Perceptions of and Management Practices for Diarrhoeal Diseases by Traditional Healers in Northeastern Nigeria

George O. Akpede¹, John O. Igene², and Babatunji A. Omotara³

¹Departments of Paediatrics, ²Food Science and Technology, and ³Community Medicine, University of Maiduguri, Maiduguri, Nigeria

ABSTRACT

In Nigeria, there is a paucity of data on the beliefs and practices of traditional healers concerning diarrhoeal diseases. This study was undertaken to provide baseline data for integrating activities of traditional healers into the national Control of Diarrhoeal Diseases (CDD) programme. Interviews of 14 traditional healers, drawn from two large ethnic groups in northeastern Nigeria, were conducted. All but one of them willingly discussed their beliefs and practices. Almost all traditional healers used herbs expecting that it would stop diarrhoea episode. Most traditional healers (n=11) were, however, aware of the sugar-salt solution (SSS), and six of them had positive impression about it. Ten were willing to be further trained in the preparation/use of SSS, and five reported its past use. Some healers strongly believed that breast-feeding was an important cause of diarrhoea and that, in some cases, diarrhoea was only amenable to traditional treatment. The results of this study suggest that the traditional healers in the region may contribute to promoting the appropriate home management of diarrhoea. However, their perceptions and practices need to be upgraded to ensure success.

Key words: Diarrhoea; Knowledge, attitudes, practice; Medicine, African traditional; Nigeria

INTRODUCTION

Despite the launching of the national programme of Control of Diarrhoeal Diseases (CDD) in Nigeria in 1986, the home management of diarrhoea has remained suboptimal (1–4). Although awareness of oral rehydration therapy (ORT) is high, its use-rate is still low (5); many child caretakers incorrectly prepare sugar-salt solution (SSS)—the recommended home fluid in the Nigerian CDD programme—and use it only for brief periods during the diarrhoea episode (3,4,6); many caretakers also lack appropriate knowledge of the action of ORT and expect that it would stop diarrhoea (4); and about two-thirds of children with diarrhoea in some areas are given drugs, alone or with ORT (5). This situation might be due to conflicts between the culture-specific perceptions, practices, and the recommendations of the CDD programme. This demands understanding of the local cultural beliefs and practices, some of which may be built upon to promote the home management of diarrhoea (7).

Lack of alternatives to medical treatment is associated with increased use of ORT (8). On the other hand, folk assessment of diarrhoea in a medically-pluralistic society may hinder its adoption as the treatment of choice (9).

Nigeria is medically pluralistic. This pluralism includes traditional healers as an important group of caregivers who are usually more readily available than
orthodox medical services, especially in rural areas (10). The traditional healers specialize in treating specific folk categories of diarrhoeal illnesses (11-13). Diarrhoea and dehydration are popularly thought of as symptoms of folk illnesses and may be treated as such (11). For example, in Brazil, diarrhoea, perceived to be due to ‘evil eye,’ may be treated ritually; diarrhoea due to ‘sunken fontanelle’ may be treated by physical manoeuvres; and diarrhoea is thought to be due to ‘spirit intrusion’ by negotiation with the spirit (12). In Cameroon, the traditional treatment is also based on the perceived causes (13). Thus, herbal solution is administered to mothers to restore the quality of ‘sour’ breast-milk (13). Despite this ‘specialization,’ the traditional healers can be trained to become effective promoters of ORT (11).

Diarrhoea is an important cause of morbidity and mortality among Nigerian children (14,15). As in other developing countries (11,13), a good proportion of child caretakers in Nigeria often resorts to the traditional healers and traditional practices in the management of diarrhoea. In this context, the problem of food taboos among the Yorubas is illustrative of the diversity or complexity of traditional medical practices in the management of childhood diseases in Nigeria (16).

Despite the significance of diarrhoea and the involvement of traditional healers in its management, and despite the fact that the knowledge and practices of traditional healers can be built upon and strengthened to promote the appropriate home management of diarrhoea (11,17), no study had, to our knowledge, specifically assessed their role in the home management of diarrhoea in Nigeria. There is also a general need to involve them in disease management and control (10,18,19). This study, part of a larger project that also examined perceptions and practices of caretakers regarding diarrhoea (4,20,21), was carried out to provide baseline qualitative data on the beliefs and practices of traditional healers as a first step toward their integration into the national healthcare-delivery system through the CDD programme. The study also compared their perceptions with those of child caretakers in the region (20,21).

**MATERIALS AND METHODS**

The study focused on two ethnic groups (20,21)—the Kaniris who are predominantly Muslims and the Buras who are almost equally Christians and Muslims. The Kaniris are relatively less literate (western education) than the Buras due to the influence of several decades of Christian missionary activity in their area (Bwala BA. Personal communication).

Northeastern Nigeria is characterized by a diversity of traditional and biomedical practitioners and facilities. As in other tropical African countries, such as Uganda (17), the traditional healers in the area include herbalists (the most common group), Mallams (traditional healers whose practices are based on Qur’an), diviners, spiritual healers, traditional birth attendants, and bone setters.

The study was conducted during March-November 1994 in two rural local government areas of Borno State, Bama and Hawul local government areas, as described previously (20). The traditional healers were chosen from the same villages/towns used in the study of caretakers (20). The study involved 14 traditional healers—seven (six males and one female) from each ethnic group. They represented several categories of traditional healers in the area.

The village heads, community leaders, and members were consulted while identifying the traditional healers. Due to limited resources, emphasis was placed on interviewing at least one traditional healer known to be involved in the management of diarrhoea in each community.

Data obtained from focus-group discussions, involving the caretakers (4,20,21) were used for designing a culturally-sensitive, semi-structured interview guide, which was used in key-informant interviews with the traditional healers. The focus-group discussions with the caretakers included the identification of common types of illnesses among children aged less than five years, with emphasis on illnesses with diarrhoea as a defining characteristic or symptom, help-seeking behaviour, severity signs, and treatment practices (20). The interviewers conducted interviews in the practice settings of the healers and in languages; these interviewers had earlier served as note-takers in the focus-group discussions. Information on recognition of diarrhoea, assessment of severity, typology, perceptions of cause, signs and symptoms, attitude toward breast-feeding by a pregnant mother whose child has diarrhoea, and treatment patterns was sought. Treatment was further explored in terms of the preparation and administration of remedies and expectations from the use of these remedies. Information
was also sought on the attitudes of traditional healers toward ORT/SSS and their willingness to be trained in the preparation and use of SSS. The practice settings of traditional healers were chosen to use the opportunity of a child being brought for treatment to observe the actual practices, but no such opportunity arose. However, because of this expectation, the interview guide had not been designed to ask the traditional healers about recent experiences to obtain specific examples of case management.

The interviews were transcribed and translated into English, then coded and analyzed classifying data into categories of perceptions of causation, signs, patterns, and categories of treatment. Analysis of the interviews with healers in both the ethnic groups is presented together, except where notable differences exist, to highlight the similarities and differences.

RESULTS

Eleven of the healers were aged over 45 years and had been in continuous practice for at least 10 years; one was aged 80 years and was described as ‘a consultant’ by others in the area. All the Kanuri traditional healers were Muslims and were herbalists, except one who was a Mallam. Among the Buras, two healers were Christians, two adherent to traditional religion, three Muslims, one a Mallam, another a combined diver/ herbalist, and others were herbalists.

All but one of the healers were quite cooperative in discussing their practices. The exception was the Bura diver/herbalist who said, “I got my knowledge from spirits who warned me not to tell anybody, and I have no information on SSS, which is a whiteman’s medicine.”

Types, symptoms, and causes of diarrheal diseases

The typology constructed from various diseases described by the traditional healers was of four categories: (a) non-specific diarrheoa, such as watery diarrheoa (verte, tiha); (b) specific diarrheal types, such as ‘typhoid, cholera’, ‘teething’ (kellinye); (c) diarrheal types based on stool appearance, e.g. bloody and mucoid diarrheoa (tiha manshi); and (d) diarrheal types based on perceived cause(s), e.g. breast-feeding diarrheoa. The perceived types of diarrheal diseases between the two ethnic groups are shown in Table 1.

The recognition of diarrheoa was based on the mother’s complaint and/or divination; according to the Bura Mallam, “we use certain methods to see diarrheoa directly.” Diarrheoa was also recognized from ‘experience.’

The perceived signs and symptoms were in two categories. The first set was used as an aid to recognize diarrheal disease, while the second set assisted to assess the disease severity. The latter is described below. Table 2 includes the first set of signs/symptoms. Except for the signs of dankanama, there was no uniformity or specificity of the signs and symptoms. One sign meant a different type of diarrheoa to different healers. Some types of diarrheoa had more than one sign, and some signs were common to different diseases. The Kanuri healers who were ‘specialized’ in the treatment of dankanama uniformly described a pattern of progression from early/mild to late/severe disease (Table 2).

<table>
<thead>
<tr>
<th>Table 1. Types of diarrheal diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kanuri</td>
</tr>
<tr>
<td>Type of diarrhoea</td>
</tr>
<tr>
<td>Diarrhoea</td>
</tr>
<tr>
<td>Dysentery</td>
</tr>
<tr>
<td>Over breast-feeding</td>
</tr>
<tr>
<td>Breast-feeding by pregnant mother</td>
</tr>
<tr>
<td>Anal redness/protrusion</td>
</tr>
<tr>
<td>Teething</td>
</tr>
<tr>
<td>Typhoid</td>
</tr>
<tr>
<td>Cholera</td>
</tr>
</tbody>
</table>

*No local names or only descriptions rather than names were given
Table 2. Signs and symptoms of diarrhoeal diseases

<table>
<thead>
<tr>
<th>Sign/symptom group</th>
<th>Kanuri</th>
<th>Bura</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever, watery stools, vomiting, frequent stooling</td>
<td>Typhoid, cholera</td>
<td>Thin, shrinking, poor appetite,</td>
</tr>
<tr>
<td>Hot urine, pain on urinating</td>
<td>Kawsu</td>
<td>stooling continuously</td>
</tr>
<tr>
<td>Stools with blood, mucus, and water</td>
<td>Kawsu</td>
<td>Weakness, persistent stomach ache</td>
</tr>
<tr>
<td>Stools with blood and mucus</td>
<td>Cholera, typhoid, Kawsu</td>
<td>Watery stools</td>
</tr>
<tr>
<td>Difficulty in sucking at the breast, fever, greenish</td>
<td>Kellinye</td>
<td>Tiha</td>
</tr>
<tr>
<td>Non-stop diarrhoea which leads to blood and weakness</td>
<td>Kawsu</td>
<td>Tiha meshi</td>
</tr>
<tr>
<td>Redness of the anus, greenish stools with air bubbles/soapy stool, watery stools initially but 'blood and pus' later, weight loss, weakness, fever, ill looking</td>
<td>Dankanama</td>
<td>Tiha meshi</td>
</tr>
</tbody>
</table>

As indicated by ‘hotness of the head,’ ‘hotness of the stomach,’ ‘hotness of the skin,’ and ‘hotness of the buttocks’

The perceived causes of diarrhoeal diseases included: (a) poor hygiene, (b) specific diseases, (c) spiritual factors, (d) childhood development, (e) behavioural factors, either of the mother or child, (f) alteration of the quality of breastmilk as a result of pregnancy or other factors or ‘over breast-feeding’ (when a child is breastfed far beyond the age when he is supposed to have been weaned), and (g) unknown causes (Table 3). Description of ‘specific diseases’ was more common among the Kanuri traditional healers.

The Kanuri healers attributed the spoilage of breastmilk to pregnancy and noted, “the diarrhoea will not stop no matter the quantity of medicine used unless breast-feeding is stopped.” They even recommended abrupt weaning as a measure to prevent diarrhoea when a lactating mother realizes that she is pregnant. The Bura healers described an alteration in the quality of breastmilk due to ‘too much fat’ causing ‘sour and bitter milk which can be purified by herbs’ and has different effects. ‘Sour’ breastmilk causes watery diarrhoea, and ‘bitter’ milk causes bloody diarrhoea. Among the Buras, “a man is not expected to meet with his wife until three years after the birth of a baby. The question of breast-feeding by a woman who is pregnant being the cause of diarrhoea does not arise.”

Severity of diarrhoeal diseases

Loose motion and diseases associated with diarrhoea were listed by the healers without prompting as among common diseases in children aged less than five years. Diarrhoea was described as a dangerous disease which causes ‘fainting and death,’ weight loss, and ‘loss of water from the body.’ According to one healer, “as the child is stooling persistently, nothing will be left in his stomach.”

Two patterns of perception of disease severity were described. The first pattern related the severity to the specific type of diarrhoea, and the second to the signs and symptoms associated with diarrhoeal disease, including stool characteristics. ‘Cholera,’ ‘typhoid,’ kawsu, dankanama, and tiha mamsi were considered to be most dangerous, because these ‘lead to death,’ ‘fainting and death,’ ‘requires strong medicine,’ or ‘makes the child thin.’ Dankanama was further considered to be dangerous, because “by the time there is blood and pus in the stool, it has eaten up all the inside of the stomach.” The second pattern of severity assisted the healers in recognizing serious episodes of diarrhoea as “the child becomes slim and will be crying all the time” or has “a change in complexion and appears lazy.” There are also “headache and hotness of the body,” “loss of appetite,” and “non-stop diarrhoea which leads to blood.”
Table 3. Causes/categories\(^*\) of diarrhoeal diseases

<table>
<thead>
<tr>
<th>Kanuri</th>
<th>Bura</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Contaminated food, water (dirty food, rotten eggs, unwashed fruits,</td>
<td>1. Lack of general hygiene, e.g. exposure of food to flies</td>
</tr>
<tr>
<td>over-ripe mangoes, guava) ‘Wandering about bare-footed’ ‘Carelessness’</td>
<td>‘Bad food, water, milk’</td>
</tr>
<tr>
<td>2. ‘Over breast-feeding’ ‘Milk spoiled by pregnancy’</td>
<td>Lack of good care</td>
</tr>
<tr>
<td>3. Person-to-person transmission by insects</td>
<td>2. ‘Milk problem’—‘milk with too much fat’, ‘bitter type’, ‘sour type’</td>
</tr>
<tr>
<td>Transmission by air</td>
<td>3. –</td>
</tr>
<tr>
<td>4. Exposure to rain—‘children left to play in the rain’</td>
<td>4. –</td>
</tr>
<tr>
<td>‘Mother comes in at mid-day to breastfeed’ ‘Mother stayed in a hot</td>
<td>6. Measles</td>
</tr>
<tr>
<td>place when she was pregnant’</td>
<td></td>
</tr>
<tr>
<td>5. ‘Teeth growing out of the gums’</td>
<td>7. ‘Spiritual problems’</td>
</tr>
<tr>
<td>6. –</td>
<td>‘God-caused’</td>
</tr>
<tr>
<td>7. ‘Cause unknown’</td>
<td></td>
</tr>
<tr>
<td>‘Brought by Allah’</td>
<td></td>
</tr>
</tbody>
</table>

\(^*\) Represented by numbers: 1=hygiene behaviour, 2=breast-feeding, 3=contagious diseases, 4=hot-cold effects, 5=developmental, 6=specific diseases, and 7=unclassifiable

**Treatment of diarrhoeal diseases and expectations from treatment**

The traditional healers reported that the parents usually consulted them before they resorted to any biomedical facility. One Bura healer stated, “herbs are used first; there is no need to use herbs with drugs from the clinic because one can go to the clinic if the disease persists.” Treatment practices among the Kanuris varied according to the types of diarrhoea. Four Kanuri healers reported that they treated many types of diarrhoeas, while three said that they were ‘specialized’ in the treatment of dankanama (two healers) or dankanama and kawsu only (one healer). Among the ‘general practitioners,’’ there was no apparent relationship between the herbs used and the perceived cause(s) and types or signs and symptoms of diarrhoeal diseases. In contrast, the dankanama specialists gave rather specific and elaborate descriptions of treatment procedures, a combination of which was recommended.

Three recommendations for the administration of herbs were described. The first one was oral administration (the commonest and usual form), either as a drink of boiled herbs or of herbs mixed with food/corn gruel. Some healers prescribed “one cupful three times a day for 3-5 days.” The second one consisted either seating the child “in warm water containing the herb” or bathing the child with water treated with the herbs. The third one was administration of herbs “mixed with butter” and rubbed around the anus as well as inserted into the rectum.

The herbs were used mainly for treating diarrhoeal diseases, but were also used for treating other diseases, such as kange (malaria) and yellow fever. The healers advised not to take herbs with medical preparations, because “their action can neutralize each other” or “they are from different persons who have different ways of treatment.” The herbs were expected to “stop diarrhoea rapidly and completely.” This effect was thought to be facilitated by the bitter taste of the herbs.

The Mallam wrote verses from the holy Qur’an on a slate using gum Arabic. The writing was then washed with water into a cup and taken as a drink.

Six of the Kanuri healers did not recommend restriction of any food during diarrhoea, but warned the mothers not to give “contaminated or sour foods, such as rotten eggs and meat, over-ripe fruits, dirty water, or food contaminated by flies.” Only the dankanama/kawsu specialist advised the mothers not to give “fatty food, especially butter,” because “It makes diarrhoea worse.”

Treatment practices among the Bura healers were not ‘specialized,’ but they all treated ‘all types’ of
diarrhoeas. The healers used a large variety of herbs, which tended to be healer-specific rather than disease-specific; even the Mallam also used herbs.

A similar and relatively simple method of processing and administration of the herbs, which was common to all the healers, irrespective of the herbs used or the type of diarrhoea being treated, was described: basically, the oral administration of a boiled product mixed with corn porridge or given “one cupful daily for four days,” “small cup 2-3 times daily for 3-4 days, depending on the seriousness of the illness,” “small cup in the morning before eating,” and “cup or spoonful 2-3 times a day, depending on the herb.”

The Bura healers had wide treatment-expectations from their herbs, which “treat the child’s blood and the diarrhoea,” “add blood to the body,” “give strength,” and “purify sour or bitter breastmilk.” They also expected, “herbs will just stop the diarrhoea, and there will be no need to visit the clinic unless they fail.” The herbs were thought to work by “improving the child’s blood,” by “treating the cause of the diarrhoea and giving the child strength,” and by “killing worms,” and “treating stomach pain.” Some traditional healers had the perception that herbs were superior to biomedical preparations. No reasons were given for this assertion.

The Bura traditional healers did not generally prohibit any mothers from administering their herbs along with biomedical preparations, but a traditional religionist remarked, “herbs and drugs cannot match at the same time.” The Bura traditional healers also did not generally prohibit any food for children with diarrhoea, excepting groundnuts and beans cake. The herbs used for diarrhoea were also used in treating other diseases, such as jam jam (worms) and kitir kuta (stomach ache).

Awareness of, and attitude toward, sugar-salt solution

The variations in awareness of, and attitude toward, SSS are summarized in Table 4. Some favourable opinions expressed were: “it is very easy for mothers to prepare,” “where a traditional healer or clinic is not available, a mother can prepare it by herself for the child who is having diarrhoea,” and “SSS stops diarrhoea.” Some healers who were willing to learn more about SSS remarked, “I like additional knowledge,” “if it is good like our medicine, we shall welcome it,” and “it is important to gain more knowledge to be recognized by the Government.”

A female Bura herbalist noted, “I was given SSS at the hospital when I had diarrhoea recently, and I now appreciate it as it really saved my life.” The opinions were not always favourable, however. The Bura Mallam narrated an unfortunate experience with SSS which led to his having to modify its use: “we used to give it to children but one of the children’s body became swollen, and he died after taking it; bodies of some children do

<table>
<thead>
<tr>
<th>Table 4. Acceptance* of SSS by traditional healers</th>
<th>Kanuri (n=7)</th>
<th>Bura (n=7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SSS-aware</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Already advising mothers to use SSS</td>
<td>4</td>
<td>2†</td>
</tr>
<tr>
<td>Willing to become SSS-trained</td>
<td>5</td>
<td>1‡</td>
</tr>
<tr>
<td>Has a favourable impression of SSS</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

* Awareness, recommendation to mothers, impression, and willingness to be further trained in its preparation and use
† The reason given by both was that they lacked knowledge of SSS preparation
‡ Claimed that he already knows how to prepare SSS and “I do not need more training”
§ One felt that “some children’s bodies do not like SSS” (see text)
** Reasons given:
- does not know the preparation of SSS=1
- “not my work to do that”=1
- SSS is ‘white man’s medicine’=1
- “I have my own herbs but would use SSS only if stomach ache persists”=1
- feels “herbs are better”=1
§ “I don’t have time” and western education “does not match our knowledge” (Mallam healer)
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not like SSS, and I now stop it for any child whose body
swells.”

DISCUSSION

Both orthodox practitioners and traditional healers
favour an integrated system of healthcare delivery (10),
but practical and conceptual differences between them
may hinder the successful adoption of such a policy.
The scope of perceptions and practices of traditional
healers regarding diarrhoeal diseases in this study closely
parallels the perceptions and practices related by
caretakers in the area (4,20,21). There are also points of
similarity to the perceptions and practices in other
developing countries (12,13,17). Some perceptions and
practices may be of further significance to policy
formulation and implementation. About six key issues
in the results may be singled out for discussion in this
regard.

First, the recognition of diarrhoea by the traditional
healers was based only on the mother’s complaint,
divination, or experience. It is necessary to standardize
this by teaching the traditional healers the WHO’s
simplified definition of diarrhoea—three or more loose
or watery stools per day. This should, however, be within
the context of the adaptation of the WHO’s guidelines
and standards to local perceptions. It is important that
along the lines of an integrated approach suggested by
Ojanuga (10), the beliefs of traditional healers are not
only taken into consideration, but respected, discussed,
and adapted. The experience of Nations et al. in Brazil
(11) can be built upon in this regard.

Second, there was some ‘specialization’ among the
traditional healers, with some seemingly adept only in
the management of ‘specific’ types of diarrhoeal
diseases, such as dankanama. This might hinder the
integration of some traditional healers into the CDD
programme. ‘Specialization’ has a further implication in
that child caretakers in the area similarly believe that
some types of diarrhoea are only amenable to traditional
remedies and worsened by biomedical treatment (20). The
Kanuri child caretakers used the hospital as a last
resort for ‘breastmilk diarrhoea’ and observed, “the
clinics have as yet been of no help” in the treatment of
dankanama, which was thought to be aggravated by
hospital treatment (20).

Third, the traditional healers in both the ethnic
groups perceived breast-feeding, under certain
circumstances, to be a cause of diarrhoea. While the
Kanuris related this spoilage to pregnancy, the Buras
related it to other factors. The Kanuri caretakers also
strongly believe that breast-feeding during pregnancy
causes diarrhoea and may even wean such a child
abruptly (20). We found the attitude toward breast-
feeding and the perception of dankanama to be major
impediments to breast-feeding and the appropriate home
management of diarrhoea in rural Kanuri settlements
during a linkage project (22) which was an offshoot of
the results of the study involving caretakers (4,20,21).
These perceptions need to be addressed in both ORT
and breast-feeding promotion campaigns, but allowance
should be made for the inter-ethnic differences.

Fourth, the healers interviewed in this study had, on
balance, a relatively favourable attitude toward ORT/
SSS. This self-reported behaviour of the traditional
healers is judged to be truthful based on three
observations: (i) unwilling healers gave reasons for their
unwillingness to use, consider to use, or learn more about
SSS which can be interpreted to mean that those who
expressed a favourable opinion may not have been
simply out to impress; (ii) favourable opinions of some
healers were based on their personal experience, which
had also influenced one of them toward a selective use
of SSS; and (iii) those healers who were aware of SSS
but were not using it gave practical reasons for not doing
so. This attitude could be enhanced as a ready point of
entry into the CDD programme.

Fifth, some traditional healers tended to imitate
biomedical prescription practices, such as
recommendation of a number of cupful of herbs 2-3
times a day. We could not be very certain about this
conclusion, since there was no evidence of their
prescribing practices prior to or outside of western
influence. Nonetheless, this prescription practice could
be interpreted to mean an attempt to convince caretakers
that their treatments are comparable with those of
biomedical practitioners or a felt need for rapprochement
with biomedicine. In support of either interpretation, it
has become a common observation that the traditional
healers in urban areas in Nigeria want to be called
‘doctors.’ This could be a part of the complex referred
to by Ojanuga (10). However, irrespective of the intent
and interpretation, this felt need could also be used,
after appropriate training, to integrate traditional healers
into the national CDD programme as an entry point
into the national healthcare-delivery system. Ojanuga
(10) has discussed other relevant issues that would need
consideration in planning an integration programme:
remuneration of traditional healers and their institutional and geographical placement; technical differences between biomedical and traditional medicine; and social differences which engender an inferiority/superiority complex (10). Dubey (18) and Tessendorf and Cunningham (19) have also discussed the need for, and issues in, the integration of traditional medicine/medical and biomedical/orthodox health caregivers.

Sixth, the traditional healers in both the ethnic groups expected that their treatments would stop diarrhea. This concern was also expressed by the caretakers in the area (4,20,21). This type of expectation is also common among the traditional healers in other African societies (17). Failure of treatment to stop diarrhea is a frequent cause of disappointment with ORT/SSS which can lead to inappropriate management practices. This needs to be addressed in ORT-promotion campaigns (4). The other perceptions and practices of traditional healers as identified in this study which, in our opinion, are in need of behaviour modification, are summarized in Table 5, along with the suggested modifications.

The use of only key-informant interviews in data collection in this study was not originally intended. As noted in the Materials and Methods section, the original intention was to use the opportunity of children with diarrhea being brought for treatment at the traditional healers to observe the practices, but this could not be realized. Therefore, the use of multiple methods to triangulate and validate the results could not be realized in this study. However, as noted already, the perceptions and practices related by the traditional healers are corroborated by those of caretakers in the area (4,20,21).

In conclusion, the importance of understanding the local classification and practices relating to diarrhoeal diseases cannot be overemphasized (8,11,12,15,23). While we recognize the obvious need for further studies both within and outside Nigeria, we think that some perceptions and related practices identified in this study can be built upon to promote the appropriate home management of diarrhea. We think that at least it is possible to replicate the success story of Nations et al. (11).

**ACKNOWLEDGEMENTS**

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**Table 5. Important perceptions and related practices of traditional healers in north eastern Nigeria needing modification of behaviour**

<table>
<thead>
<tr>
<th>Perception</th>
<th>Practice</th>
<th>Modification needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated food, etc. causes diarrhea</td>
<td>Advice to mothers on food and water hygiene behaviour</td>
<td>Encourage</td>
</tr>
<tr>
<td>Breast-feeding during pregnancy causes diarrhoea</td>
<td>Stop breast-feeding when pregnant</td>
<td>Discourage</td>
</tr>
<tr>
<td>SSS is useful</td>
<td>Advising mothers to give SSS to children with diarrhoea</td>
<td>Encourage</td>
</tr>
<tr>
<td>Felt need for recognition and willingness for training in SSS knowledge/use</td>
<td>Imitation of biomedical prescription patterns</td>
<td>Encourage useful aspects, discourage harmful ones</td>
</tr>
<tr>
<td>Diarrhoeal illnesses not related generally to type of food</td>
<td>Mothers not advised to restrict any particular food type(s) when a child has diarrhoea</td>
<td>Encourage</td>
</tr>
<tr>
<td>--</td>
<td>Preparation of herbs by boiling/cooking</td>
<td>Encourage useful aspects, discourage harmful ones</td>
</tr>
<tr>
<td>Herbs expected to stop diarrhoea</td>
<td>--</td>
<td>Discourage the expectation</td>
</tr>
<tr>
<td>Herbal remedies and biomedical remedies may antagonize each other</td>
<td>The two should not be mixed</td>
<td>Further studies needed</td>
</tr>
</tbody>
</table>
REFERENCES