Milk Teeth Extraction and Behavior Changes in Rural Amhara, Northwest Ethiopia

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This study examines behavior changes pertaining to traditional medical practices as a result of health intervention and knowledge transmission by community health promoters in rural Amhara, with a specific focus on changes in people's treatment-seeking behavior for the traditional folk illness known as "milk teeth diarrhea." The extraction of milk teeth is a traditional treatment for this condition, and is considered in several publications to be one of numerous "harmful traditional practices (HTPs)." Interviews with people in villages and in the medical sector reveal that changes in treatment-seeking behavior for folk illness, ranging from consultations with traditional healers to treatment in modern medical facilities, are not necessarily led by changes in the folk classification of the illness. In the current cultural context, in which the Ethiopian government is promoting the abolishment of HTPs, the main drivers of change in health-seeking behaviors can be described in terms of the recommendation of modern medical treatments and the negation of traditional customs, two different processes that act simultaneously but are not always linked to each other. Thus, health-promotion programs should be sensitive to local, cultural, and actual circumstances when providing training to community health promoters in transitional periods from traditional to modern medicine.

Key words: folk illness, harmful traditional practices (HTPs), Amhara, health promotion, milk teeth diarrhea

1. INTRODUCTION

1.1. Health policy in Ethiopia

This study describes behavior changes pertaining to traditional medical practices as a result of health intervention and knowledge transmission by community health promoters in the rural Amhara region in northwestern Ethiopia. The current research focuses on the conceptualization of traditional folk illnesses, on treatments that are generally considered to be "harmful traditional practices," and on changes in people's treatment-seeking behavior as they attempt to find cures for these illnesses.(1)

Following the Alma Ata declaration of 1978, primary health care (PHC) has become an important global health issue. To support the promotion of PHC and to address the dearth of health-care workers, significant emphasis has been placed on the introduction of community health workers (CHWs) within developing countries. In Ethiopia, a national-scale health extension program (HEP) for primary health care reinforcement was implemented in 2004 as one of the strategies for achieving the Millennium Development Goals (MDGs).

The purpose of the HEP is to offer basic health services to people across Ethiopia. The HEP has

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defined an implementation target that will help it to achieve this goal: building 15,000 health posts and training 30,000 health extension workers (HEWs) across the entire country. HEWs are women who have successfully completed a 10th-grade education and an additional one-year special training course[2]. Their role encompasses 16 primary health care modules including hygiene, infectious disease prevention, health education, and nutrition.

It is often difficult for HEWs to visit each individual family and deliver educational packages directly to them as mandated by the HEP, not only because each HEW is responsible for approximately 2,500 clients (Nejmudin et al. 2011) but also because the HEWs are required to treat outpatients at the health post during their working hours between 8:00 am and 5:00 pm. Therefore, to achieve the objectives of the HEP, community health promoters are expected to work in the community as aides to the HEWs (Sebastian and Hailemariam 2010, Federal Ministry of Health 2007, Yared 2009). In some regions, including Amhara, regional health bureaus are taking a leading role in the development of these community health promoters along with the HEWs.

The Japan International Cooperation Agency (JICA) conducted an infectious disease prevention project called the Amhara Regional Infectious Disease and Surveillance Project (AmRids) in some areas of the Amhara Region. AmRids had conducted in cooperation with the Amhara Regional Health Bureau since January 2008, and it aimed to facilitate the transmission of information regarding the localized incidence of diseases from villages to health posts, health posts to health centers or hospitals, and from there on to the bureau itself. To achieve this objective, the project strived to construct an effective system for identifying, reporting, and responding to diseases. AmRids also recruited and trained community health promoters known as *Käbäle* Surveillance Officers (KSOs) to assist the HEWs, and attempted to achieve a better understanding of the health care issues arising in specific communities.[3] The KSOs' concrete activities are as follows: 1) to identify sick people within the community and to send them to the health post; 2) to report the disease situation to HEWs; 3) to convey health-related knowledge to the community; and 4) to participate in monthly meetings and to acquire and master basic knowledge related to disease and health.

KSOs are chosen from among the villagers by the village mayor and the HEWs. Because of sustainability concerns, priests, traditional birth attendants, and village leaders are most often chosen as KSOs. Most of the KSOs chosen are men. There are 15–35 KSOs per village, and each KSO is responsible for 30–50 households.

1.2. The impact of health education on traditional practices

In Ethiopia, traditional local health beliefs about illness and treatments still exist even as many village inhabitants have come to use modern medical facilities (Jeppsson et al. 2003). Among such traditional methods of treatment, there are numerous practices that the government considers to be "harmful traditional practices" (HTPs) and that it has duly banned, invoking human rights as a rationale for the prohibition. Harmful traditional (cultural) practices are viewed as being harmful to the health of women and girls and, according to Kouyaté, are defined as "all practices done deliberately by men on the body or the psyche of other human beings for no therapeutic purpose, but rather for cultural or socio-conventional motives and which have harmful consequences on the health and the rights of the victims" (Kouyaté 2009: 2). Those with critical attitudes toward these practices appeal for their eradication and, within the Ethiopian context, make the following argument:

> The problem in Ethiopia is not only that these traditions continue to be practiced but that the people who participate in all the practices do not know about the harmful effects of the acts. Because of this, most Harmful Traditional Practices are very resistant to change. Therefore appropriate strategies must be designed and implemented by all community members to prevent the occurrence of these practices. (Dawit et al. 2005: iv-iii).

Dawit et al. (2005) categorize as "harmful traditional practices" those practices that seriously affect the bodies of women and children, such as female genital mutilation (FGM), uvulectomy, tonsillec-

tomy, and milk teeth extraction; in addition they apply the term to gendered practices such as early marriage and marriage by abduction. Amare and Aster (2006) enumerate over 15 such practices in Amhara and suggest strategies for effective intervention leading to their eradication.

Interventions aimed at curbing HTPs may meet with opposition from local people as well as with approval. For example, LaTosky criticized governmental intervention regarding lip-plate practice among the Mursi women in southern Ethiopia, deeming it to involve paternalistic prohibitions that "do not fully take into consideration the experiences and multiple views of girls and women in Mursi and South Omo in general." (LaTosky 2012: 24)

The 16 HEP modules do not ostensibly contain any contents aimed at eradicating such "harmful traditional practices." However, because these practices have been traditionally maintained for years as part of a particular culture, forcibly excluding them does not meet the criterion that health development should pay attention to the local cultural context. KSOs who are local people and who know the local situation are expected to bridge any gaps between modern medicine and local beliefs. It may be necessary to pay greater attention to their role in developing a consciousness of "harmfulness" regarding certain traditional practices within their communities.

Moreover, it is important to clarify the ideas that these communities may have about such practices and to place these views in their proper cultural and social context. Researchers should understand the local usage of terms and the recognition of medical conditions and practices among the local people when conducting health education (Kauchali et al. 2004).

Homegrown health promoters play a significant role in translating health care knowledge at the site of health promotion. However, the manner in which health promoters influence health-related behavior changes and the role that these promoters actually play in the community have not been researched in detail. Taking this into consideration, the objectives of the current study are: (1) to describe local perceptions, beliefs, and practices regarding health and sickness and (2) to explore the role of health promoters as a bridge between modern health facilities and the people of rural Amhara in northwestern Ethiopia.

2. RESEARCH METHOD AND SITE

2.1. Research method

This study was conducted using qualitative research methods. Interviews were carried out with two HEWs working in the target village with the aim of documenting the services available at health posts. Interviews at the *wäräda* (district) health office and at modern medical facilities were also carried out to better understand the area's common diseases and the medical services available.

Monthly meetings held in the village of Enamirt were observed and six KSOs (five men, one woman) of the *got* (sub-administrative village) of Bojed were interviewed to gain a better understanding of their activities and their basic knowledge of health and diseases.

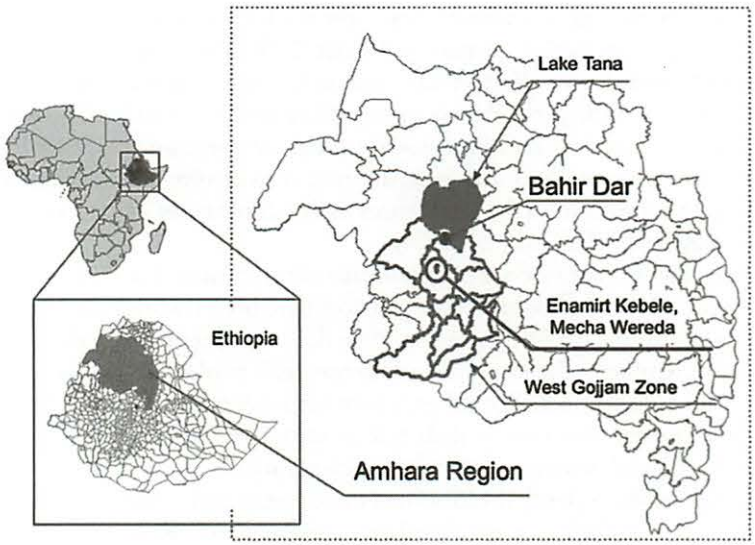
Furthermore, interviews and observations of four of these KSOs were conducted with the goal of characterizing the relationship between the KSOs and the village inhabitants, the KSOs' activities in the community, and their thoughts and behavior regarding illness.

Interviews with 31 villagers were conducted to further our understanding of their knowledge, attitudes, and treatment-seeking behaviors regarding folk illnesses. Three traditional healers were also interviewed, chiefly with regard to their understanding of traditional treatments and of modern medicine.

In this study, the ages of the interviewees were estimated. The traditional healers' places of residence are not specified, out of consideration for their privacy.

2.2. Mecha district

This study was carried out in 2011 in the Mecha district of West Gojjam (Map 1). According to the district office, the population of the entire Mecha district was approximately 318,000 at the time of this research, of which 90% lived in rural areas. In addition, 98% of the district's population were



MAP 1: The Amhara region and the Mecha district

members of the Ethiopian Orthodox Church.

The administrative center in the Mecha district is the district office (*wäräda mikrbet*). There is a health office and a health center in the town of Merawi (population approximately 18,000), which is in the center of the district. There is no hospital in the district and therefore no medical doctor; however, nurses and health officers are stationed at the district's governmental health centers as well as at private clinics.

2.3. The socioeconomic background of the village of Enamirt

There are forty-three administrative villages (*käbäle*) in the Mecha district. Thirty-nine of them are rural villages and four are towns. Enamirt is one of the farm villages. The population of Enamirt was 7,543 at the time of investigation (2011).

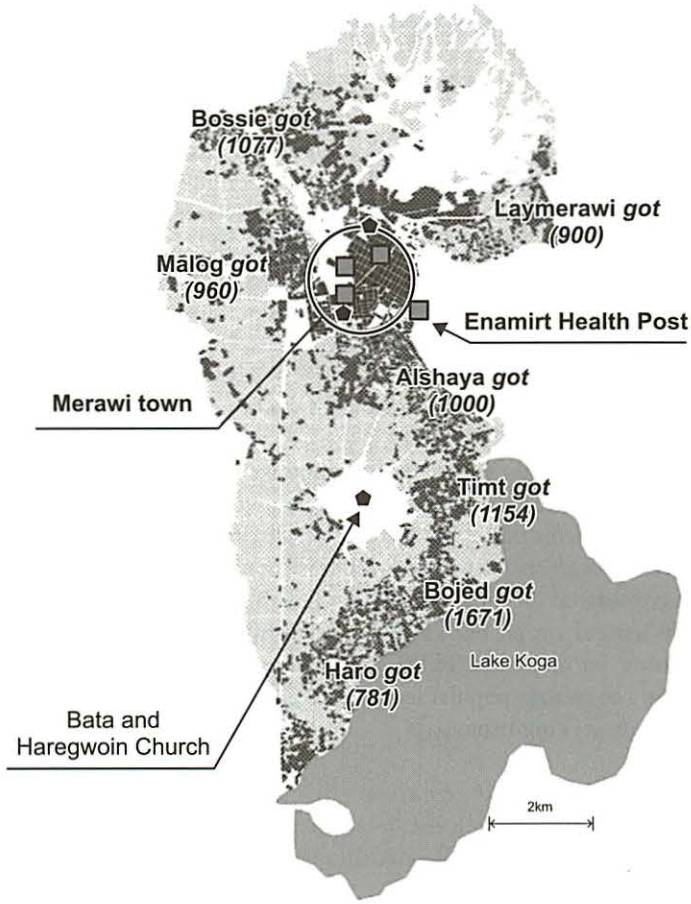
According to the National Census of 2007, the total population of Enamirt was 6,689 individuals, of which 3,356 were male and 3,333 were female. The mean number of individuals per household was 4.4. Enamirt comprises seven sub-administrative villages (Map 2) and contains within its borders the independent town of Merawi.

This study was carried out in the *got* of Bojed. With a population of 1,671, Bojed is the largest of the *gots* in Enamirt. The main occupation in Bojed is crop farming. The main foods and products are finger millet (*Eleusine coracana*, Amharic *dagusa*) and maize (*Zea mays, L.*, Amharic *bok'olo*). *Tef* grass (*Eragrostis teff*) is not widely cultivated here, although it is the staple food throughout Ethiopia. Forests of eucalyptus (Amharic *bahir zaf*), which are grown as a cash crop, cover much of the land in Enamirt.

2.4. Health services and important diseases in Enamirt

A health post (*tena kella*) is the only official medical facility in Enamirt. However, as the independent town of Merawi exists inside Enamirt, many patients seek treatment at the Merawi Health Center,[4] rather than at the village health post.

It is believed that the use of modern medical facilities by inhabitants in Enamirt is higher than in other areas of the Amhara Region. The Merawi Health Center is the most advanced governmental medical facility in the Mecha district. It is open 24 hours daily and is staffed by 16 nurses and 4 health officers, enabling it to provide services to a large number of people. Patients come from every area of the Mecha district. Patients must pay a registration fee (3 birr for patients under five, 4 birr



MAP 2: The village of Enamirt

for patients over five, and 8 birr for emergency patients) in addition to a consultation fee.[5] Emergency patients are defined as those who attend the health center on the weekend or after 5:00 pm on weekdays. The health center provides several services[6] and medications free of charge.

The health post in Enamirt is located at the edge of the town, approximately 1 kilometer away from the Merawi Health Center. Two HEWs are on duty, mainly in the mornings, for people receiving treatment for malaria and diarrhea. The treatments and medicines provided at health posts are available free of charge. Although the health post is the hub of the HEP in Enamirt, the HEWs also visit other places in the village to provide vaccinations.

HEWs refer patients to the Merawi Health Center using a referral slip if they determine that their sickness requires more detailed medical attention. A referral slip system was introduced by AmRids to allow patients to be referred to a health center without incurring a registration fee.

2.5. KSOs in Bojed

As mentioned above, two HEWs implement the HEP in Enamirt, but it is the 35 KSOs who engage in health-promotion duties inside the village, with six of these belonging to the *got* of Bojed.

Although most of the adults in Bojed are non-literate, three of six KSOs have attended school; two have completed grade 8 and one attended Bible school to become a priest of the Ethiopian Orthodox Church. The other three KSOs have been taught reading and writing by neighborhood inhabitants. Literacy is a requirement for KSOs, who must write reports, but their literacy levels are not always adequately high. Among the KSOs of Bojed, five of the six are farmers and the sixth is a priest.

3. FOLK ILLNESSES AND CHANGES IN TREATMENT-SEEKING BEHAVIORS

This chapter describes and analyzes treatment-seeking behavior and changing conceptualizations of folk illnesses among local people.

Traditional treatments are still so common that Hodes, a doctor who practiced for many years in Addis Ababa, has stated that "Ethiopians often have more confidence in traditional medicine than in western treatments, and in Ethiopia most will first seek holy water or treatment from a traditional healer before considering western medicine" (Hodes 1997: 34)[7]

According to a traditional herbalist in Bahir Dar, a process of regulating traditional healers has already begun, including the issuing of government licenses. However as Elias et al. point out, there are numerous gaps at the policy level, and only a very limited number of licenses have been issued to practitioners of traditional medicine. (Elias et al. 2013, WHO 2005). Moreover, the government is pressing for the abolishment of treatments provided by traditional healers that are classified as "harmful traditional practices."

While the HEP's 16 modules do not strongly emphasize the eradication of "HTPs," they inevitably place some indirect pressure on traditional practices, which may ultimately hamper the implementation of the HEP. According to traditional healers, the government forbids the removal of pharynxes, and healers who act in contradiction of this prohibition are imprisoned. "Harmful traditional practices" are considered illegal at the district health office. In addition, the abolition of such practices comes up as a regular topic even at KSOs' monthly meetings.

This chapter, focusing on one such "HTP," milk teeth extraction, describes the actions taken to counter the practice and to change popular local beliefs; it also explores the conflicts between modern and traditional treatment-seeking behaviors.

3.1. "Milk teeth diarrhea" and milk teeth extraction

Among the people living at the research site, it is believed that, when a teething infant has diarrhea, extracting one of its teeth can cure this. The diarrhea is believed to be caused by "bugs" inhabiting the infant's gum.

From a modern medical point of view, teething does not directly cause diarrhea,[8] although in many cases infants feel discomfort during teething, prompting their mothers and other family members to rub their gums to provide relief. This home treatment may introduce microbes into the infant's body, leading to diarrhea and other infectious diseases.

The extraction of milk teeth may lead to complications, such as the inhibition of normal tooth growth, massive hemorrhaging, and infectious diseases such as HIV. Education that emphasizes the prevention of infectious diseases, especially blood-borne ones, may help to eliminate this practice (Dawit et al. 2005). According to research in Gondar in 2001, 95.6% of respondents (N=1,181) knew of the practice of tooth extraction. Of these, 82.4% (1,129) thought it should continue (Getu and Melkie 2002).

The reasoning behind tooth extraction is explained as the "treatment for diarrhea caused by growing milk teeth." This practice is called *ters*, *gig*, *lij yemayafafa*, and *feche fechew* in the local language. The word *ters* is a general noun meaning a tooth and *gig* is a word used by traditional healers who specialize in "milk teeth extraction." A man living in Bojed provides the following as an explanation of milk teeth diarrhea and extraction:

> *All of our children got "milk teeth diarrhea."*
>
> *Children get normal diarrhea too. When they get normal diarrhea, we take them to the health center and the Holy Water.*
>
> *All babies get diarrhea when their teeth start growing. The color of the stool is green at that time. When they get diarrhea, we have to pull the bad tooth out. When the bad tooth starts growing, it is really itchy. The sickness appears only in the teeth of the lower jaw. After the tooth is removed, the baby becomes fat and recovers. When a baby gets diarrhea, people say, "This may be ters." This diarrhea dif-*

fers from other kinds of diarrhea.

Even though the baby's family takes it to the health center or hospital, the diarrhea does not stop unless the tooth is pulled out. If it is not removed, the baby never stops crying because it is uncomfortable. Most of the time there is no medicine for the sick tooth, but traditionally people use garlic to scrub it.

If a very young baby gets "milk teeth diarrhea," a traditional healer cannot pull the tooth out until at least the age of 3 months, because the teeth are too short to do it. He has to wait until the sick tooth grows up. As the tooth is removed, the sick baby recovers and the watery stool stops in 3 days.

(A male in his 40s)

This informant notes the differences between "milk teeth diarrhea" and "normal diarrhea" and indicates that treatment choices regarding diarrhea will differ depending on the parents' recognition of the diarrhea type.

Weight loss was frequently mentioned as a symptom of "milk teeth diarrhea." An infant in discomfort because of teething may suffer a loss of appetite or the ability to suckle, potentially leading to malnutrition. The emphasis on weight loss as a symptom can be seen as an example of people's understanding of "milk teeth diarrhea" as a potentially fatal disease.

"Milk teeth diarrhea" is often distinguished from normal diarrhea by the color of the stool:

The "milk teeth diarrhea" can be distinguished from normal diarrhea. The stool of an infant with "milk teeth diarrhea" looks like leaf [the stool is green in color] *but that of normal diarrhea has mucus and blood. When children get other types of diarrhea, we take them to the health center and the Holy Water. "Milk teeth diarrhea" is less serious than normal diarrhea.* (A male in his 40s)

The color of the stool of "milk teeth diarrhea" is green and it is different from normal diarrhea. The cause of normal diarrhea is malaria and the color of the stool is yellow. When children drink water, they may get diarrhea. When children get diarrhea, we take them to the health center, but when they get "milk teeth diarrhea," we don't go there. (A male in his 30s)

In many cases, the color of the stool of "milk teeth diarrhea" is green, whereas the color of normal diarrhea is described as white or "like soil" and there are sometimes mucus and blood.

3.2. Traditional treatments for "milk teeth diarrhea"

When a baby has loose bowels and is judged to be suffering from "milk teeth diarrhea," treatment by a traditional healer or by home cure is attempted. Garlic is widely used as a home cure for approximately 7–14 days.[9] Many people interviewed believed that it would be unnecessary to seek other treatments for this kind of diarrhea if garlic was used in the proper way.

My son experienced "milk teeth diarrhea." I took him to the health center but he did not get better. However, as I rubbed the teeth with garlic, the diarrhea stopped. (A female in her 20s)

I don't go anywhere for "milk teeth diarrhea." I just rub the sick teeth with garlic. That treatment has to be continued for 7 days. After that the child recovers. (A female in her 30s)

Treatment by traditional healers was also frequently mentioned. The method used by traditional healers is tooth extraction, which is now publicly prohibited. In this study, three traditional healers were identified. Two had previously specialized in "milk teeth extraction," but they had allegedly quit their business as such traditional healing practices are prohibited.

When the bad teeth are pulled out, I see many small bugs like hair around the gum. Those bugs make babies ill. Even though people go to the health center and get syrup there, the bugs cannot be killed and a baby can't be healed. "Milk teeth diarrhea" cannot be cured until the teeth are pulled out. If the child

does not get the treatment, he may die. (Traditional healer II)

I use tools made of metal and wood to pull the teeth out. I boil and heat the tools with fire to sterilize them before extracting the teeth. If the bad teeth are left unattended, the diarrhea will not stop and the baby will become very thin. Babies don't die because of this diarrhea, but it is really uncomfortable for them. Sometimes people take their baby to Bahir Dar Hospital but they cannot be healed there, and come back to me to pull the teeth out. Once I pull the bad teeth out, they recover soon. (Traditional healer I)

I believe that when a child has "milk teeth diarrhea," there are worms around the teeth. If the worms are not killed, other teeth will also become affected. The health center doesn't know about the worms, but we, the traditional healers, know about them. If the growing teeth are left without any treatment, sometimes "tsagur" (hair) grows from the gums. The health center can sometimes cure "milk teeth diarrhea" but we can do it in a much shorter time than them. (Traditional healer III)

Traditional healers explain that the "bugs" that cause the "milk teeth diarrhea" can be exterminated by extracting a tooth, which will stop the diarrhea itself. There is no recognition of the "bugs" at modern medical facilities and the treatment there focuses on the symptoms of diarrhea. This leads to the popular interpretation that treatment at modern medical facilities is only a makeshift solution and at the same time it heightens the perception that curing this illness is the specialty of traditional healers. Thoughts and beliefs about milk teeth extraction by traditional healers are still shared among many villagers.

When a child starts scratching his teeth, we rub them with garlic, and take him to the traditional healer. The traditional healer uses blades and tools called "wusta" to pull out the teeth. If we do not take the child to the traditional healer, he's going to be skinny. The amount of watery stool is also going to increase. "Milk teeth diarrhea" does not kill him, but he will get skinnier if he is left without the treatment. Also, if the teeth are not pulled out, his teeth will cause pain after he grows up. Actually, my parents did not take me to the traditional healer. My teeth were not pulled out when I was a child, so I suffered from tooth pain later. (A male in his 30s)

My children had "milk teeth diarrhea." They recovered after they were taken to a traditional healer who pulled their teeth out. (A male in his 30s)

I took my baby to a traditional healer in Merawi to remove its teeth when it got "milk teeth diarrhea." I went to the health center at first, but they could not cure it, so I went to the traditional healer. My baby recovered in 3 days. (A female in her 20s)

People discussed the effects of the milk teeth extraction based on their own experiences. Some eventually came to support tooth extraction, although they had initially gone to a modern medical facility to seek treatment. They recognized "milk teeth diarrhea" as something that cannot be cured without traditional treatment because of their own experiences.

3.3. Changes in treatment-seeking behaviors for "milk teeth diarrhea"

Although many people described home cures using garlic and treatment by traditional healers, modern medical treatment is becoming a more common choice among local people seeking treatment for "milk teeth diarrhea." In Bojed, the health center is almost the only modern medical facility, and patients are given treatments there, including injections and prescribed medicines.

The attitudes among KSOs, who are supposed to recommend the use of modern health facilities, are generally as follows:

"Milk teeth diarrhea" can be cured at the health center. It is better to go there rather than to go to a traditional healer because the treatment at the health center does not cause children any pain. Pulling out the teeth is really painful for children. (KSO I)

When one of my children got "milk teeth diarrhea," I took him to the health center. At the health center, they gave him an injection and syrup. We tell people not to go to traditional healers and not to use garlic, and teach them that it is better to go to the health center. People listen to me well. (KSO V)

The KSOs reject the traditional method of treatment, tooth extraction, and recommend seeking treatment at health centers, saying that the treatment offered at the centers works for "milk teeth diarrhea." In contrast, the treatment for "milk teeth diarrhea" offered at the health centers is not characterized as reliable or fundamentally effective by traditional healers and villagers.

Even though you go to the health center and get syrup there, it cannot kill the bugs and the child can't recover. (Traditional healer II)

People go to the health center to get a treatment for "milk teeth diarrhea." Staff at the health center (nurses) give patients an injection. If a patient comes to us (traditional healers) and we pull the teeth out, it takes only one or at most two days to get cured. The health center does not know about "milk teeth diarrhea" and they sometimes make mistakes there. For example they give the patient with "milk teeth diarrhea" the treatment for malaria, so the health center staff have no confidence and hesitate to give treatments for "milk teeth diarrhea." The staff at the health center and district office even bring their children to me to extract their teeth. (Traditional healer I)

Traditional healers can cure "milk teeth diarrhea." But if the watery stool has mucus and blood, I refer the patient to the health center because traditional healers can't cure this type of diarrhea. (Traditional healer III)

When children get diarrhea, we take them to the health center, but when they get "milk teeth diarrhea," we don't go there because they cannot cure it. (A male in his 30s)

The villagers do not choose modern health facilities for "milk teeth diarrhea" even though they never deny the effectiveness of modern medicine. According to their folk concept of illness, it is only traditional healers who can appropriately cure "milk teeth diarrhea" by getting rid of "bugs" inhabiting the gums. However, they recommend the health center for treating other types of diarrhea.

Nonetheless, an increasing number of villagers have come to choose the health center for the treatment of "milk teeth diarrhea."

My youngest child now has diarrhea. It may be "milk teeth diarrhea." I'll go to the health center. (A female in her 20s)

Pulling the teeth out can treat "milk teeth diarrhea" but this is a traditional way. In the modern way, the children are just given medicine. Then the teeth don't need to be pulled out. This modern way is better because children don't feel pain with this way. Either way it takes 3 days to cure "milk teeth diarrhea." (KSO IV)

It seems that in recent years, increasing numbers of villagers have brought their babies to modern medical facilities to seek treatment even though they recognize the illness as "milk teeth diarrhea." These people all acknowledge that "milk teeth diarrhea" can be cured by an injection and medicine at the health center.

Nonetheless, inhabitants frequently remark that the treatments for normal diarrhea and "milk teeth

diarrhea" are different even at the health center.

> *When one of my children got "milk teeth diarrhea," I took him to the health center. They gave him an injection and syrup. If it is normal diarrhea, they give children ORS (oral rehydration salt) and tablets, so the treatments of "milk teeth diarrhea" and normal diarrhea are different.* (KSO V)

> *When my children had "milk teeth diarrhea," we did not go to the Holy Water or the traditional healer. I just took them to the health center for 5–7 days. The nurses gave them an injection each day. In the case of other diarrhea, nurses give children ORS, not injections.* (A male in his 60s)

The above informants point out differences in the health center's treatment of "milk teeth diarrhea" and other types of diarrhea. The belief in the existence of the folk illness leads them to classify two types of diarrhea and treatment; a shot is given if it is "milk teeth diarrhea" and ORS is prescribed if it is normal diarrhea. Needless to say, such a distinction cannot be confirmed at the health center.

Whether people demand treatment with the traditional or modern method, they recognize "milk teeth diarrhea" by distinguishing it from other kinds of diarrhea. In addition, they share the belief that "milk teeth diarrhea" is caused by teething, which they agree on regardless of their treatment-seeking behaviors.

With regard to the reasons for that treatment-seeking behavior, many people mention their desire to "avoid traditional healers," rather than affirming a desire to "choose modern treatments."

> *We used to take children to the traditional healer when they had "milk teeth diarrhea," but not anymore. We take them to the health center. The health center takes a long time to cure "milk teeth diarrhea," so we have to take children there many times. Also it costs more than the traditional healer. The reason why we still take them to the health center regardless is that the HEWs taught us the materials traditional healers use could transmit the HIV virus. We are afraid of it, so we go to the health center.* (A female in her 40s)

> *When a child gets "milk teeth diarrhea," parents used to take him to a traditional healer. If the child did not recover after pulling the teeth out, parents rubbed the teeth with garlic. These are the old ways of treatment for "milk teeth diarrhea." Now it has changed and people go to the health center or other health facilities. The reason is that they know traditional healers use dirty tools without being boiled. Those dirty tools cause infections with HIV or other diseases.* (KSO II)

> *When children got "milk teeth diarrhea," we used to go to the traditional healer but not now. We go to the health center because traditional healers may damage children's jaws.* (A female in her 40s)

Even though they recognize the illness as "milk teeth diarrhea," they do not choose to go to a traditional healer for hygienic reasons. According to them, tooth extraction is carried out with tools that are "dirty and not sterilized." They may therefore cause tetanus infections and transmit HIV, as well as causing massive hemorrhages.[10] This hygienic perspective regarding milk tooth extraction has probably arisen due to the indirect influence of health education by HEWs and KSOs, as well as governmental health policy. Indeed, traditional healer I, who mentioned that he "boils and heats the tools with fire to sterilize them before extracting the teeth" is also likely to have been influenced by government health education.

4. DEVELOPMENT, HEALTH INTERVENTION AND BEHAVIOR CHANGE

The previous chapter introduced interview data on "milk teeth diarrhea" and described changes in inhabitants' perceptions regarding both traditional and modern medicine. It also demonstrated that

multiple bodies of medical knowledge may coexist that are consistent with the HEP's procedures.

In regard to so-called "harmful traditional practices," the number of people relying on traditional healers has been gradually decreasing. In places such as this research site, where access to modern medical care is relatively good, and health promotion programs are actively carried out, when people judge a sickness to be a "modern" one, they tend to make positive use of modern medical facilities. In this sense, the HEP's attempts to educate villagers can be said to be succeeding.

This chapter first attempts to generalize perceptions of "folk illnesses" in the village of Enamirt and examines the modes of knowledge transmission from the HEWs and KSOs to inhabitants; it then presents a discussion of the kinds of behavior changes that can be or cannot be instilled in inhabitants through such knowledge transmission.

4.1. Folk illnesses in local context

"Milk teeth diarrhea" is recognized by villagers as a folk illness that can be cured by an operation performed by a traditional healer and/or by treatment with holy water. People apply different definitional frameworks to such "folk illnesses" than they do to scientifically defined diseases that can be treated at health facilities. In the case of "milk teeth diarrhea," traditional treatment methods have been disappearing, and more and more inhabitants have come to choose the modern medical treatment available at medical facilities.

However, there are some significant elements regarding local health beliefs and practices that cannot be explained by a simple narrative of modern medical care and health development expelling harmful traditional practices.

In Amhara, "treatment" in a wider sense is still performed by herbalists, traditional healers, and mediums, even as modern medicine has become commonly used (Young 1977, Kloos et al.1987, Hodes 1997, Agazi et al. 2006). Inhabitants choose treatment methods and sites depending on particular symptoms and etiology; for example, "if fever is running, it may be malaria and thus you should go to the health post"; "if you are being possessed by a spirit, take holy water." Thus, the medical system in this area is pluralistic (Brodwin 1992), and treatment-seeking behavior among inhabitants is a "pluralistic medical behavior" (Young 1981). Knowledge and behavior around "milk teeth diarrhea" are still inconsistent, although preferences for modern medical care are generally strengthening. On the one hand, there is a persistent belief that treatments at the health center for "milk teeth diarrhea" and for normal diarrhea are different, and on the other hand, there is also the belief that the treatment at the health center is the same for both normal diarrhea and "milk teeth diarrhea"; therefore the perception of the modern treatment for this illness is not consistent and uniform among inhabitants.

However, inhabitants' perception of the distinct existence and specific symptoms of "milk teeth diarrhea" is more consistent, regardless of whether they go to a traditional healer or to the health center for treatment. In this narrative, which states, "if a child gets milk teeth diarrhea, the bad tooth must be pulled out," the target of the treatment is the tooth itself. A traditional healer extracts the tooth to kill the "fundamental cause" of the illness, that is, "bugs inhabiting the gum around the tooth." There may be differences in how this etiology is worded, but there is agreement regarding the diagnosis of "milk teeth diarrhea."

Such an etiology may become useless when "milk teeth diarrhea" loses its significance as a folk illness, once a preference for treating all kinds of diarrhea at modern medical facilities becomes firmly established. Thus, it can be expected that "milk teeth diarrhea" will eventually become reclassified as the same as "normal" diarrhea, which is curable with an injection and an oral prescription. However, even though modern medical care may become common, differences in the treatments dispensed at health care facilities lead to the perception that such differences are caused by distinct sicknesses such as "milk teeth diarrhea" and other kinds of diarrhea.

4.2. Knowledge transmission

The process in which illnesses such as "milk teeth diarrhea" become objects of modern medical treat-

ment can be understood as the "medicalization of folk illnesses." The research site in question is currently at a complex intersection between local-traditional and western-medical knowledge, techniques, and methods.

In the village, KSOs teach inhabitants about the symptoms of important diseases such as diarrhea, and offer tips for treating them. Although KSOs may not necessarily mention "milk teeth diarrhea" using its folk name, some people have started going to the health center when their children have the symptoms of "milk teeth diarrhea." In accordance with the KSOs' general advice, inhabitants try to go to the health center more often when they are sick. In that respect, KSOs play some role in motivating people to promote their own health.

Many KSOs are aware that they should be models for the community, and they try to demonstrate appropriate health behaviors to other inhabitants by practicing at home what they have learned through health promotion programs. For example, in keeping with the HEP's hygiene module, each KSO sets up a water tank and constructs a toilet at home. These efforts are expected to serve as an example to other inhabitants, thus transmitting health knowledge through action. Moreover, in Bojed, people frequently invite their neighbors to come and share a meal with them at their home. KSOs use such opportunities to show people their new life practices, such as the setting up of water tanks and toilets, and to provide their neighbors with the knowledge and skills to do the same. These educational activities are carried out as communication between neighbors in a relaxed setting, not as formal training. This is possible only for KSOs, as they are members of the local community, resulting in their indispensability to health promotion programs such as the HEP.

4.3. Behavior changes

"Harmful traditional practices" appear to have been declining for the past few decades; however, some reports point out that despite various educational attempts, beliefs about folk illnesses and the treatment practices surrounding them have not changed much. Getu and Melkie (2002) reported a high rate of practice of HTPs as of 2001 in Dembia in the Amhara Region, and subsequent research indicates that this rate remained hardly unchanged by 2005 (Getu 2010). According to that study, the major factors behind the continuation of HTPs were little or no educational background among mothers, rural residency, and membership in the Ethiopian Orthodox Church. The inhabitants of Enamirt fulfill all of these conditions. To mitigate the effects of these risk factors, should more be done, perhaps, to educate local women and broaden their career prospects?

As previously mentioned, general preferences in Enamirt for treatments for "milk teeth diarrhea" have been shifting away from tooth extraction performed by traditional healers in favor of treatment at modern health facilities. That change began to take place within approximately the past ten years, according to interviews with Bojed inhabitants. In Enamirt, all women aged 30 years and above lack education. The most promising method for effecting behavioral change will likely involve a focus on health educational activities rather than on career education. Nichter and Nichter point out that education and literacy do not directly explain the health behavior change: "The belief that literacy in itself will 'correct false and superstitious beliefs about the body' is naive. Most of our literate informants continued to entertain traditional ideas about fertility, at times incorporating these with modern ideas." (Nichter and Nichter 1987)

Teething does not bear much relation to diarrhea in the modern medical context, and there is little doubt regarding the comparative advantage of modern medicine for the treatment of diarrhea. As previously mentioned, traditional methods of treatment, including tooth extraction, are often criticized because they are accompanied by physical violence. Nonetheless, simply criticizing traditional practices by labeling HTPs as "incorrect knowledge" may not represent the best course of action for promoting better health, considering that these traditional practices are embedded in people's lives, and that an individual's physical health is often associated with his or her state of mind.

People believe in the existence of the illness known as "milk teeth diarrhea," and they think it is a normal part of children's development. Folk illnesses such as "milk teeth diarrhea" and traditional treatment practices cannot be separated. In light of this, it is necessary to take into account the cul-

tural background of the illnesses in question and to consider the detailed process of shifts in people's beliefs and behavior.

If only the negative aspects of traditional treatments are emphasized, and these treatments are rejected outright to promote the use of modern medical facilities for folk illnesses, antipathy may result among those people who have put their faith in traditional treatments. Although people's health-related behaviors appear to be changing alongside the health policies of the Ethiopian government, their faith and beliefs cannot be easily eroded. In the field of health promotion, such cultural aspects should be carefully considered and should not be ignored.

Health promoters are expected to have a particularly large influence on the behaviors and ways of thinking of inhabitants because they take on an important role as messengers of knowledge in the community. How people think about modern and traditional medicine and about illness depends on the methods used by community health promoters and on the contents of the health knowledge that they promote. Thus, it is community health promoters who can best grasp the local situation, promote appropriate health-related behaviors within the local context, and play an important role during crucial transitional periods from traditional to modern medicine.

5. CONCLUSION

The aim of this study was to provide a better understanding of folk illnesses in rural Ethiopia, to describe the beliefs and behaviors surrounding them, and to clarify the role of community health promoters.

Although health-promotion programs are being implemented and people's treatment-seeking behaviors are shifting from traditional to modern methods, the traditional ways of conceptualizing folk illnesses remain. These traditional beliefs are deeply embedded in people's lives, and it is unproductive to simply state that traditional treatments should be rapidly abandoned; nevertheless, health promotion within a narrative of modern medicine is needed to improve people's health.

Attempting to force the rapid abandonment of traditional practices for the purposes of health promotion is not the proper way. It is necessary for health promotion programs to take steps that consider the local context. In this context, the role of community health promoters cannot be overlooked. Health promoters' efforts regarding knowledge transmission affect people's perceptions and health-related behaviors; therefore, health-promotion programs should be sensitive to local, cultural, and actual circumstances when providing training to community health promoters.

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NOTES

(1) Approval was obtained from the following: the Ethics Committee of Nagasaki University's Graduate School of International Health Development, the Amhara Regional Health Bureau, the Mecha District Administration Office, and the District Health Office. Out of respect for the rights of interviewees, consent was obtained prior to participation, and the following items were verbally explained: 1) That interviewees are free to determine whether to participate, decline to participate, or withdraw their participation; 2) That information obtained throughout the research is strictly managed so that individuals cannot be identified. Research was partially funded by Grant-in Aid for Challenging Exploratory Research, "A Theoretical and Demonstrative Study for Applying Ethnographic Description of Pluralistic Medical Behavior" (No. 23652192, PI: Ken MASUDA).

(2) In the present educational system in Ethiopia, grades 1 to 8 correspond to elementary school, grades 9 and 10 to middle school, and grades 11 and 12 to advanced courses in preparation for university.

(3) HEWs receive a salary from the regional health bureau or *wäräda* health office but the KSOs of AmRids are unpaid.

(4) It is actually "health center," but many inhabitants call it "clinic (*klinik*)." In cases where the informant used the word "clinic," this paper replaces it with "health center" having made sure of the interviewee's intended meaning. While there are some private clinics in Merawi town, villagers don't use them much because of their expensive fees.

(5) The unit of currency in Ethiopia is the birr. The currency exchange rates in January 2012 were 1 US dollar = 17 birr, 1 yen = 4.5 birr.

(6) Medications and services that are free of charge are: the antimalarial drug Coartem (patients are charged for Chloroquine), antituberculous drugs, HIV testing, antiretroviral medication, family planning services, oral rehydration salt (provided by UNICEF), and the delivery of babies.

(7) A historical overview of traditional medicine is provided by Pankhurst (1990). Ragunathan and Solomon (2009), Tilahun and Mirutse (2007) and Belachew (1993, 1995) provide ethnobotanical descriptions of herbal medicine. Using an anthropological approach, Wondwosen (2004) points out the strong popularity of traditional medicine among people in Addis Ababa. Young (1977) and Kebede et al. (2006) suggest the effectiveness of divination and spiritual healing.

(8) Infants generally lose their maternal immunity at about 6 months of age when their milk teeth start to grow, and their diet also changes around this time; therefore infants at this age are vulnerable to infectious diseases, including diarrhea.

(9) There are many reports regarding Ethiopian self-treatment of garlic for diarrhea (Kloos et al. 1987, Dawit and Tadesse 1999, Mirgissa and Fekadu 2000).

(10) Publications frequently suggest HTPs' possible risk of HIV transmission (Jeppson et al. 2003, Amare and Aster 2006, ATEM Consultancy Service 2011).

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