Original article

Ethnographic study of diarrhoeal diseases among under-five children in Mana District, Jimma Zone, Southwest Ethiopia

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Abstract: A cross-sectional design was employed to identify the local cosmology of childhood diarrhoea and its local treatment procedures. A total of 848 under-five children were identified by a quick inventory of randomly selected kebeles. Trained enumerators administered a pre-tested questionnaire in order to identify the socio-demographic and economic aspects of the community, knowledge of diarrhea, and its causes and treatments. Besides, a focus group discussion was employed among mothers whose children were found to have recent history of diarrhoeal attack. The survey data was analysed with SPSS/PC software while the qualitative data was manually analysed. The majority (66.4%) of mothers/care-takers reported to identify diarrhea by loose, white, watery stool with an episode of at least three times a day. Although 27.6% of the respondents claimed that they do not know causes, 23.4%, 21.6%, and 20.5% have pointed out evil eye, teething, and poor hygiene respectively, to be major causes of the problem. From the qualitative data, it was found that the type of diarrhea and the remedies to be taken varied remarkably. Accordingly, there could be frequent loose stool due to "hadji", evil eye, teething, and 'bird'. The degree of concern and type of treatment does accordingly vary. Based on the two weeks recall period, the prevalence of diarrhea among the study community was found to be 33.7%. From the survey result, it was found that diarrhoeal disease is managed by resorting to modern health facilities, traditional healers, and both sectors, interchangeably, by 39.7%, 48.1%, and 10.4% of the respondents respectively. Although similar studies need to be conducted cross-culturally, one may safely conclude that plans for proper health care delivery should appreciate the underlying cultural ethos of the target population of concern. In the same vein, health education programs may also consider this as a point of departure. [Ethiop. J. Health Dev. 2000;14(1):77-83]

Introduction

Human experience over the ages has shown that there is a great sorrow on the death of infants and children. The situation is worse in developing countries in where, among other things, infant and child mortality rates are high. The intensity of the problem in developing countries can be explained in terms of the already established factors, such as the scarcity of services and facilities, poor sanitary conceptions, and improper utilisation of the available resources (1,2).

In spite of all the efforts under way to manage the problem by both the World Health Organisation (WHO) and member states, a substantial number of children are dying due to diarrhoeal diseases. This shows that there are problems in interventions most of which are based on specific guidelines. Public health measures, such as provision of uncontaminated food and water as well as improving sanitary conditions, reduce the onset and spread of communicable health problems in general and diarrhoeal disease in particular. However, given the poor economic status of the country which is exhibited in the region under consideration, it is far from feasible to substantially curtail the intensity of the problem in the near future.

In Ethiopia, various studies have invariably concluded diarrhoeal diseases to be major

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causes of infant and child mortality and morbidity. About 39,000,000 episodes of diarrhea/year were estimated to occur in Ethiopia out of which 230,000 children below five years of age die (3). Outbreaks of diarrhoeal epidemics are worse in areas where living standards are poor, sanitary conditions are primitive, adequate services and facilities, and skilled human resources are scarce. Thus, in Ethiopia, with shortage of facilities, poor socio-economic standards, and poor environmental sanitary practices, the problem is widely distributed. Although it is difficult to make specific distinctions the problem is believed to be seriously intense in some regions than others (2).

Among the Oromo Society, the largest single ethnic group in Ethiopia constituting about 35% (4) of the country's population, diarrhoeal disease is assumed to be one of the major causes of morbidity and mortality for infants and children although, specific studies are lacking to substantiate this fact.

In spite of the intensity of the problem, widely shared awareness about the problem, and effort to establish a management system, there has never been concern to look into local values and wisdom in understanding and managing the problem (4). The studies conducted on the subject thus far emphasised either on the fact that diarrhoeal morbidity and mortality is the reflection of, among other things, personal hygiene and environmental sanitation, or emphasised on KAP with reference to the use of ORS. In many of the studies, it was repeatedly pointed out that environment and economic status were shown to have important correlation with the incidence of diarrhoeal diseases. Besides, KAP studies concluded that the majority of caretakers lacked proper knowledge and use of ORT (Oral Rehydration Therapy) (5).

It is an established fact that human beings inter-alia are conscious of their surrounding in certain predictable ways, and as a result, they have developed specific ways and procedures to understand and manage problems (6). These ways and procedures are reflections of the society's general health conception. Pertinent to this specific subject (diarrhoeal disease), mothers/care takers know what diarrhea is, its symptoms, when their children get diarrhea, why and how it is encountered and what to do about it (7). Local understandings, definitions and management, however, vary due to cultural, geographical and socio-economic variations. Nevertheless, such evident realities were often over-looked and/or underestimated in many diarrhoeal disease researches.

The WHO has devised guidelines that encourage and accept local wisdom. It was indicated as a policy guideline to promote effective case management of diarrhea at home by (8):

a. Correct use of ORT that is physiologically safe, potentially effective and culturally acceptable,

b. Proper feeding of the victim throughout and after a diarrhoeal episode,

c. Prompt referral of children whose diarrhea fails to improve

From this point, one can see the attention given to local wisdom. Nevertheless, not much ethnographic study was made to understand the effect of local wisdom in understanding as well as intervening to manage diarrhoeal diseases. Rather, more emphasis was given to train mothers to recognise signs and symptoms of sever diarrhea and dehydration and use of ORT in all cases where the child is able to drink fluids, continue breast-feeding, introduce early re-feeding and compensatory feeding with high nutrient-density foods and convalescence, and avoid unnecessary use of antibiotics and other anti diarrhoeal agents. Research on the subject done thus far geared towards these issues with an objective to promote awareness of mothers/ care takers about the problem and promote its management. Moreover, institutions were sought to change behaviors which, however, failed as this is designed without consideration of the basis of behavior.

Although the efforts were remarkable and helpful, they failed to solve the problem to a substantial degree as they did not take local cultural patterns into consideration. So far, culture-specific studies with a medico-

anthropological approach is lacking despite its definite contribution to identify specific values with reference to diarrhoeal illness related perceptions, beliefs, and practices across cultures and sub-cultures (6).

In this research which is basically different form clinical-oriented studies, the intention is to look for proper intervention strategy on the basis of local wisdom for successful management of the problem and to initiate further behavioural research on specific health problems.

Objectives of the study: This study was designed to explore and analyse local wisdom in understanding and managing diarrhoeal diseases among the Oromo of Mana District. The specific objectives of the study include:

a. Identify the cognitive factors concerning diarrhoeal disease among children
b. Describe locally established signs and symptoms of diarrhoeal disease.
c. Identify locally accepted treatment options.

Methods

Mana is one of the thirteen districts in Jimma Zone. The center of the district (Yebu) is 22 kms to the west of Jimma Town. The economic state of the district shows that coffee production is an important economic activity. It was noted that people buy food crops by selling coffee. This is assumed to have important implications on the nutritional status of the people. On the other hand, the distribution and availability of health service facilities and public health services is said to be relatively poor.

A cross-sectional design was employed for the study from May 16, 1998 to June 1998. Six peasant associations were randomly selected for the study by using lottery method. Once the study communities were selected, a quick inventory of households was made to identify and record children under five years of age in these communities. Accordingly, it was found out that a total of 848 children under the age of five years were recorded. A decision was reached to do the whole coverage for the survey. A pre-tested questionnaire was administered by a trained enumerator to a mother/care-taker and relevant socio-demographic, environmental and diarrhoeal disease related information at household levels were collected.

On the other hand, two focus group discussion sessions were conducted in the respective communities where eight mothers/care-takers whose child had a recent history of diarrhoeal attack took part in each session. This method has enabled the researchers to assess culturally prescribed ways of local diarrhoeal disease terminology, meanings, causes, transmission, treatment, and prevention mechanisms.

Once data collection was completed, the survey data collection was completed, the survey data was entered into a computer and using SPSS/PC software. Descriptive statistics was applied in the analysis. Qualitative data on the other hand was reduced into categories and manually analysed.

Results

Findings from the ethnographic study: Qualitative data on the prevailing threat to the

Table 1: **Mother's understanding of causes, signs, symptoms and local modes of treatments in Kassa Mana District, June 1998.**

Causes	Symptoms	Locally Prescribed Treatments
Haji*	Stomach cramps, lose stool (normal) with smaller particles and mucoid	Home made herbal medicine
Evil eye	Stinky water like stool, loss appetite and vomiting	Home made herbal medicine
Teething	Yellow, non-stinky stool itching of gum, difficulty to Open eyelid	Burn milk teeth with iron rod (Umbrella), rub with garlic

* Haji is a stomach discomfort following breast-feeding after getting hunger that mostly occur among under-ones.

health of children have found "Kassa" to be prior in terms of intensity. "Kassa" is a diseases, which is identified to be more than three bowl movements a day. It is conceptually equivalent to diarrhea (watery and loose) quite often affecting children under one year of age. Different causes of Kassa were identified. Consequently, there are different symptoms of Kassa (Table 1).

From the qualitative data, prevention of Kassa was noted to be possible. It was specified that the following are important prevention mechanisms:

- maintaining proper hygiene (clean food)
- hide the child from attack by evil eye
- Avoid milk and fatty food when the child is sick

Findings from the quantitative study: As it has been found from the quantitative data the respondents were Oromo (70.2%) and followers of Islam (71.1%). Their educational background proved that the majority (59.6%) are illiterate (can not read and/or write). In 46.6% of the cases, household size was found to be 5-7. The total number of under-five children registered was 848. Out of these, 29.6% were found to be under one year of age (Table 2). Of the total under-five children 556(65.7%) were found to be currently on breast- feeding.

Table 2: **Socio-demographic characteristics of the study population, Mana District, June 1998.**

Characteristics	Number	%
children < 5 years	848	100.0
children < 1 years	251	29.6
Ethnicity		
Oromo	595	70.2
Kullo	99	11.7
Amhara	51	6.0
Gurage	44	5.2
Others		
(Yem, Tigre, Kaffa...)	59	6.9
Mother's/care taker's		
educational status		
Literate	343	40.4
Illiterate	505	59.6
Religion		
Christian	245	28.9
Muslim	603	71.1
Household size		
1-4	305	35.9
5-7	395	46.6
8+	145	17.5

Table 3: **Major findings from survey data on beliefs about causes, major symptoms, and actions taken against diarrhea, Mana District, June 1998.**

Description	N	%
Beliefs about causes of diarrhea		
Breast-fed when hungry	16	6.0
Evil eye	70	24.6
Teething	62	21.8
Contamination of food and		
poor personal hygiene	56	19.7
Do not know	80	28.1
Major symptoms of diarrhoea		
White watery stool	187	65.8
Stinky and colored	77	26.1
Stool with blood	20	7.1
Action against diarrhoea		
Visit modern health facility	83	29.2
Including pharmacy		49.6
Seek traditional medicine	141	11.6
Both modern and traditional	33	9.5
Nothing	27	
amount of fluid during diarrhoeal		
episode		
More	11	3.6
Less	230	80.9
No change	43	15.1

Conceptualising diarrhea

Passing of watery loose stool, at least, three times a day was considered abnormal & 70.5% of the mothers/care-takers claim that this is referred to as Kassa which is conceptually equivalent to diarrhea. The symptoms of this ill-health were identified as loose watery stool, coloured often yellowish, and stinky stool (Table 3). Diarrhoea, as the majority pointed out, is associated with teething in which case it is not abnormal per se. Evil eye was also mentioned as cause of diarrhoea. There was also a finding where causes of diarrhoea are attributed to uncleanness of playground and poor hygiene of the food ingested (Table 3). Besides, breast-feeding when the child is hungry was mentioned as a cause of diarrhoea (6.0%).

Beliefs about causes of diarrhoea

Diarrhoea is attributed to different factors in the study community. Similar to findings from the survey, it was found that teething, haji, evil eye, and household/personal/ compound sanitation are important causes of diarhoea among under-fives. Fifty four percent of the respondents have pointed out normal teething process while 23.1% of them attributed it to breast-feeding the child after he/she was hungry for a while. Seventeen percent of the respondents feel diarrhoea to be an outcome of 'evil eye' while 5.2% of them agree that diarrhoea is caused by poor environmental and personal hygiene.

Diarrhoeal attack and measures

Among the children less than five years old, 284(33.5%) had diarrhoeal attack during the last two weeks, prior to the date of the survey. As shown in Table 3, mothers/care-takers reported that the first measures they took to treat diarrhoea were: traditional medicine (49.6%) followed by visit to modern health facilities (29.2%) and treatment with both forms of services one after the other without waiting for the outcome (11.6%). The rest reported that they did nothing (9.6%). These measures were taken in the first three to eight days by 113 (39.8%) while 74 (26.0%) did so within the first 1-2 days of encountering the problem. The remaining 97(34.2%) acted after first week of the attack.

The findings from breast-feeding and fluid supplement show that the majority (58.5%) gave fluid and continued breast-feeding (34.9%) during the episodes of diarrhoea. The types of fluids given include fluids made of cereals (58.9%), formula or cow milk (26.2%), and tea with "tenadam" (8.3%). Only one mother reported the use of ORS. However, less fluid were found to be given than usual (81.6%). Solid foods were also given, but in less quantity than the non-diarrheal period (76.2%).

Based on survey data, attempts to find relations between educational status of mothers/care-takers, household size and ethnicity was not found to have positive relations with the episode of diarrhoea, belief about causes and treatment patterns. Nevertheless, religious identity of mothers/care takers and belief about cause and treatments sought was found to have statistically significant relations, $X^2 = 18.37$, $P < 0.001$ and $X^2 = 18.86$, $P < 0.001$, respectively.

Discussion

In countries where health service coverage is low and diarrhoeal morbidity and mortality is high, identification of factors that promote successful management and control of this health problem are indispensable.

Diarrhea, as well documented elsewhere, is one of the major killers of children. ORS has been taken as one of the major intervention mechanisms. However, access to get it does not seem to be an easy task. Besides, its availability does not in any way guarantee the liberal use of it. Often, this is culturally determined. For the households or community at large, culturally patterned beliefs about the nature of specific health problems may vary. This is said to have an important implication on conceptualisation of the problem and mode of intervention. Furthermore, household composition and structure have been shown to have important implications on understanding of health and health-related problems (9). Decision-making after the onset of the problems often takes different shapes in single and multi parent and senior generation households. Despite the availability and accessibility of health care services, people define health problems in their own way and seek solutions from locally available resources.

Societies have lived with, and often managed well, different problems, including diarrhoea much longer than the inception of modern medical sciences and technologies. Even after the advent of modern medicine, many people, specially in developing countries, do not seem to abandon their traditional technologies. Rather, they continue to heavily rely on it as an immediate treatment strategies for different health problems, including diarrhoeal diseases. This implies that there are positive values embedded within these

technologies. And it also reminds one to work towards looking into what these technologies are and how to intervene through them for the successful management of the problem.

As it has been shown quite often, human beings have never lived without some kind of health care (7). There have always been alternative options on the basis of local wisdom. A study has concluded that home-based oral rehydration therapy is an effective and culturally more acceptable alternative for the treatment of diarrhoea (8). This study also revealed the strong role of traditional remedies that include home-made therapies. From the few community-based studies conducted thus far, even where the pre-packaged solutions are readily available, caretakers have shown resistance to the use of it (10). Each culture group has its own cultural model to understand diarrhoeal diseases and for interventions. Attempts to explain dehydration would be more successful if it is based on appropriate cultural models. Shawyer RJ et. al (11) have shown that a number of cognitive factors, which are in fact reflections of their overall world outlooks, constrain the correct use of ORS. These include: beliefs about children's willingness to accept the solution, care-takers knowledge and confidence in having the skill to prepare it, and folk taxonomy and beliefs about the etiology of the problem and its severity. Folk beliefs about diarrhoea have shown that child diarrhoea is a normal part of child development for which intervention is not necessary, and that it is associated with some diseases that are necessary to purge the body off harmful wastes.

Having examined cultural aspects, one may sense the effect of economic and ecological factors, religious and dominant values of the community as affecting the understanding and management of diarrhoeal diseases. Although it was not part of this study, findings have unanimously shown that diarrhoeal attacks are associated with sources of drinking-water supply. Despite its degree of prevalence, finding from the focus group discussion imply that prepackaged solutions for diarrhoeal diseases or any other health problems may not be readily acceptable to the care-takers.

The prevalence of diarrhoea from the survey was found to be 33%. However, became of the fact that there are different types of diarrhoeas, one needs to be clear about which one is being considered. The qualitative finding also shows, it was found out that there are different types of diarrhoea/Kassa. The types vary in terms of causes, signs and symptoms, and treatment procedures to be followed. Although mothers attribute causes of Kassa to personality factors (evil eye, bird, god, etc.), there are also natural causes of it (teething, poor sanitation and feeding, and environmental factors of sanitation and hygiene)

As it was found from this study, people have their own sets of beliefs and treatment options concerning specific health problems. This was also found to implicitly influence the internalisation of health education provided. Thus, it is quite important to understand the cosmology of local people to plan health development.

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References

1. Debri G. Diarrhoeal disease in 520 cases admitted to Jijiga Hospital, East Ethiopia, Eth Med J 1987;25:199-202.

2. Pelly M. Diarrhoeal disease in Shelter populations: practical aspects of management Eth Med J. 1985;23:192-197.

3. WHO. Report of the Joint Government of Ethiopia/WHO/SIDA/UNICEF comprehensive review of the national control of diarrhoeal disease program in Ethiopia CDD. 1987:1-19.

4. Muninjaya AA, Widarsa T, and Soetjiningsih. Home treatment of acute diarrhoeal in Bali, Indonesia. Journal of diarrhoeal disease spt. 1991;9(3):200-203.

5. Hatch DL, et. al. The effective case management of childhood diarrhoea with oral rehydration therapy in the kingdom of Lesotho, International Journal of Epidemiology, 1990; 19(4):1066-71.
6. WHO. Management and prevention of diarrhoea: practical guideline, 3rd ed., Geneva, 1990.
7. Good C Ethnomedical system in Africa, the Guilford press, USA. 1987.
8. Mesfin K, Dennis C and Chales Larson. A community based trial on cereal-based oral rehydration therapy, unpublished material. 1993.
9. Annett H and Nickson PJ. Community involvement in health: why is it necessary? Tropical doctor, 1991;21(1).
10. Kendall C, Foote D, and Marlorell R. Ethno-medicine and ORT: A case study of Ethno-medicine investigation and program planning, social science and Medicine. 1984;19(93):253-60.
11. Shawyer RJ et.al. The role of clinical vignettes in rapid ethnographic research: a folk taxonomy of diarrhoea in Thailand, Social Science and Medicine 1996;42(1);11-23.