

## Treatment of Childhood Diarrhoea in Nigeria: Need for Adaptation of Health Policy and Programmes to Cultural Norms

Olayemi O. Omotade<sup>1</sup>, Adebowale A. Adeyemo<sup>2</sup>, Clara M. Kayode<sup>1</sup>,  
and Oladimeji Oladepo<sup>3</sup>

<sup>1</sup>Institute of Child Health, University College Hospital, <sup>2</sup>Department of Paediatrics, and  
<sup>3</sup>Department of Preventive and Social Medicine, College of Medicine, University of Ibadan,  
Ibadan, Nigeria

### ABSTRACT

A community survey of treatment regimens for acute diarrhoea in children was carried out in 10 villages in the Ona Ara Local Government Area of Oyo State, Nigeria, using a combination of qualitative (focus-group discussions) and quantitative (weekly surveillance of diarrhoea) methods. Focus-group discussions were conducted with parents of children aged less than 5 years, while a surveillance of diarrhoea among 550 children of same age was carried out during a 6-month period. The findings of the study showed that not all types of diarrhoea were recognized as illnesses, and only those considered to be illnesses were treated. Treatment often involved an adhoc group which comprised adults who were present at the time the illness occurred (including parents, neighbours, relatives, and elders). Certain beliefs and practices, such as associating types of diarrhoea with occupation or ethnic groups, categorizing the severity on perceived causes, and withholding certain foods during episodes of diarrhoea, were common factors in decision-making for seeking treatment. Antimicrobial agents were used in the case of 46.8% of 205 diarrhoeal episodes, and 28.5% were not at all treated. The usual practice of focusing on a target group, such as mothers, during educational interventions may need to be modified in communities where nearly every adult has a role in decision-making in relation to health. The need to adapt health policy and programmes to cultural norms should be addressed to improve the impact of programmes.

**Key words:** Diarrhoea; Diarrhoea, Infantile; Oral rehydration therapy; Drug therapy; Ethnomedicine; Perceptions; Healthcare-seeking behaviour; Knowledge, attitudes, practice; Health policy

### INTRODUCTION

Most illnesses, including diarrhoea, receive home- or self-treatment first. Since this is a cultural practice in most communities, it is important to learn about the various ways by which illnesses are treated at home. Choice of treatment for diarrhoeal diseases in children usually depends on the perceived type of diarrhoea and

its apparent cause and severity. For example, *igbe eyin* or 'teething stools' is not perceived by the Yorubas in southwest Nigeria as a disease, and is not treated unless there is accompanying vomiting and mucous in stools (1). The actual treatment given to children varies from place to place in Nigeria (2,3). Herbs, other indigenous remedies, antibiotics, and other drugs are widely used (2,4). Educational interventions that do not take these practices into consideration may account for the wide gap between knowledge and practice regarding optimal treatment for diarrhoea at home (5).

As part of a project to develop, test, implement, and evaluate an educational programme to modify behaviour

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Correspondence and reprint requests should be addressed to: Dr. Olayemi O. Omotade  
Institute of Child Health, University College Hospital  
Ibadan, Nigeria  
Fax: 234-2-271-1768  
Email: andrew@ibadan.skannet.com

for the prevention of diarrhoea, we conducted a series of group discussions and a prospective survey in a rural area of Oyo State in southwest Nigeria to document the pre-intervention patterns of treatment for diarrhoeal diseases in the community.

## METHODS AND MATERIALS

### Study site

The Ona Ara Local Government Area (LGA) of Oyo State lies southeast of Ibadan, capital of Nigeria. It covers an area of about 330 sq km, and has a population of 122,387 (3). It has about 200 communities, all of which are rural, except one village-cluster (Olorunsogo/Olunloyo) in the outskirts of Ibadan. Except two, all roads in the Ona Ara LGA are untarred, and some are often a little more than footpaths. Electricity and piped water supply are available in only 3 village-clusters: Badeku, Akanran, and Olunloyo/Olorunsogo. There are 4 government health centres in the Ona Ara LGA, one of which (Badeku) was used as an outreach station of the Institute of Child Health, College of Medicine, University of Ibadan until 1992. Private medical and traditional practitioners also provide healthcare to the various communities. Most men are farmers, while the women are both farmers and petty traders. The people are of Yoruba tribe.

### Data collection

Data were collected through a qualitative method (using focus-group discussions) and a quantitative method (surveillance of diarrhoea in children aged less than 5 years and reported treatment of each episode).

**Focus-group discussions:** A series of focus-group discussions (FGD) were conducted during 26 July 1993–2 August 1993 with parents of children aged less than 5 years. The composition of the groups and the villages selected were as follows: (a) one group with male parents, (b) one group with female parents, and (c) 2 groups with male and female parents. No participants in group (a) and (b) were married to one another. The influential community leaders identified the participants of FGDs. The number of participants in each group ranged from 8 to 12. A trained facilitator and a note-taker conducted each FGD. All FGDs were also recorded on audio tape. The authors transcribed the tapes, and analyzed the transcripts and notes on the perceptions of diarrhoea and its treatment. The responses were summarized under 'male' and 'female' categories. The responses from mixed groups were included under these 2 categories, depending on whether the participant was a male or a female in the group that proffered the idea. Little difference was found in the responses between the groups, and the findings are, therefore, summarized together.

**Surveillance of diarrhoea:** A census of all households in the selected village-clusters was carried out in July 1993, and a household identification number (called ADDR household number) was allocated to each eligible household. An eligible household was defined as a household with at least one child who is aged less than 5 years at the time of the study. A list of all children aged less than 5 years in the study communities was then compiled. One child per household was randomly selected from among these children to participate in the project. Mothers and, in their absence, child caregivers were interviewed, and their responses were recorded in a structured questionnaire.

The questionnaire contained items on education and occupation of mothers, education and occupation of household heads, distance from a government health centre, environmental hygiene, and source of water supply. A diarrhoea-surveillance booklet was opened for each child. This booklet contained questions on whether the child had diarrhoea or not in the preceding week, and if so, what the type of stool and the colour were, and what treatment was given. Each child was visited weekly for 6 months (16 August 1993 to 15 February 1994), and the appropriate page of the booklet was filled up for each visit. Six visits were missed during the study period due to political unrest and frequent petrol shortages in the country during the period. The data collected through the baseline surveillance of diarrhoea and from the mother's questionnaires formed the basis of the quantitative aspect of the study.

Data were analyzed using the Epi Info software.

## RESULTS

### Treatment for diarrhoea

FGDs revealed that several treatment patterns were followed in the management of diarrhoea in children (Table 1). The choice of a treatment pattern depended on the perceived causal/associated factors, severity, and type of diarrhoea. Types of diarrhoea identified in the FGDs included *igbe jedi*, *igbe tapa*, *igbe asule*, and *igbe orin* (Table 2). The significance of the various terms used in describing the types of diarrhoea was not always the same. *Igbe jewo jewo* was mentioned by only one group; it was not considered an illness but was considered abnormal, the perceived cause being due to thick infant feeds or over-concentrated artificial feeds. *Igbe eyin* was not considered an illness at all but was considered part of the normal process of teething in infancy; therefore, it was not treated unless associated with vomiting, poor feeding, or mucoid. *Igbe arunsu* was considered to be illness due to over-eating but was not considered a serious illness. *Igbe orin*, *igbe tapa*, and *igbe asule* were considered to be bloody diarrhoea, but the distinction between them was not always clear. When associated with eating groundnuts or *kulikuli* (groundnut biscuits), it was termed as *igbe tapa* after the name of the ethnic

group in Nigeria, which commonly makes and sells these snacks. One type of diarrhoea that was considered to be extremely dangerous was *igbe igbalode* which was believed to lead to death if not taken to hospital immediately. This type of diarrhoea was believed to be a 'new/imported' disease. Cholera was not believed to be spread by flies; in the words of a 70-year-old woman, "there were flies before this type of diarrhoea came, but the disease was not here then."

The treatments used for the management of diarrhoea at home varied widely (Table 1). The way these patterns of treatment are inter-related is illustrated in the figure. The first decision was whether the diarrhoea needed to be treated for or not. Even when it was not initially treated for as in *igbe eyin*, failure of diarrhoea to resolve or deterioration of the child's condition usually led to some form of treatment or care-seeking. In all groups, herbs and drugs were mentioned as treatment used for

diarrhoea. The use of sugar-salt solution was also mentioned, but one woman would only give salt-sugar solution if diarrhoea exceeded 3 days.

#### Decision-making about treatment of diarrhoea

Decision-making about whether to use home care and/or to consult a professional is usually not a simple action taken by the immediate family members concerned, but may involve neighbours and elders in the community. This 'therapy management group' (7) may include, apart from the parents of children, relatives, neighbours, and elders in the community. These people usually offer suggestions on what should be done when the children suffer from diarrhoea. In addition, they may provide herbs or drugs that 'worked' the last time their children or someone else had such an illness. Help from outside the home was usually sought only when the child did not get better, there was blood in the stools, or if it was thought to be due to cholera.

#### Distance from the nearest government health centre and care-seeking

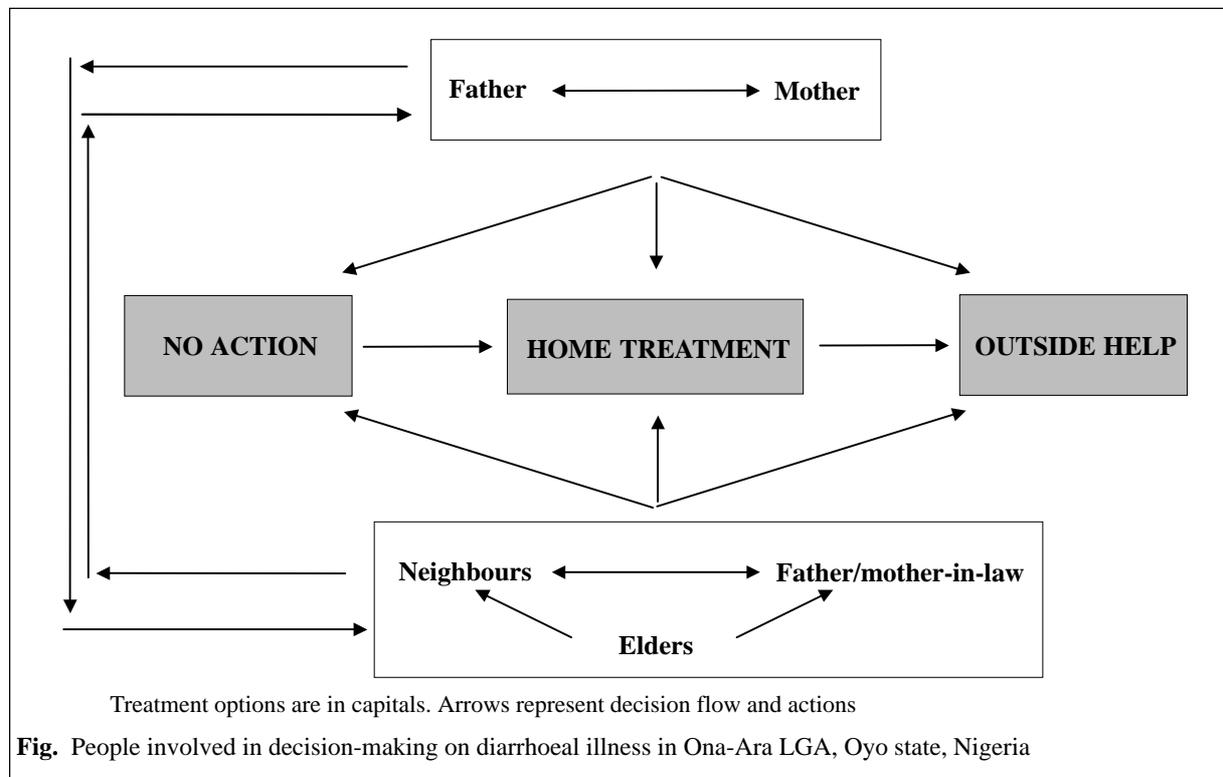
The distance of health facilities from household was assessed in walking time, and was compared with walking time to the facilities usually used at the times of need, not just during the previous episode of diarrhoea. 29.2% of the parents spent less than 5 minutes walking to the nearest health facilities, but only 16.9% used facilities that are within 5 minutes away. Twenty-nine percent spent between 5 and 10 minutes walking to the nearest health facilities, and 18% used

**Table 1.** Summary of treatment patterns in childhood diarrhoea from FGDs

Response to diarrhoea	
No action	This is the response if the diarrhoea is believed to be <i>igbe eyin</i> (teething diarrhoea) or if believed to be due to over-feeding
Specific treatment	Herbs, such as <i>esinile</i> , <i>lapalapa pupa</i> , <i>efinrin</i> Sugar-salt solution Tetracycline, ampicillin <i>Efunle</i> (native chalk deposits) Home remedies, e.g. alcohol with starch paste, 'stout' (to make the child sleep)
Feeding/fluids	Give clean water Avoid the following: - beans - hard food (e.g. boiled yam) - hot (temperature) food - 'okele' (solid morsels) - sweet/sugary food Stop all foods and give water only

**Table 2.** Terms used for describing diarrhoeal diseases and their significance

Local term	Significance	Terms used as synonym
<b>"Teething" diarrhoea</b>		
<i>Igbe eyin</i>	Not an illness, Normal feature of teething	
<b>Diarrhoeal diseases</b>		
<i>Igbe jedi</i>	Illness	Distinction not always clear between these
<i>Igbe asule</i>	Illness	
<i>Igbe tapa</i>	Illness	3 terms
<i>Igbe gburu</i>	Illness	
<i>Igbe orin</i>	Illness	
<i>Igbe arunsu</i>	Illness	
<i>Igbe igbalode</i>	Severe illness Maybe life-threatening	<i>Igbe onigbameji</i> <i>Igbe masu mabi</i> <i>Igbe cholera</i>
<b>Diarrhoea associated with other conditions</b>		
<i>Igbe jewo jewo</i>	Not an illness, associated with colic	
<i>Igbe oka</i>	Serious illness, associated with <i>Oka ori</i>	
<i>Igbe iletutu</i>	Illness, associated with the wet season (literally 'cold earth')	
<i>Igbe ilegbona</i>	Illness, associated with the hot season, skin rash, convulsions	



facilities that were less than 10 minutes away. 23.5% spent more than 30 minutes walking to the nearest health facilities, and 51.8% actually used these far-away facilities (Table 3). Some reasons given for using more distant facilities included: lack of availability of healthcare at the government facilities on week-ends, lack of equipment and drugs at the nearby health

**Table 3.** Distance from the nearest government health facilities and frequency of use of these and other facilities

Time (in minutes)	Walking time to nearest health facility (%)	Walking time to health facility used (%)
<5	29	17
5-10	29	18
11-20	8	4
21-30	10	9
>30	24	52

facilities, delay in receiving treatment, and unfriendly/hostile attitude of the health staff. Therefore, many people did not visit the nearest health facility.

**Treatment of diarrhoea during surveillance**

A total of 205 diarrhoeal episodes occurred during the period of surveillance. Information on how the diarrhoeal

episode was treated was available in the case of 158 (77%) episodes. The commonest treatments used in acute diarrhoeal episodes were antimicrobials in 46.8% of the cases and oral rehydration therapy (ORT) in 20.9% of the cases. Of the latter, sugar-salt solution was used in 9.5% and ORS sachets in 11.4% of the episodes. No treatment was given in 28.5% of the episodes. Surprisingly, only 2.5% were given herbal remedies in contrast to the findings of FGDs in which herbs were mentioned as remedies in the home management of diarrhoea. The sources of antibiotics and other medications included: chemist shops 27 (37%), health institution 24 (33%), and the home, i.e. left-over drugs from a previous consultation 9 (12%). 8.2% of those interviewed obtained their antibiotics from roadside vendors/drug hawkers, while 5.5% purchased their medicines from pharmacies in the peri-urban areas of the Ona Ara LGA, bordering the city of Ibadan. Three (4.1%) of the 74 respondents obtained their antibiotics from neighbours/relatives.

**DISCUSSION**

The present study has described the perceptions of parents about diarrhoea, the significance of various types of diarrhoea, and the treatment patterns in a cluster of villages in southwest Nigeria. More importantly, their emergent behaviour in terms of actual treatment for

diarrhoeal episodes during the surveillance was studied. Diarrhoea is still a major child health problem in Nigeria, although the country has had a national Control of Diarrhoeal Diseases (CDD) programme since 1988 (8). The results of the present study showed that management of childhood diarrhoea remained sub-optimal in the study area with only 1 in 5 children receiving ORT, while about 47% received antibiotics. Some reasons for this observation may lie in perceptions, care-seeking behaviour, and problems with access to healthcare as found in this study. The problems of designing and implementing an effective diarrhoea-control programme for a country, like Nigeria, with over 250 ethnic groups are formidable. Too rigid or too narrow an approach will fail as will the attempt to incorporate every single nuance of the peculiarities of each ethnic group. Local adaptation of the generic programme, based on locally-collected data, is likely to enhance programme effectiveness.

Results of the study showed that not all cases of diarrhoea were considered illnesses, and consequently, not all cases of diarrhoea were treated. This finding has been documented previously in this study area (1) and elsewhere (2). Some types of diarrhoea were seen as an accompaniment of normal development as in 'teething diarrhoea' (*igbe eyin*) or as a result of over-eating or dietary indiscretion. While this practice may be of concern, it should be noted that the people would treat such cases if they were associated with some complications, such as vomiting and refusal of foods or if the condition of the child deteriorates. The real problem occurs when the condition of the child becomes worse during the night or during a rainstorm when it might be impossible to obtain a transport to go to a health centre. Given the rapidity with which dehydration may develop in a child and the low frequency of ORT use (21%) in this community, a health-education intervention in these communities must emphasize early and appropriate use of rehydration fluids in the home management of diarrhoea. In addition, the local health centres must be strengthened to perform their role of providing primary care to the communities at all hours of the day and night. The problems of limited working hours at the public health centres, lack of drugs, and long waiting time accounted for the finding that many people do not go to the nearest health centre. These shortcomings of the healthcare system must be addressed to provide better service.

It was also found that decision-making might not be a simple action taken by the mother alone or by the immediate family members but might involve the neighbours and elders in the community. The role of these 'therapy management groups' cannot be overlooked. The consequences for neglecting their input may be far-reaching in the community. For example, if such suggestions are ignored and the child turns out to be worse, the mother/parents may be accused of causing

the death of the child and be labelled as 'bad' or 'careless' who refuse to listen to advice. Therefore, it is necessary that any intervention to succeed should involve all segments of the society. Failure to involve everyone in the community, especially the men who are traditionally the decision-makers in the home, elders, and community leaders, in the development and implementation of any educational intervention programme may result in sub-optimal practice of the desired behaviour in spite of a high level of awareness (5). It is for this reason that the present study included these influential people in FGDs.

The 47% frequency of antibiotic use in this study does not differ significantly from the 54% use of antibiotics recorded in Ilorin, Nigeria (11)—about 150 km north of the study site. The sources of procurement of the drugs varied widely, but the role of chemist shops/pharmacies, roadside vendors, and health institutions in supplying drugs is notable. If these remain the sources of therapy of inappropriate antibiotics, any health-education intervention that emphasizes appropriate replacement of fluid losses—rather than the use of antibiotics and antidiarrhoeal agents—is likely to fail. Therefore, the intervention must involve health education of drug vendors and health workers. They should be persuaded to promote the use of ORS (rather than antibiotics except when indicated) as a life-saving measure and that their profits could be made from drugs other than antibiotics used inappropriately to treat diarrhoea. Factors that must be taken into consideration in the design and implementation of the educational intervention programme for the above prescribers are their beliefs and evaluation of the outcome of prescribing ORT only, their beliefs about expectation of their clients, and their readiness to comply with the existing policy on the management of diarrhoeal diseases.

The findings of the present study suggest that the process of management of diarrhoea at the community level and its relevance in the development of educational intervention in the Ona Ara LGA are understood better when viewed within the cultural context of the people. Major policy implications of this study include the need to: (i) use the perceptions of the people and practices of treatment of diarrhoea as input into educational programmes, (ii) strengthen the primary healthcare system to meet the requirements of the community they serve, (iii) train not only healthcare workers in the formal health sector but also chemists, patent medicine vendors, and roadside vendors in the appropriate management of diarrhoea, and (iv) include not only mothers of young children but also fathers, grandmothers, and other people in an intervention because of their influence in the decision-making process.

In conclusion, we recommend that such studies as the present one be carried out in the early phases of an intervention to provide a framework and input into

national programmes on health issues. In addition, proper follow-up after the intervention and monitoring and/or evaluation of programmes are necessary to observe those behavioural patterns/practices that are easily lost and those that are retained.

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