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An ethnographic study of acute respiratory infections in four local government areas of Nigeria.

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Summary

An ethnographic study was conducted in four local government areas of Nigeria. The techniques of informal unstructured interviews and participant observation were used. A total of 104 focus group discussions with 53 groups of mothers, 21 groups of grandmothers, and 30 groups of fathers were conducted. Perception of causes of ARI ranged from cold water, to heredity, poor hygiene, exposure to smoke and dust and the supernatural forces. Preventive measures described were related to the perceived causes. For those groups that discussed home remedies to the treatment of ARI, the remedies described for cough included herbal drinks (39% of groups); honey with lemon (19.5%); eating specific vegetables believed to relieve cough (8.4%); and preparations containing palm oil (21.7%). Remedies described for measles included herbal drinks (62%); local tropical creams (24%); and palm wine (13.7%). Those for ear infections included drops of herbal mixtures in the ear (29.4%); putting various type of oil in the ear (38%); plugging the ear with cotton wool previously dipped in honey, or alcohol (17%). The findings of this study have implications for the Health Education Component of the National ARI Control Program which Nigeria recently embarked upon. There is also the need for research on the efficacy and any possible adverse effects of identified home remedies.

Resume

Une etude ethnographique des infections respiratoires aiguës a été menée dans quatre sous-préfectures du Nigeria. Il a été utilisé des techniques officielles d'interviews non structurées et l'observation des participants. Un total de 104

groupes des foyer de discussions dont 53 formes de meres, 21 formes de grand meres et 30 formes de peres, avaient été menés. De notre perception des causes e l' IRA, on compte le froid; l' heredité; la mauvaise hygiène; l' exposition a la fumée, la poussière; et des forces surnaturelles. Les mesures de preventions décrites dependent des causes perçues. Pour des groupes qui preconisent des traitements traditionnels de l' IRA, les remedes sont les suivants: pour la toux, l' utilisation des liquides extraits des herbes (39% des groupes); miel plus citron (19,5%); la consommation des vegetaux specifiques guerissent la toux (8,4%); et les preparations contenant de l' huile de palm (21,7%). Comme remedes pour la rougeole, on a: les liquides extraits des herbes (62%); les pomades locales d' utilisation courante (24%); et le vin de palm. Les infections d'oreille ont pour remedes: gouttes de liquide issu d'un melange d'herbes dans l'oreille (29,4%); la mise de differents types d'huile dans l'oreille (38%); le bouchage de l'oreille avec du coton trempé dans le miel ou dans l' alcool (17%). Les trouvailles de cette etude appaissent tres utiles pour l' Education de la Sante du Programme de Controle National de l' IRA que le Nigeria vient recommander de lancer. Il importe aussi de faire de recherche sur l' efficacite des remedes precites et leurs risques.

Introduction

Acute respiratory infection (ARI), in conjunction with diarrhoeal diseases and malnutrition, constitute major causes of morbidity and mortality among under fives of the developing countries[1-6]. Incidence rates of 6-8 episodes of ARI per child per year have been reported from many developing countries including Nigeria[4-6]. In recognition of the gravity of the

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problem of ARI, the need arose to collect baseline information which could be used for planning a National Control Programme targetted at reducing ARI specific mortality rates and eventually incidence rates. Because of the complexity of the diseases, and because of the increasing awareness of the role of sociocultural and behavioural factors in the transmission and management of diseases such as ARI, the use of the techniques of ethnography were appropriate for this study. For the purpose of obtaining the relevant information in a short time, the techniques of ethnography are preferable to the usual KAP survey.

Methodology

This study was conducted in four geographically distant and culturally different local government areas of Nigeria. These were Akko LGA in Bauchi State, Oyun LGA in Kwara State, Calabar LGA in Cross River State and Owo LGA in Ondo State. The following techniques of ethnography were applied in the four LGAs; focus group discussions, informal unstructured interviews and participant observation.

The general objectives of the study was to collect baseline information that could be used in planning a National acute respiratory infection control programme. One of the specific objectives was to collect information about behavioural and cultural indicators which could enhance effective planning for an ARI Control Programme.

The target groups were the mothers of young children since they are the primary caretakers of the underfives. However because grandmothers do participate in child care; and fathers are often important in the final decision as to utilization of health care and in providing funds for the purchase of drugs when necessary, it was deemed important to include them in the study.

In each LGA the selection of the village or community in which to conduct the small group discussions was guided by a map and the list of towns and villages. Where there were different languages being spoken, villages were chosen to represent each of the major ethnic groups. In each LGA, key informants were identified, informed about the objectives of the study. They in turn informed the members of the community, thereby ensuring community cooperation and participation. The key informants were interviewed first, following which focus group discussions were carried out, with groups of mothers, group of grandmothers and groups of fathers. There was a maximum of eight members per focus group, all members of a group being of the same sex and similar age group.

At these informal but focussed discussions, the ethnographer took her notes in short form and transcribed them later on in the day. Attempts were made to ensure that all members of a group participated in the discussions and that the discussions were not dominated by a few individuals. The focus group discussions were supplemented by observations made by the ethnographer during the interviews. This paper presents the information gathered about the perception of the caretakers of young children about aetiology and preventive measures of ARI; as well as home remedies used for the treatment of ARI.

Results

Table 1 shows a breakdown of the number of focus groups interviewed in the four LGAs. A summary of the perceived causes and home remedies for the treatment of ARI discussed is shown in Table 2.

Table 1: Distribution of focus groups by local government area

	Calabar	Akko	Oyun	Owo	Total
Mothers	16 (59.3%)	14 (70%)	10 (41.6%)	12 (36.4%)	52 (50%)
Grandmothers	4 (14.8%)	2 (10%)	7 (29.2%)	9 (27.3%)	22 (21%)
Fathers	7 (25.9%)	4 (20%)	7 (29.2%)	12 (36.3%)	30 (29%)
Total	27 (100%)	20 (100%)	24 (100%)	33 (100%)	104 (100%)

Table 2: Perceived causes and home remedies discussed for acute respiratory infections in Akko, Oyin, Calabar and Owo local governments areas

Type of ARI	Perceived causes (% of groups)	Home remedies (% of groups)
Cough	Dust (28%) Cold weather (26.3%) Smoke (21%) Eating certain food items (8.7%) e.g. groundnuts, kola Infections (3.5%) Teething (3.5%) Others (9%)	Herbal teas (39%) Honey + alcohol, lemon - (19.5%) Palm oil based mixtures (21.7%) Vegetables (Efinrin, Utasi) (8.4%) Alligator pepper (2.2%) Mixture of alum and lime 4.3% Others 4.9%
Whooping cough	Cold weather (12.9%) Exposure to an infected child (9.6%) Supernatural forces 9.6% Not known 67.9%	Herbal drinks (62.5%) Mixtures of herbs and honey and lemon (25%) others (12.5%)
Measles	Heat 29.2% Sand/dirt 14.6% God of smallpox Infections 2% Not known 50%	Herbal drinks (62%) Tropical creams (24%) Palm wine (13.7%)
Pneumonia	Cold weather (76%) Infections (8%) Worms (4%) Not known (12%)	Herbs (20%)
Throat infection	Cold weather (8.5%) Long uvula (8.5%) Behavioural such as poor oral hygiene Careless behaviour (24%) Not known 59%	Gargles of salt solution (17.6%) Gargles of alligator pepper + alcohol (11.8%) Herbal drinks (23.5%) Others (chewing sticks, uvulectomy)
Ear infection	Trauma (31.6%) poor hygiene Heredity (14.5%) Breastmilk dropping in ear (4.2%) Cold weather (2%) Measles (2%)	Drops of melted palm oil (32.3%) or shear butter in ear Drops of herbal mixture in ear 2 (9.4%) Plugging the ear with cotton wool previously immersed in various items (17.6%) Others (drops of snail liquid or breastmilk in ear (14.6%)

Cough

Cough was attributed to a variety of causes. The most commonly mentioned being dust (28%) of group responding), cold weather (26.3%). Smoke (21%), eating certain food items such as groundnuts, kola, pepper (8.7%). Majority of the groups did not have definite ideas about preventive measures for cough. A few groups indicated that measures such as wearing thick clothing or feeding a child with warm food: avoiding bad air and smoke; immunization; use of herbs, prayers and avoiding a child with cough might have roles to play in the prevention.

Thirty-nine per cent of the home remedies described for treating cough were made by grinding various root, leaves or barks of trees, and mixing these with water or with the child's pap. Different plants were mentioned in the four LGAs and their local names only were mentioned. In Akko LGA, "Sanya root" and "Zabargandu root"; in Oyun LGA "Epa Ijebu". In Owo LGA "Oromoba leaves and Efinrin leaves".

Also, 21.7% of the home remedies described for cough included mixing palm oil with various items such as sugar, salt, honey, alum, lemon; or just giving the child only palm oil orally.

The remedies (19.5%) for cough contained honey either alone or mixed with alcohol or lemon. Some vegetables believed to have the ability to relieve cough included efinrin and utasi leaves. Other home remedies described for cough included eating alligator pepper (2.2%), licking a mixture of alum and lime (4.3%). (Table 2).

Whooping cough

Of the 31 groups that discussed the possible causes of whooping cough, cold weather was indicated by 4(12.9%), exposure to an infected person by 3(9.6%) groups. With respect to knowledge about preventive measures for the disease immunisation was mentioned by 11(35.5%) of groups, wearing of thick clothing by 3(9.6%), avoiding contact with affected person 3(9.6%), and wearing charmed necklaces by 1(3.2%).

Only 15 groups described home remedies for whooping cough. The remedies (62.5%) composed of herbal drinks made from various leaves or plant roots (e.g. "Omisinmisin leaves") and 25% contained a mixture of honey, lemon and herbs.

Measles

Twenty-nine groups discussed home remedies for

measles. The remedies (62%) were made of herbal drinks with or without alcohol. Some of the leaves used for preparing such drinks included "Koropo leaves, Sese leaves, boiled with palm leaves, Otili leaves boiled with palm leaves, lemon grass (tea leaves)", 24% of the home remedies were topical creams applied to the child's skin which are prepared from various tubers, fruits and leaves. (i.e. plantain plus shear butter plus palm oil; "Lapalapa" leaves plus shear butter). Also, 13.7% of the remedies for measles comprised of palm wine which is given to the sick child to drink, sprinkled on the floor all around the house and in some cases given to other children.

Throat infections

Information about cause and preventive measures for throat infections was obtained from 25 focus groups. The perceived causes included cold weather (8.5%), long uvula (8.5%), poor oral hygiene (8.5%), "careless behaviour" such as leaving one's chewing stick lying around or spitting in an open fire (24%). Perceived measures of preventing throat infection included avoidance of exposure to cold weather, uvulectomy and improved oral hygiene.

Seventeen groups discussed home remedies for sore throat. The remedies (17.6%) were gargles of salt solution, 11.8% were gargles of a mixture of alligator pepper and alcohol; 23.5% were herbal drinks ("Lapalapa" juice plus lime. "Lapalapa" juice plus salt. Ira leaves plus barks of cashew tree and Iyenga"). Some chewing sticks were reported to cure sore throat. Uvulectomy was advocated by some of the groups for the treatment of recurrent sore throat.

Ear infections

Forty eight focus groups gave information about their perceived causes and prevention of ear infections. The most commonly indicated cause was trauma (41.6%), followed by poor hygiene including putting dirty objects, sand, or dirty bathing water into the ear; 19(39.5%) groups. (Table 2).

The measures discussed as being preventive for ear infections included plugging the ear with cotton wool 10(20.8%); improved personal hygiene 5(10.4%) avoidance of exposure to dust 1(2%).

Thirty-three groups discussed home remedies for ear infections, 32.3% of such remedies comprised of putting drops of melted palm oil, or shear butter in the ear. The remedies (29.4%) described included

drops of herbal mixture in ear. Plugging the affected ear with cotton wool which had been previously immersed in a variety of items including honey, alcohol, frankincense etc. comprised 17.6% of the home remedies. Putting drops of breastmilk (8.8%) and drops of snail liquid (5.8%) in affected ear were other remedies described.

Pneumonia

Information about pneumonia was gathered from 25 groups all of whom agreed that this was a severe form of respiratory infection that often needed treatment in a clinic.

Perceived causes included cold weather and heavy rainfall 19(72%); infections 2(8%) and worms 1(4%). Most of the groups 18(72%) did not know about preventive measures. Three (12%) groups mentioned avoidance of exposure to cold, 2(8%) each mentioned scarification and drinking herbal teas.

Perception of severity

The groups all agreed that whooping cough, measles and pneumonia were serious diseases. The symptoms which were thought to be indicative of severity were fever and persistent cough. These two symptoms would prompt the child's caretaker to seek help in the management of the illness.

Health seeking references

As to where cases of ARI should be treated, again the preferred options varied by the type of ARI. But for most cases, multiple options were selected. Most of the groups did mention that cough should be treated at home, with various home remedies, while whooping cough would initially be treated at home and if the child did not get better, help would be sought from a traditional healer and/or a clinic. For pneumonia a combination of home treatment plus clinic treatment as well as use of charms from traditional healers was most preferred. For measles, home care, appealing of the gods plus clinic care was preferred.

Reasons for using home remedies

The reasons for using home remedies included the fact that they were much cheaper than modern medicine; easily available on the farms or in the markets; and many home remedies could be prepared

by the mothers themselves.

Discussion

The results of the study have important implications for the National ARI Control Programme, the primary strategy of which is improved case management, in line with the guidelines of World Health Organisation[7]. Other strategies for the control programme include health education and communication. For the health education component of a National ARI Control Programme to be relevant and effective, it needs to take into consideration the existing beliefs identified by this ethnographic study carried out in different parts of the country.

Some of the preventive measures indicated by the respondents in this study are actually positive and should be reinforced. For example, many of the discussants mentioned avoidance of cold, dressing the child warmly and feeding him with warm food, as measures of preventing ARI. The importance of keeping the child with ARI warm (especially the young infant) is well accepted by health workers[8]. The Nigerian practice of carrying the baby on his mother's back is one such positive practice of keeping the child warm. Other authors have advocated the Kangaroo position, which involves carrying the child on the mother's chest to keep him warm.[9]. Other perceived preventive measures mentioned by the respondents that need to be discouraged include perception of the supernatural forces, use of sacrifices, uvulectomy, and the practice of plugging the ear with cotton wool dipped in various oily preparations. Such preparations and practices might prevent a mother from ensuring more positive practices; and some like uvulectomy have been shown to have serious complications[19].

The use of herbal medicines for treating children is a common practice in many countries[9-14]. In many instances important medical advances have come from plants. A recent case is that of *Artemisia annual* L. by Chinese scientists in 1972. The use of other traditional herbs for children have been reported from China for the treatment of Otitis media[9], acute tonsillitis, acute diarrhoea[10] aplastic anaemia[11]. From Guatemala[12] ethnobotanical surveys detected 200 different plants used for the treatment of dermatomucosal diseases. Sung *et al* reported that Chinese mothers living in Hong Kong were used to giving their babies special medicinal food to strengthen the infants internal defences[13].

Similarly, Osinusi *et al.* reported that close to 60% of underfive children presenting to a poor community clinic in Idikan, Ibadan, had been given herbal teas by their mothers for various reasons[14].

Despite the wide use of local herbs as home remedies in many countries, the efficacy of these herbs has only been proven in a few studies[9]. However there have been many reports of deleterious effects of certain herbs in some communities. The report of poisoning caused by "cough tea" by Merbs *et al.* [15] in Germany; that of irritant contact dermatitis due to a Chinese herbal medicine (Lu-Shen-Wan) [16]; a case report of a fatal yellow oleander poisoning from the Solomon Islands[17]; the reported incidence in the number of medicinal herbal poisoning from 1971 to 1982 [18]; and the deleterious effects of Cow's urine in the home treatment of febrile convulsions in Nigeria[19] show some of the deleterious effects that sometimes occur with the use of herbal medicines.

The findings of this ethnographic study with respect to the use of home remedies for ARI also have implications for the National ARI Control Programme in Nigeria. The current recommendation in line with the national policy is not to prescribe cough medicines and antihistamines for cases of upper respiratory infections except in cases of pertussis and in proven Allergic rhinitis.

Thus the health workers need to advise the child's mother about supportive home care (such as keeping the young infant warm, giving fluids, continued feeding, and the use of home remedies that could soothe the throat or relieve cough). This study has identified various such remedies used in different parts of Nigeria. Some of those used for cough contain palm oil, which has the advantage of containing Vitamin A which has been shown to be beneficial in reducing the severity of ARI[21]; however the potential danger with the use of palm oil-based remedies is the possibility of aspiration pneumonia. Thus health workers in Nigeria need to look more closely at the various home remedies identified by this study; possibly carry out small scale trials of some of them to determine their tolerance and then their efficacy in relieving symptoms of ARI. Definite recommendation can then be made to be the caretakers of children.

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