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Childhood convulsions: A hospital survey on traditional remedies

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Abstract

A study of one hundred and thirty five children with convulsions admitted in the University of Port Harcourt Teaching Hospital, Nigeria over a 15-month period, October 1986 to December 1987 showed that 65 (48%) of the children received some traditional remedy at home prior to presentation in hospital. Crude oil and palm kernel oil either singly or in combination were the most commonly administered remedies. The central nervous system was more affected by remedies containing crude oil than others ($P < 0.05$).

Administration of cow's urine to convulsing children, reported from other parts of Nigeria, was not observed in the present study and would appear to be uncommon in this part of the country.

Resumé

Une étude portant sur cent trente-cinq enfants atteints de convulsions admis à l'Hôpital Universitaire de Port Harcourt, au Nigeria, durant une période de 15 mois, d'octobre 1986 en décembre 1987, a montré que 65 (48%) de ces enfants avaient reçu quelque traitement traditionnel avant d'être amenés à l'hôpital. Les remèdes les plus usités étaient ou le pétrole (crude industriel), ou l'huile des noyaux de palme, soit à titre individuel, soit sous forme d'un mélange desdites huiles. Le système nerveux central était plus affecté par des remèdes contenant de pétrole que par d'autres ($P < 0.05$). L'utilisation de l'urine de vache en cas de convulsions infantiles, felle qu'on la trouve dans des rapports provenant d'autres parties du Nigeria, n'a pas pu être observée dans notre étude et semble ne pas exister dans notre région.

Introduction

Convulsion is one of the commonest reasons for consultation in most Paediatric Emergency

Units[1,2]. The causes vary in different age groups, but febrile seizures, which generally carry a good prognosis around the world, are associated with a high mortality and morbidity in Africa[3]. This has been attributed in some published reports to the administration of some indigenous concoctions before the children are brought to hospital[4-6].

It is reasonable to assume that the type of traditional remedy applied to some extent reflects the cultural background of the people. For instance the use of cow's urine as a traditional remedy in febrile seizures, which is widespread in Western Nigeria has not been so reported in other parts of the country[4]. Port Harcourt is the capital of the Rivers State of Nigeria and is the nerve centre of the oil industry. Its inhabitants are mainly petty traders and fishermen and come from different cultural backgrounds. The University of Port Harcourt Teaching Hospital (UPTH) is a major referral centre serving as primary, secondary and tertiary centre of medical care and before it moved to its present environs in 1983 there has been no previous report on childhood seizures from this part of the country. This preliminary survey was carried out primarily to examine traditional remedies used in the treatment of childhood seizures and to present some basic data on seizures from the Niger Delta.

Materials and methods

The subjects for the study consisted of all children who were admitted with convulsions into the Childrens' Emergency Room (ChER) during the period of the survey. The case notes were retrieved from the Medical Records Department and information obtained from each included the name, age, sex, usual place of residence — and the type of treatment given at home prior to presentation in hospital. Results of relevant laboratory investigations, including lumbar puncture, and

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outcome were also recorded.

Exclusion criteria

The following cases were excluded:

- (i) meningitis proven by culture
- (ii) meningitis strongly suspected on grounds of abnormal CSF: reduced sugar and increased protein concentration and elevated white cell count or any two combinations of the above
- (iii) Cerebral palsies.

Statistical methods

The data were examined and modified by forming mainly one-way frequency tables. The chi-square test was used in testing proportions.

Results

One hundred and thirty five children were included in the study; 82 males and 53 females, a male: female ratio of 3:2. Sixteen cases were excluded: 2 had bacterial meningitis (*Streptococcus pneumoniae* and *E. coli*), 1 was a case of cerebral diplegia, and 13 had abnormal CSF biochemistry. Sixty five received some traditional remedy prior to admission while 70 did not. The vast majority of seizures occurred in the 1 to 5-year age bracket (Table 1). The convulsions

were mainly tonic-clonic in most of the patients and were associated with fever in 92 children (68.2%).

Table 2 examines the type of traditional remedy administered and sex distribution. Crude oil and palm kernel oil, either singly or in combination were the most commonly administered traditional remedies. In both cases the males predominate, but the sex ratio closely follows that of seizure disorders generally.

Table 3 examines the effect of administration of traditional remedy on the central nervous system. The effects considered were drowsiness or coma. Of those who received traditional remedies prior to admission, 12 of 65 (18.5%) had CNS complications compared to 6 of 70 (8.6%) of those who did not. This difference was however not statistically significant ($P > 0.05$). Similarly, the difference in the rate of CNS complications between those who received combinations containing palm kernel oil and those who did not was statistically not significant. However, 10 of 41 (24.4%) of the children who received combinations containing crude oil had CNS complication, compared to 6 of 70 (8.6%) of those who did not. This difference was statistically significant, ($\chi^2 = 5.2446$; $df = 1$, $P < 0.05$).

Table 1: Age and sex distribution by administration or otherwise of traditional remedies

	Administration of traditional remedies			
	Administered $n = 65$		Not administered $n = 70$	
Age (Year)	Males	Females	Males	Females
Less than 1	5	5	6	6
1 - 5	31	20	31	18
Greater than 5	4	0	5	4

Table 2: Type of traditional remedy by sex distribution

Type of Traditional Remedy	Sex Distribution		Total
	Males	Females	
Crude oil alone	14(16.9)*	6(9.2)	17(26.1)
Palm kernel oil alone	12(18.5)	8(12.3)	20(23.8)
Crude oil and Palm kernel oil	10(15.4)	7(10.8)	17(26.2)
Palm kernel oil and others	3(4.6)	1(1.5)	4(6.1)
Other combinations with crude oil	1(1.5)	2(3.1)	3(4.6)
Other remedies **	3(4.6)	1(1.5)	4(6.1)
Total	40(61.5)	25(38.5)	65(100.00)

* Figures in parentheses are percentages

** Onion peels, red pepper, herbs, placing feet over fire, scarificating.

Table 3: Traditional remedy administration and CNS* complications

Type of Traditional Remedy	CNS Complications		Total
	Yes	No	
Crude oil alone	2(1.5)**	16(11.9)	18(13.4)
Palm kernel oil alone	2(1.5)	21(15.6)	23(17.1)
Combinations containing crude oil	8(5.9)	15(11.1)	23(17.0)
Combinations containing palm kernel oil	0	1(0.7)	1(0.7)
None administered	6(4.4)	64(47.4)	70(51.8)
Total	18(13.3)	117(86.7)	135(100.00)

* CNS = Central Nervous System

** Figures in parentheses are percentage

Duration of seizure and outcome

In 49 of the cases, the duration of seizure was entered in their cases notes. In 26 the seizure lasted for less than 30 minutes, while in 23 the seizure lasted for 30 minutes and above. Four of 26 (15.4%) in the former group had neurological sequelae, compared to 3 of 23 (13.0%) in the latter. This difference is not statistically significant. ($X^2 = 0.0546$; 1 *df*, $P > 0.50$).

Associated conditions

Of the 65 children who received traditional remedies prior to presentation in hospital, 12 had conjunctivitis, 8 were anaemic and 3 had acute otitis media.

Discussion

This study shows clearly a high prevalence of the administration of traditional remedies especially palm kernel oil and crude oil in the treatment of childhood convulsions in our environment. This is usually forced down the child's throat, rubbed on the skin and/or instilled into the eyes. Cases seen in hospital, however, would appear to represent only those that are associated with complications or those that do not respond to these remedies. The use of palm kernel oil as a remedy for convulsion is regarded as baseline in this and other parts of Nigeria but this is most probably the first report of the use of crude oil as a remedy and could represent a highlight in ethnocentric medicine. We are reliably informed that crude oil is obtained from oil fields by workers and distributed (or sold) for treatment of several ailments but particularly convulsions. Could it be that the natives have been using it for centuries or is it an off-shoot of oil exploration in the Nigeria Delta? It would be interesting to compare experiences with those from other oil producing areas.

Reference to crude oil in the medical literature is in the context of accidental intoxications[7]. In the present survey, crude oil appeared to affect the central nervous system more than other remedies. The different components are well known: Tar, paraffin wax, lubrication oil, fuel oil, mineral seal oil, kerosene, mineral spirits, gasoline, petroleum naphtha and petroleum ether are all highly volatile and viscous hydrocarbons. The effect of these hydrocarbons on the central nervous system has however not been clearly elucidated and would require further work. Administration of cow's urine to convulsing children, reported from other parts of Nigeria[3,4,8], is not a feature of our report and would appear to be uncommon in our part of Nigeria.

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