10] but at variance with the report from Benin.[7] Furthermore, the proportion of accidental poisoning due to kerosene in this series was lower than the 68%

and 50% reported from Zaria[6] and Ibadan,[5] respectively, but much higher than 19.8% reported from Lagos.[4] The high frequency of kerosene poisoning in Calabar may be attributed to the easy availability of kerosene, since it is used by a large proportion of the population for cooking and lighting. Careless storage of kerosene at home, places it within easy reach of children.

In the present study, alcohol was the second most common cause (25.3%) of poisoning. In 91% of cases, locally distilled gin was the alcohol ingested. This high frequency of alcohol poisoning confirms a similar finding in Benin that alcohol was a leading cause of accidental poisoning in children.[7] However, in other reports [5–10] both from this country and abroad, only the one from Ibadan[5] mentioned the involvement of alcohol as an aetiological factor. The high frequency of alcohol poisoning in Calabar as well as in Benin is most likely to be related to large quantities of the locally distilled gin consumed by adults in both cities. In Calabar, it is available in most homes; it is distilled and sold by many people as a source of livelihood and features in all traditional functions. The factors that might have contributed to poisoning by drugs and other household chemicals or agents include the uncontrolled sale and purchase of drugs and the poor socio-economic standard of the people whereby most households live in a single room in which all their possessions, including drugs and other dangerous chemicals, are stored.

The low mortality rate of 1.1% in this series is probably due to the fact that most of the patients presented for medical attention soon after the accident. Another contributory factor may be the types of first-aid measures administered at home which obviously had no deleterious consequences. Although accidental poisoning contributed less than one per cent of the paediatric admissions and resulted in about 1% mortality in UCTH, steps should be taken to further minimise and, if possible eliminate the problem from the environment. Appropriate actions should include health education on safe-keeping of dangerous substances such as hydrocarbons away from children. The government should take effective steps to improve the housing conditions of our citizens so as to reduce overcrowding of homes with items which should be stored away from children.

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