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# Exploring Barriers Related to the Use of Latrine and Health Impacts in Rural Kebeles of Dirashe District Southern Ethiopia: Implications for Community Lead Total Sanitations

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## Abstract

Unsanitary disposal of human excreta, together with unsafe drinking water and poor hygiene conditions contribute for 88% of diarrheal diseases; the burden of this disease is a leading cause of morbidity and mortality particularly in young children and lack of access to sanitation has significant non-health consequences, especially for women and girls, including lack of security and privacy, decreased school attendance and basic human dignity. In addition, inadequate sanitation is implicated in Helminth infections, enteric fevers and trachoma. There are many factors that limit the utilization of latrines in rural setting. Qualitative study was conducted to explore the barriers related to the use of latrine and health impacts in rural kebeles of Dirashe district Southern Ethiopia. Data was collected through focus group discussions, in-depth interview and observations. The study revealed that the utilization of latrine was low with high open field defecations and the community had poor attitude towards the sanitation practice.

**Keywords:** Latrine utilization; Barriers; Dirashe; Sanitation

## Introduction

Sanitation means the safe and sound disposal of human excreta [1]. According to world health organization and United Nations children's Fund Joint monitoring Program (JMP) sanitation defined as the 'Lowest cost option that ensures a clean and healthful living environment both at home and in the neighborhood of users [2]. At the household level, adequate sanitation facilities include an improved toilet and a disposal that separates waste from human contact [3]. On account of proper utilization of well-maintained latrine rather

than its merely physical presence, the health status of the people improves [1,4].

Unsanitary disposal of human excreta, together with unsafe drinking water and poor hygiene conditions contribute for 88% of diarrheal diseases; the burden of this disease is a leading cause of morbidity and mortality particularly in young children and lack of access to sanitation has significant non-health consequences, especially for women and girls, including lack of security and privacy, decreased school attendance and basic human dignity. In addition, inadequate sanitation is implicated in helminth infections, enteric fevers and trachoma [5-7].

In contrast, the use of improved sanitation has been found to reduce transmission of enteric pathogens and intestinal parasites, reducing morbidity and mortality especially in children. Thus, facilitating access and use of improved sanitation can prevent the transmission of diarrheal diseases [4,8]. In total the prevention of sanitation and water-related diseases could save some \$7 billion per year in health system costs; the value of deaths averted based on discounted future earnings, and adds another \$3.6 billion per year [9].

However, in 2012, an estimated 2.5 billion people in the world have no access to improved sanitation facilities. Of these, 761 million use public or shared sanitation facilities and another 693 million use facilities that do not meet minimum standards of hygiene. The remaining 1 billion (15% of the world population) still practice open defecation. The majority (71%) of those without sanitation live in rural areas, where 90% of all open defecation (OD) takes place [10]. The order of the magnitude of sanitation and related health context are striking; every year the failure to tackle these problems claim the lives of 1.5 million children and result in severe welfare losses – wasted time, reduced productivity, ill health, impaired learning, environmental degradation and lost opportunities – for millions more [5,11,12].

In developing regions people are most vulnerable to infection, where only one in every three people has access to improved sanitation; the vast majority, 82% of people

practicing open defecation now live in middle-income populous countries [8,10]. In sub-Saharan Africa 69% of the populations do not have access to improved sanitation facilities and the practice of open defecation has highest prevalence in Southern Asia, Oceania and sub-Saharan Africa which is associated with significant negative externalities as it releases germs into the environment that can harm the rich and poor alike even those who use latrines, thus it needs to be brought to an end [13-16].

Poor sanitation and hygiene conditions are among the major causes of public health problems in Ethiopia in general and in Dirashe district in particular, nearly 40% of Ethiopians lack access to sanitation facilities in 2009. Even where toilets do exist, many are not used, meaning that open defecation is common for almost all the rural population. In Ethiopia 82% of the population use unimproved sanitation facilities, 38.1 million populations still practice open field defecation [3,17]. Diarrhea is the leading cause of Under-5 mortality in Ethiopia causing 23% of all under-5 deaths. Around 44% of under-5 children in Ethiopia are stunted, which can be strongly linked to the childhood incidence of diarrhea and other mechanisms such as environmental enteropathy [15].

According to the most recent EDHS, 80% of all incidences of diarrhea are due to unsafe water supply, poor sanitation and unsafe hygiene behaviors; 17% of childhood deaths are associated with diarrhea. There is also high prevalence of worm infestations causing contributing to the high levels of malnutrition mainly among the large population of under-five year's children which sanitation can prevent [13,18]. However, the government of Ethiopia has been promoting universal sanitation coverage to ensure better health and quality of life for all Ethiopians working hard to increase access to and utilization of improved sanitation to its rapidly growing population.

In Dirashe district the annual health service report 2013 shows that 80% of the households have latrines. But still it needs a clear, reliable, consistent and sustainable sanitation use by all family members beyond simply calculating the coverage. The morbidity report of the district indicated that the burden of diarrheal disease is still 5th of top ten disease of the area and other related illness lead to the economic impacts i.e., cost for treatment per infection, decreased work time influencing their growth and in addition, the trachoma survey 2009 in the district shows that the prevalence of active trachoma and trachoma trichiasis were high.

One of the reasons for conducting this study was described as follows. Open defecation and unsafe excreta disposal continue to be widespread in the district with major public health and economic consequences. Open defecation is not limited to remote fields in the area. It's ordinary to observe human feces in most of the villages even in and near homes where children playing around and this served as a source of transmission of the diarrheal diseases. Many of the communities which counted as ODF do not properly (in clean) use the communal (passersby) latrines or do not use them all the time, defecate in open field, around the latrines or outside the pit, hand washing without water and soap (ash) or no

hand washing facilities at all. The latrine utilization of households which have been declared fully as open defecation free is assumed to be superior to non-open defecation free households though. Thus, the latrine utilization is questioned. Therefore, this study aims to explore the barriers for latrine utilization in rural kebeles district Southern Ethiopia.

## Methods

### Study area and setting

The study was conducted in Derashe district, Segen Area People's Zone, SNNPR. Derashe district is one of the five districts in Segen Area People's Zone. It is located at 550 km from Addis Ababa, 330 km from Hawassa, 55 km from Arba Minch and 42 km from Segen, the capital city of the zone. The district is bordered in north by Gamo Gofa zone, south Konso district, and west Ali district and in east Amaro and Konso districts. According the report from the district, it has an estimated 1,16,000 population with 1:1 sex ratio. The main livelihood of the population is based on farming. There are two main rainy seasons which make the district to cultivate biannually. The main cash crops of the district include "teff", wheat, barley, grain, coffee and others. In addition to their ethnic language the people are the speakers of Affan Oromo [19,20]. This study was conducted rural kebeles of the district during 2014/15.

### Data collection methods

Data was collected through Focus Group Discussion and in-depth interview. Both the methods were used to generate the adequate information from the community. Qualitative data will be collected by using semi-structured questionnaire or interview guide.

### FGDs

The qualitative data was collected by using semi-structured questionnaire or interview guide. The interview guide was developed by reviewing different literatures of WASH and to address the objectives of the study. The FGD questionnaires had perception on latrine utilization and the effect of latrine utilization on diarrheal diseases. A trained environmental health professional who had experience in conducting FGDs, conducted/moderated the FGDs. Four FGDs was conducted for the saturation of information. Nine participants were included in each FGD. Three data collectors were participated on FGD, including moderating discussions and note taking. The principal investigator was participated in selection of study participants, observation during the discussions and transcribing tape recorded data. Based on prepared guide for FGDs, data was collected. Careful attention was given to establish the frequency of the occurrence of themes, phrases and expressions so as to make the discussants describe their opinions relative to the specific research questions.

## In-depth interview

In-depth interview of eight key people was conducted, with two key informants from each of the study communities. In-depth interviews were used to generate detailed information about the community's thoughts and behaviors with regard to the latrine utilization and why not abiding to the regulations of health extension programs in depth. These interviews were used to provide context to other data offering a more complete picture of what happened in the community and why people were not utilizing latrines and keeping basic sanitations. To achieve these informants included latrine artisans, water and sanitation committee members, and community opinion leaders.

## Observations

Data was also collected using observation checklists in order to gather information on the presences of solid and liquid wastes and also human feces in the compound. The availability of latrines, presence of hand washing facility, feces in the compound, garbage in the home and compound and the general cleanliness of the community and households. The checklists were modified from the UNICEF WASH projects checklists to be adaptable to the local community.

## Quality control

The FGDs was carried out in separate rooms. Both participants from male and females have given their responses in different class rooms. A trained environmental health professional was moderated each discussion. During the discussion, data was collected using note taking and tape recorder and transcribed by principal investigators and moderators. Before transcribing the data, repeated listening to the tap recorded data and transcribing the written note line by line was used to maintain the quality of the data.

## Data analysis

The tape recorded data was analysed under selected themes based on the guide and summarized manually. Open code software was also used in the analysis. The written note and tape recorded data was transcribed line by line and translated. The results from observations were also used to supplement the results of FGDs and the interview.

## Results

### Perception and attitude of the community towards latrine utilization and sanitations

When the issue of water raised, it is the problem of peoples in rural kebeles of Dirashe community. This is the problem not resolved. If there is no water the issue of the sanitation is meaningless. Water is the first and foremost in the life. Even though awareness is being improved with respect to washing the faces of the children, utilization of latrines but the problem is the availability and accessibility of the needed things. There

is a continuous monitoring and controlling mechanism for latrine availability, utilization and waste disposal mechanisms. Major problem in sanitation is the lack of water which hampers hand washing personal hygiene. What is given as education is adequate on sanitation. Peoples are taking and practicing it. "Previously Dirashe people do not utilize latrine but currently things are being changed, open defecation is reduced, but the problem still persists" but we do not believe that hygienic practices will have meaning without water.

In reality, there are less public latrines for the population in different areas and also areas for solid waste disposals there are communal areas. But the utilization of this public latrines is low because of different reasons. Individuals were defecating in open field, and discarding many wastes here and there. The other most critical problem in this area is shortage of water. All population do not use pipe water some of them use river and some other unprotected spring. You can understand that the awareness of the individuals increased from time to time on health activities. Hope international Ethiopia tried to solve the water problems of the rural community in the district but not sustained. Even if individuals are told to wash the face of their children, and for hand washing after toilets due to lack of water children face is not washed well. We understand that the awareness of the individuals increased from time to time due to shortage of water personal hygiene is not practiced.

In reality, there are many public latrines for the population in different areas and also areas for solid waste disposals. But the utilization of this public latrines is low. Individuals who come from rural area were defecating in open field, and discarding many wastes in the town here and there. Some latrines are also not well protected and the individuals not utilizing them correctly. You can see the new bus station kebele. The same is true for market area public latrines, where people defecate outside of the hole. If we had improved knowledge the main problem is related land problem for latrine construction and pit for dry waste disposal.

### Practice or latrine utilization and health behavior

The practice of the community towards latrine utilization, waste disposal and keeping the personal hygiene of their children especially face washing, we can divide the population in to three category when this issue is concerned. The first category were those who had and practice what is said by the health providers without any assistance. The second category were those who did what they perceive when they are told to do so. This category of individuals need follow them they will return back to their initial situation. The third group is individuals who have had poor attitude and do not respond to what the health extension workers are saying and the development army also.

Thus, concerning practice of the community towards latrine utilization, waste disposal and keeping the personal hygiene of their children especially face washing, we can divide the population in to three category when this issue is concerned. The first category were those who had appropriate waste

disposal, washing their hand after toilets, and washing their children's face without any assistance. The second category were those who did what they perceive when they are told to do so. This category of individuals unless you follow them they will return back to their initial situation. The third group is individuals who have poor attitude and do not respond to what the health extension workers are saying and the development army also. From this one can understand there are necessary prerequisites to be fulfilled for practice of certain hygienic activities but this may not be true for the second and third category individuals. Hand washing after toilets limited by the shortage of water. You observe empty jerkan used for hand washing water after toilets. Washing of children face also follows the same fashion. There are families who wash the face of the children, the children themselves urges their families to provide them with soap and water and wash their face and also the third category individuals will come without washing their faces. But there is improvement due to trained individual on sanitation, trachoma and health extension education and also the information delivered during the campaigns of drug distribution especially trachoma.

The other theme of discussion was prevention of different health problems including diarrheal diseases, trachoma and water borne diseases. After exchanging of different ideas, majorities of the discussants come up with environmental and water hygiene activities to prevent diarrhea and other related diseases. This can also be done through implementing the packages of Health Extension Programs (HEP). Since open defecation is highly practiced the role of water treatment is crucial. But, one of the discussant said that "it is unbelievable to control diarrhea using treating water because some of the germs may not be killed with boiling; use of chemical alters the test of water and it could not be used in this culture" (grade seven completed, 38 years old male discussant). Therefore, we need improved water supply where contaminations are high because of the feces will be washed to water sources. General diarrheal disease prevention is comprehensive and not believable in poor setting. Changing the cultures and beliefs of the society in using toilets and avoiding open filed defecation may take longer time because of nature of the occupation.

## Discussion

In this study the utilization of latrine is low. This is manifested in open defecation in the fields. The attitudes of the community towards latrine use were poor. The reasons or factors associated for non-use of latrine was poor knowledge of the danger effects of poor latrine utilizations and the nature of work which totally outdoor.

In this study the utilizations of latrine is less promising. These results were in contradiction with the study conducted in East Gojam showed that encouraging practice in latrine use [4]. The factors that help the utilization of latrines were mainly community attitude and lack of the benefits of the latrine use and nature of the work the community engaged in. This is in contradiction with the study in East Gojam Zone where presence a school children in a household, duration of owning a latrine, peer pressure, and self-initiation to owe latrine due

to the promotional activity of health extension workers were the major factors affecting utilization of latrines [4]. And this result is in consistent with the study conducted in similar district in the south Ethiopia [15]. The reports from the health offices said that the majority of the households in the community had latrine and it is being utilized by the respective age groups. But, the reality in the ground is totally different. The other factor acted as barrier for the utilization of latrine was attitudes of the community. In this regard they reported that the utilization was restricted to the times of health professional visits. This finding is consistent with the study conducted in Melekoza woreda, south Ethiopia [21]. And also similar finding was reported from the two studies [4,15]. This explained that the barrier for the effective utilizations of latrines also extended to the factors of re-enforcing factors.

The relationship between the attitude and practice of latrine utilization and improved water supply where contaminations are high because of the feces will be washed to water sources. General diarrheal disease prevention is comprehensive and not believable in poor setting. Changing the cultures and beliefs of the society in using toilets and avoiding open filed defecation may take longer time because of nature of the occupation.

## Limitations of Study

The limitations of the study were since it was a onetime study undefined seasonal variability were limitations of this study to identify the barriers for the community perceptions and attitudes towards the latrine use and its effects. Availability of literature addressing our research questions was also a limiting factor to discuss our finding.

## Conclusions and Recommendations

In this study the utilization of latrine was low wit high open field defecation. There were poor community perceptions towards utilization of latrine. The government should enforce the local community to implement the HEP packages. The health extension workers should closely supervise the utilizations of the latrine available and put scary messages on open defecations.

## Conflict of Interest

Authors declare that there is no conflict of interest.

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