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Open Defecation Practice and Associated factors Among Households who have A Latrine in Rural Communities of Machakl District, East Gojjam Zone, Amhara Region, Northwest, Ethiopia: A Community Based Cross Sectional Study

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OPEN DEFECATION PRACTICE AND ASSOCIATED FACTORS AMONG HOUSEHOLDS WHO HAVE A LATRINE IN RURAL COMMUNITIES OF MACHAKL DISTRICT, EAST GOJJAM ZONE, AMHARA REGION, NORTHWEST, ETHIOPIA: A COMMUNITY BASED CROSS SECTIONAL STUDY

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A THESIS SUBMITTED TO DEPARTMENT OF ENVIRONMENTAL HEALTH, SCHOOL OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES, BAHIR DAR UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN WATER, SANITATION AND HYGIENE.

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ABSTRACT

Back ground: Open defecation is a serious sanitation issue globally most developing countries are battling with it. The situation is even worse in the sub-Saharan African countries including Ethiopia, despite various interventions to end open defecation practice. Even if latrine coverage increases with a significant change, Open defecation remains a public health challenge especially in low income countries like Ethiopia including the study area and the prevalence of open defecators and associated factors is not well documented in the study area.

Objective: The main objective of the study is to assess the prevalence of open defecation practice and associated factors among households who have latrine in rural communities of Machakle District, Northwest Ethiopia.

Methods: a community-based cross-sectional study was conducted from September to October 2019 in Machakle District, Northwest Ethiopia. A total 476 households includes in the study sample and the study population was selected using multistage sampling technique and data was collected using pre-tested questionnaires and observational checklist. Also a total of ten key informant interviews and three focus group discussions were carried out.

Result: Open defecation practice among households with latrine 27.8%, 95% CI: (23.8, 32). Educational status of household head (unable to read and write) [(AOR= 5.5, 95% CI: (2.462, 12.36)], occupation of house hold head (being farmer [(AOR=3.25, 95% CI :(1.7, 6.26)], presence of under five children years in the house [(AOR=3.94, 95% CI:(2.33,6.67)], latrine cleanness status(being unclean) [(AOR=2.22, 95% CI:(1.4,3.55) and physical status latrine (latrine need maintenance) [(AOR=2.6, 95% CI:(1.6,4.25)] were significantly associated with open defecation practice. Despite having a private latrine at home or access to a public latrine, people were compelled to practice open defecation due to constraints of habits and hygienic issues in general.

Conclusion and recommendation: Latrine construction is not enough to substantially reduce open defecation; indeed, the data concluded that open defecation significantly practiced by households with a latrine. Therefor regular sanitation and hygiene education promotion should be done.

Key words: open defecation, households with latrine, Machakle District

ACRONYMS AND ABBREVIATION

AOD……Adjusted Odds Ratio

CI…….Confidence Interval

CLTSH……Community Leads total Sanitation and Hygiene

COR……Crud Odds Ratio

DHS……Demographic Health Survey

FGD…….Focus group discussion

FMoH……..Federal Ministry of Health

HEWs……..Health Extension Workers

HHs…….Households

JMP……..Joint Monitoring Program

KII……Key informant interview

NGOs……Nongovernmental Organizations

OD……Open Defecation

SDG…….Sustainable Development Goal

SPSS……Statistical Package for Social Science

SSA…….Sub Saharan Africa

UN……...United Nations

UNICEF……..United Nation Children's Emergency Fund

WASH…….Water Sanitation and Hygiene

WHO……World Health Organization

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1.1. Background

Safe sanitation is essential for health, through preventing infection to improving and maintaining mental and social well-being, but lack of safe sanitation encourages open defecation (1-3). Improved sanitation includes sanitation facilities that hygienically separate human excreta from human contact whereas Open defecation (OD) refers to the practice of defecating in fields, forests, bushes, bodies of water or other open spaces without any proper disposal of human excreta(4). Human excreta always contain large numbers of germs, When people defecate in the open, flies will feed on the excreta and can carry small amounts of the excreta away on their bodies and feet which causes for, the contamination of environment and propagation of flies thus resulting in the spread of diseases(5).

Open defecation falls into the category of unimproved sanitation. Of course access to sanitation facilities is a pre-requisite to end OD, but it is not a sufficient condition(6, 7). OD practice had different reasons of these; it can be a voluntary, semi-voluntary or involuntary choice. Most of the time, a lack of access to a toilet is the main reason. However, in some places even people with toilets in their houses prefer to defecate in the open. Poorly constructed and managed facilities may lead to households reverting to OD practice (8).

Eliminating OD by 2030 is an indicator being used to measure progress towards the Sustainable Development Goal (SDG) Number six. Indeed, between 1990 and 2015, the global proportion of open defecators has dropped, even though twelve percent of the global population still practices OD(9) and it is an old poor sanitation issue worldwide including developing countries in particular, which persist till date despite its damning effects. Why the practice continues to persist is a question that remains largely unanswered (10).And achieving universal access to adequate sanitation and end OD by 2030 is a major challenge in many parts of the world(9).

Ethiopia had established the National Sanitation Strategy with the goal of 100% latrine coverage to improve sanitation and hygiene in 2005(11). And the Ministry of Health of Ethiopia had also adopted community led total sanitation (CLTS) in 2011 to be implemented in the country through its Health Extension program since 2003 to eliminate OD(12). As a result, remarkable success on OD reduction was reported. However, the change has not been consistently effective throughout the country. And Ethiopia is one those 10 countries who practiced open deification, 5 of Africa (Nigeria, Ethiopia, Sudan, Niger and Mozambique)(9).

Health improvement comes from the proper use of sanitation facilities, not simply their physical presence. This is best achieved through regular use of clean and well maintained latrines(2). The proper use of latrines can reduce the risk of diarrheal disease and the combined effect of WaSH reduce more in diarrheal disease(13). But, currently in Ethiopia disease associated with poor sanitation is a major problem. More than half of the population still used unimproved sanitation facilities and majority practiced OD(14), means Ethiopia is far from the SDGs target for eliminating OD practice by 2030(15).

1.2. Statement of the problem

As at the year 2015, about 2.3 billion people in the world did not have access to improved sanitation with 892 million people practicing OD (9). This is a major cause of diseases, under nutrition, poverty and usually considered as an affront to personal dignity. Those countries where OD widely practice cause for highest numbers of <5 children death, high levels of under nutrition and poverty (16). Ten percent of the global disease burden was related with poor sanitation. Every year, 1.7 billion cases of childhood diarrhea occur worldwide, of these, 525,000 children lost their life(17). Additionally, the practice cause risk of sexual exploitation, privacy, dignity and Psychosocial stressors on women in low and middle income countries (LMICs)(4).

All sustainable development goal (SDG) regions saw a drop in the number of people practicing open defecation, except for SSA, whereas high population growth led to an increase in OD practice from 204 million to 220 million, and in Oceania, where the practice increased from 1 million to 1.3 million(18). Poor sanitation related disease in developing countries with approximately 80 %(9) and inadequate WASH causes for the death of 842 000 in LMIC, of these 280 000 death associated with poor sanitation each year (17). And approximately 126 000 death occurs in SSA were problems occurs currently(19). This indicates that ending OD is not just a matter of access to sanitation facilities, it also involves motivational drivers such as prestige, well-being and situational goals(20).

Open defecation is predominantly a rural phenomenon, it is estimated that 7% of the urban population in Ethiopia practice OD(13). Even the country has achieved greater progress in reduction of OD from 80 to 27 % at national level and from 90% to 32 % in rural areas (2000 to 2016)(9). But, Several studies revealed that overall OD practice ranges 32% up to 50.02% of households in Ethiopia (13), this is a major cause of diarrheal diseases, respiratory problems and malnutrition in the country, approximately, 12% of diarrheal case of <5 children detected in 2016 (13). And also in Amhara region (34.4-50.1)% HHs practice OD which may be responsible for 13.7% of diarrhea case and 88 deaths per 1,000 live birth(13, 21).

Various studies have been done on OD practices in various countries, identifies factors such as gender of HHs head, education, household member size access to water, latrine characteristic, traditional norms, and beliefs, knowledge, enforcement of rules or regulations and attitudes were comely increase OD practice, and the practice usually take place in fields, forests, bushes, bodies of water or other open spaces (10, 22-25).

Efforts were done on construction of latrines and its use to make open defecation free community status by government, (NGOs) trough different approaches like Community-led total sanitation (CLTS) and sanitation marketing were introduce to Ethiopia (26). These approaches were widely used in the study district and majority of the HHs addressed by this approach in the study area. Despite the efforts through these approaches, attaining and sustaining the 'open defecation free' status has yet not sustained, there is populations still practice OD and diarrheal diseases are among ten top killer diseases especially among under-5 years which mostly associated with OD practice(District annual report unpublished).

This problem cannot be basically reduced unless all community members properly utilize latrine facility or eliminating open defecation practice at all community level. But the challenge is on identifying such factors that make people encourage open defecation practice and lack of clear information among HHs with latrine and HHs without latrine that practice OD in the study area .Therefore, this study was conducted to determine prevalence of OD practice and identify the underlying factors that contribute to the practice despite having latrine.

1.3. Significance of the study

This study will be vital to assess open defecation practice among household having latrine and associated factors in the study area. It will provide information for health care workers and HEWs to intervene for the health of the community. Thus, the findings of this study will give insight for the District Health Office and local NGOs working on sanitation activities by providing evidences in reducing open defecation through different strategies. The households in the rural communities of the district will ultimately benefit from this study. The local planners will use it for planning purpose in protecting the community health. The study finding may likewise be helpful to future researchers by giving the evidence on the situation

2. LITERATURE REVIEW

2.1. Open defecation practice

United Nations (UN) launched the SDG goals for the universal access and sustainable use of sanitation facilities and to eliminate open defecation by 2030, since, Sanitation is essential for life, health and human dignity improved sanitation includes sanitation facilities that hygienically separate human excreta from human contact. However, OD continues to be a critical health challenge globally, affecting almost 892 million people, or 12 percent of the global population practice open defecation (9).

A cross-sectional study in Orissa in India shows 72% of the community had latrine facility of these HHs with latrine 37% of the population practiced OD(6), Consequently the other study in Dharmapuri district, of rural India also reported that OD is common despite the presence of household toilets, more than half of (54.8%) the respondents having a toilet practice OD which is significantly influenced with multifarious factor(24). Additionally, study conducted in Rural Districts of Tamil Nadu, India and in rural Nandivargam village of Kurnool District, Andhra Pradesh (31%) and 27.6% of the HHs with toilets practice OD respectively(27, 28).

cross sectional study done rural areas of hubballi, India among household with latrine 11% households practiced OD(29)**.** Similar study done in rural village of Raipur district revealed that, the prevalence of open air defecation in the study area was found to be 23.2% (30). Survey conducted from in Rural North India, revealed that 80% of HHs with latrine prefer to practice OD (7) Similar study carried out in Maharashtra. Found in spite of presence of latrines 67% of the population resorted to OD practice (31). And 64.1% of HHs with latrine in Ilu Aba Bor Zone in Southwest Ethiopia and 37 % of HHs with latrine in Aneded district, Northwest, Ethiopia practice OD respectively (32, 33).

Review on sanitation from nationwide inventory data shows, in 2014. Reported, that 8% in urban and 43% in rural communities practicing OD based on JMP report. In this review based on Ethiopian DHS survey estimated that 8.7% of urban and 37.5% of the rural population practiced OD. Increasingly by extrapolating the data, in 2015, 52.1% of Ethiopia's population use unimproved sanitation from this 35.6% of the community practice OD(15). The survey done in eight regions of Ethiopia (2017) reported that, the prevalence of OD was seen on 41% of the surveyed HHs, of these, 27% of HHs practice despite having latrine. with the highest in Afar region (62%), followed by Oromia (55%) while the lowest was in Tigray. 34.3% HHs in Amhara region practice OD(21).

2.2. Factors associated with open defecation practice

There are several reasons why the practice of OD has continued of these socio demographic and economic factors (Age, gender, population density, HHs size, education, occupation, presence of < 5 and absence of student children in the house), environmental related factors like, inadequate design and incompletely constructed of toilet, latrine service year, poor accessibility and availability of water, condition of toilet, privacy, safety, and prestige, and knowledge and behavior related factors (believes and attitudes, latrine sharing habit, knowledge regarding possible harms due to OFD, culture and tradition) all of them facilitates OD practice(10, 24, 30, 34).

2.2.1. Socio demographic factors related with open defecation

An analytical cross-sectional study done in in rural south India, 2018; Occupational status of head, education and age were independently determinant of OD practice(24). Another study done in the same year, on determinants of OD in the Wa Municipality of Ghana: found that different socio demographic factors (Age, Education, Sex, HHs size, Marital status, Occupation, Income) significantly associated with OD practice (10). A cross sectional study conducted in a rural area of Nalanda District(35) and in Tanzania on Ending OD and in Thane districts on epidemiological factors associated on OD also identifies Sex and occupation were factor associated OD practice (36, 37).

A community based cross sectional study conducted in a rural village of Eastern Nepal, those HHs having children< 5 years, age of the head of the HHs, family size, socioeconomic status, literacy status of the head of the HHs were factors related with OD(38). Educational level of the HHs head, latrine sharing, and occupation of the HHs head were factors associated with OD practice as reported in Kenya (25).

A cross sectional study done in Chhattisgarh reported that, gender of study participant, residence, marital status, presence of < 5 years child in family, Age of HHs head, family size and educational status of HHs head were significantly associated with OD practice(39).Similar study done in rural HHs of Perambalur district of Tamil Nadu identifies sex, education and occupation of head of the family independently associated with OD practice in the study area. OD was more prevalent among females (90.2%), illiterates (93.1%) and farmers(87.3%) but, the study didn't find significant association with age and income of HHs (40).

According to study done by (Sara and Graham, (2014)); found that incomes, uneducated HHs head, religion, occupation, are factors that influence the practice of OD. implies that 30% of households practicing OD, with

HHs head had never attended school, presence educated HHs head was significantly associated with latrine or toilet use (36). Yimam et al., (2014) in rural part of Dembia district revealed, that 13.2% of the HHs with latrine practice OD, Presence of ≤5 children and job of mothers (being farmer) were positively linked with OD. Whereas the presence of secondary school children, high educational status of HHs head were factors negatively associated with OD(41, 42). In Oda Bultum District, West Harerghe Zone also revealed that presence of <5 in the house facilitate OD practice (43). And in Laelai Maichew Woreda, Aksum, Tigray, Ethiopia being farmer encourages OD(44).

2.2.2. Knowledge and attitude related on open defecation

A cross sectional study done by Chakkarwar P and Kinge 2018; even 49% of the HHs have aware about health hazards of OD, of these about 98 subjects had fear of getting communicable diseases while 41 subjects perceived it as unhygienic practice, but, lack knowledge about effect of OD (51%) facilitates the practice. similar study conducted by Bhardwaj et al., 2013 in rural set up of Maharashtra 14.5% were not aware of any harmful effect of OD and 34.7% subjects know disadvantage of open air defecation with 14.5% people perceived this act as unhygienic (31, 34).

According to (Geetha and Kumar, (2014)); in Rural Districts of Tamil Nadu, India indicates, Even from HHs having toilet only 31% of the HHs practices OD. Lack of awareness on causes for the practice(28). Another cross sectional study carried out in north Karnataka, India: results 99.8% of the population opted to practice OD which is the consequence of low awareness and low attitude about sanitary latrine (45). Similar study conducted in rural village of Raipur district found, In spite of presence of community latrine, 23.2% of the population opted for OD, which is the result of lake of awareness on disease associated with OD. Around 65.2% of study subjects have not awareness on consequence of OD(30).

Educational status was one of the factors statistically associated with OD practice. Across sectional study done in rural Community of Chencha District, Southern Ethiopia and Chiro Zuria District, West Harerghe zone, identifies educational status of HHs head was the significant factor for non- use of latrine(46, 47). Additionally, the study done in Laelai Maichew District, Aksum, and Similarly study conducted in Hulet Ejju Enessie District, East Gojjam Zone identifies that education was the significant variable of OD (2, 44). And study done in rural Communities of Gulomekada District, Tigray Region, North Ethiopia shows similar finding.(48). Additionally, Study done in Rural Tanzania (36), South East zone of Tigray region, North Ethiopia (49), rural

area of Nalanda District and Perambalur district, Tamil Nadu results that OD practice was significantly associated with HHs head education(35, 40).

2.2.3. Socio-cultural related factors of open defecation practice

Open defecation is described as traditional, habitual, and part of one's daily routine, and these social norms are also held more strongly by open defecators. For example, In Tanzania, 40 percent of all survey respondents agree or strongly agree that it is normal for people to defecate in the open in their community. In Rajasthan, 28 percent of open defecators state this behavior is practiced by generations and 47 percent agree we are used to defecating in the open. In Bihar, 49 percent of open defecators agree we are used to defecating in the open(23).

Study done in India by Yogananth, 2018, shows 49.3% stated that open defecation is a day-to-day activity of village life and 44.6% opined that having a toilet inside the house is against tradition(24). Several sociocultural and economic factors either make toilet facilities unavailable or inaccessible to HHs or they encourage people to defecate openly even when facilities for defecation are available (10). A study done in southern India, indicates that OD practice was an age-old custom and traditional norms and beliefs (accumulate human faecal matter close to the house was unacceptable)(50).

A mixed-methods research done, in Kenya revealed, that culture was the leading factor as to why people practiced OD with a frequency of 44% of these (49% of the respondents agreed that the OD practice had become part of their tradition) and 20% of the respondents stated that lack of strict laws that govern sanitation practices also influenced OD practices. Other study done in the same year on determinant of open defecation in the Wa Municipality of Ghana indicated that the local taboos, traditional norms and beliefs were factors associated with OD. By the case 57% of the respondents agreed on OD is an age long practice handed down to them by their ancestors (10).

2.2.4. Environmental factors related with open defecation practice

A cross-sectional study done in in rural south India, 2018; inadequate design and incompletely constructed toilets, poor accessibility and availability of water, were significantly associated with OD(24). National DHS survey in Rural Tanzania reports that, the main reason encourages for OD were poor latrine condition (poor superstructure, presence of smells so badly, Bad odors and unclean floor), Share with others, temporary latrine forced HHs to practice OD. hence about 55% of HHs among latrine users were dissatisfied for using it(36).

Banerjee et al (2013) shows that even, lower socioeconomic status was the main factor for OD practice, the distance of latrine and Water scarcity in their homes to flush toilets properly compels many HH members for OD practice (27). A cross sectional study carried out in a rural village of Eastern Nepal shows, functional latrine, frequency of cleaning the latrine, service year of latrine, latrines with closure for privacy, latrine height less than 1.5 meter and inadequate water were the factors that related with OD practice(51).

A cross sectional study on defecation practices in residents of urban slums and rural areas of Hubballi, Dharwad reasons out that scared of enclosed spaces (9%), the presence of sites for OD (open fields (77%), alongside gutter (3%), streets (20%), garbage) were independently determine the practice of OD and do not know how to use it and are more comfortable with defecating outdoors(52). Similar study done on a tribal community in Thane district, reported that inadequate water and presence of space for defecation were the factors encouraging OD practice in the community(34).

According to the study carried out by (Busienei PJ, 2019); 86% of these respondents agreed that tattered latrine walls, poor roofing materials and poor flooring material, for instance, loose sand, presence of feces on the latrine floor encouraged OD (25). Similar study done in on open defecation free Kebeles of Wondo Genet district revealed that, the practice of OD was facilitated by the factors, duration of latrine <2 year, latrine superstructure made up of wood and plastic and households who construct their latrine following seeing others were (41).

Different study on latrine utilization in Ethiopia reported that, lack of functional latrine, stay out for farming and lack of supra structure of latrine, initiation for latrine construction, length of years since latrine was constructed, cleanliness frequency of latrine, traditional latrine, hygienic condition of latrine, latrine status, type of latrine owned. Absence of hand washing facility, latrine construction material and distance of latrine from house were the major predictors affecting nonuse of latrines (32, 33, 42, 46). And other study conducted in ODA Bultum district, West Harerghe zone (43), and in Laelai Maichew Woreda, Aksum, Tigray, Ethiopia (44) and in Aneded District, North West Ethiopia, shows latrine cleanness had strong association with OD practice (33).

2.3. Conceptual frame work

Conceptual frame work that was adapted from different literature and modified for the study is provided as follows

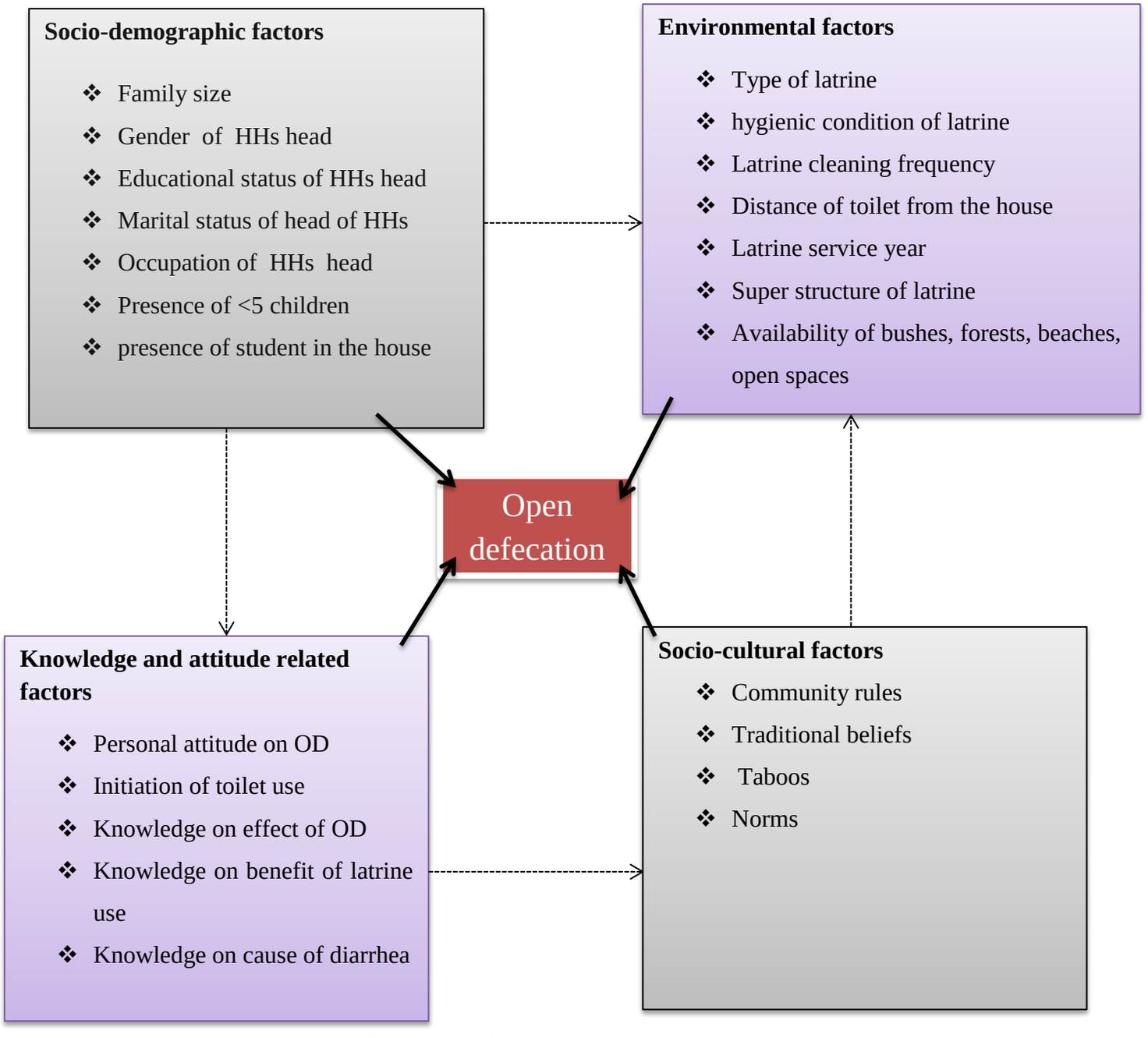

Figure 1 Conceptual Frame work for open defecation practice in rural household having latrine of Machakle district 2019, adapted from different literatures (10, 22, 24).

3. OBJECTIVES

3.3. General objectives

- To assess the prevalence of open defecation practice and associated factors among households having a latrine in rural communities of Machakle district, East Gojjam zone, Amhara region, Northwest Ethiopia, 2019

3.4. Specific objective

- To determine the magnitude of open defecation among households having a latrine in rural communities of Machakle District, East Gojjam zone, Amhara region, Northwest Ethiopia.
- To identify the factors associated with open defecation practice among households having a latrine in rural communities of Machakle District, East Gojjam zone, Amhara region, Northwest Ethiopia.

4. METHODS

4.3. Study design and period

Community-based cross-sectional study was conducted from September 1/2019 to October 15/2019 to investigate and provide valuable information pertaining to open defecation practice and associated factors in Machakle District, Northwest Ethiopia.

4.4. Study area

The study was undertaken in Machakle District, located approximately 328 km from Addis Ababa and 236Km from the capital city of Amhara Regional states capital city (Bahir Dar) and found in east Gojjam zone of south west Ethiopia. The capital town of district is Amanuel found 28 km far from East Gojjam zone capital town (Debire Markos). According to 2007 census, the district has a total projected population of 143516 with 33376 households. For administrative purposes the district is divided into 32 administrative units (Kebeles) in which six of them are urban whereas 26 were rural Kebeles. Machakl share boundaries with four districts: Debre Elias in the south, Gozamin in East, West Gojjam in the west, Bebugn in Northwest and Sinean in the north directions. The climatic of the district was Dega, woynadega and kola. There are 6 health centers and 33 health posts which makes 97% household latrine coverage in the district (District annual report, unpublished)

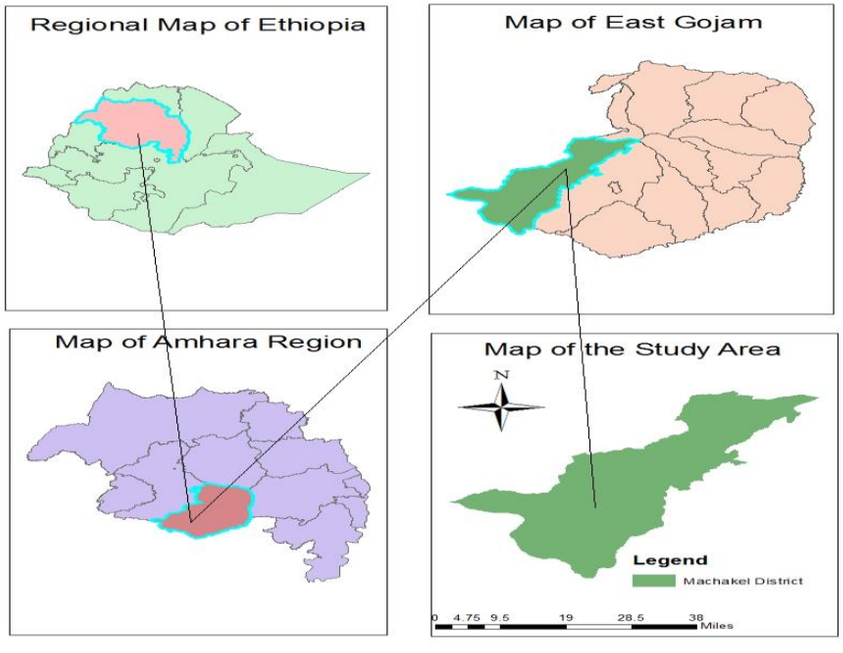

Figure 2 Map of Machakle District, East Gojjam zone, Amhara regional state, Northwest Ethiopia 2019

4.5. Populations

4.5.1. Source population

All households having latrine in rural setting residing in the district was the source population in Machakle District, East Gojjam zone, Northwest Ethiopia.

4.5.2. Study population

Households with latrine in the selected Kebeles of the rural community of Machakle district during the study period

4.5.3. Study unit

The selected households from the selected Kebeles and respondents (household head or the house mother (if the father not available) of this study in the district during the study period

4.6. Inclusion and exclusion criteria

4.6.1. Inclusion criteria

All households having latrine in rural setting residing in the district and head of the household was included in the study

4.6.2. Exclusion criteria

Households who had not functional latrine and household head that is unable to give response due to mental disorder or other health problem.

4.7. Study variable

4.7.1. Dependent variable

Open defecation practice among households with latrine

4.7.2. Independent variable

- **Socio demographic variables**

Family size in in the house, presence of under five years children in the house and presence of students in the house, (Age, gender, marital status, educational status, occupational status) of house hold head.

- **Environmental variables**

Toilet type, service year of toilet, distance of toilet, physical maintenance status toilet cleaning condition of toilet, frequency of latrine cleaning, availability of bushes, forests, beaches, open spaces.

- **Socio- cultural variables**

Traditional beliefs, taboos, norms, presence of community rules in the village

- **Knowledge and Attitude related variables**

Personal attitude on open defecation practice, initiation of toilet use, knowledge on (effect of open defecation, the benefit of latrine use and mode of transmission of latrine)

4.8. Operational definition

Open defecation practice: The human practice of defecating outside rather than into a toilet. People may choose fields, bushes, forests, ditches, streets, canals or other open space for defecation. In this study, open defecation is a self-reported behavior or observational measurement was also takes place in the compound on the singe of open defecation practice or latrine utilization on HHs(53).

Functional latrine: Latrine that provided services at the time of data collection even if the latrine required maintenance(44)

Latrine utilization: households with either shared or private functional latrines and the family both adults and under-five children disposed the faeces in a latrine by all occasion, and show at least one sign of use, the latrine is smelly, absence of spider weave in squatting hole, presence of anal cleansing material, the slab is wet, no observable faeces in the compound, observable fresh faeces on the inner side of the squatting hole and the presence of clear foot-path to the latrine is uncovered with grasses or other barriers of walking(14).

Knowledge on open defecation practice: The response of knowledge questions about OD practice were summed up and a total score is compute from ten questions related to hygiene an effect of OD. The respondents

were considered as Good knowledge which answers greater than seven questions whereas respondents have Poor knowledge if they answered less than or equal to seven from OD related questions practice(54).

Attitudes towards OD practice: It is individual belief on OD practice and latrine utilization and obtained and assessed from 12 questions by sum statements related to this belief which scored using 5 point Likert-scale and above mean (39.91) indicates High attitude on OD practice and below or equal to mean (39.91) indicates Low attitude towards OD practice.

Clean Latrine: means no faecal matter presents inside the facility on floor or walls, which are not full, not smell bad and can hygienically separate human excreta from human contact (42).

Community rule and regulation: A rule and regulation sated by community collectively monitored and regulated by community leaders assigned by community itself(23).

4.9. Sample size determination

The required sample is calculated using a single population proportion formula with assumption of OD prevalence of 16.9% (0.169) found from study done in OD free Kebeles of Wondo genet district(41), and marginal error (d) of 0.05, a standard Z score of 1.96 corresponding to 95% confidence interval (Za/2), design effect of 2, to provide correction for the loss of sampling efficiency resulting from the use of stratified sampling, and 10% non-response rate:

Then the sample size is calculated as:

$$n = \left(z_{\frac{\alpha}{2}} \right)^2 \times \frac{p(1-p)}{d^2}$$

Where

n= Sample size

z= standard normal deviation (1.96) with corresponds to 95% confidence level

p= expected prevalence (0.169) OD in Wondo genet district on HHs with latrine was 16.9%

$1 - p = q$ which is $q = 1 - 0.5 = 0.5$

$d =$ Marginal errior , which is 0.05

There fore

$$n = (1.96)^2 \times \frac{0.169(1-0.169)}{(0.05)^2}$$

$$n = 3.8416 \times \frac{0.169 \times 0.831}{0.0025} = 216$$

And assume the design effect as two because the study needs many sampling techniques, then the final sample size is calculated as:

$$n = 216 \times 2 = 432$$

Then by assuming 10% of non-response rate and the last sample size is calculated as ***476***

For qualitative study: Focus group discussion and KII was carried out by segregation of sex (women and men) in selected Kebeles till the information is saturated. KII participants were the district, health extension worker and leaders in selected Kebeles. Three Focus Group Discussions (FGDs) comprising 6-8 participants per group and ten KIIs were selected purposely based on their willingness to participate in the study and the fact that they have first-hand knowledge about the community. For all the six administrative units, there were one female FGD groups and two male FGD groups.

4.10. Sampling method and procedures

A Multistage sampling procedure was used to select households for the study. All Kebeles in the district was considered in the sampling process for the selection of the study participants, using simple random sampling technique six Kebeles was included in the study. The sample size was allocated based on the proportional size of households available with latrine at each Kebeles. Systematic random sampling technique was employed to select households from selected Kebeles. The study HHs was selected every (K^{th}) household intervals, by dividing the total number of HHs with latrine in selected kebele to the allocated sample size. The first household was selected randomly. The household head or the house mother (if the father not available) was included as respondent.

$$\text{Sample size for each Kebele} = \frac{\text{No of HHs with latrine in each Kebele} * \text{total sample size (476)}}{\text{Total No of HHs with latrine in the selected Kebeles of the district}}$$

Then the HHs with latrine in each selected Kebeles multiplied by the fractions found from the above calculation gives the sample size allocated for the respective Kebeles.

$$\text{Sampling interval (K)} = \frac{\text{Total HHs with latrine in each selected Kebele}}{\text{Sample size for the respective kebele}}$$

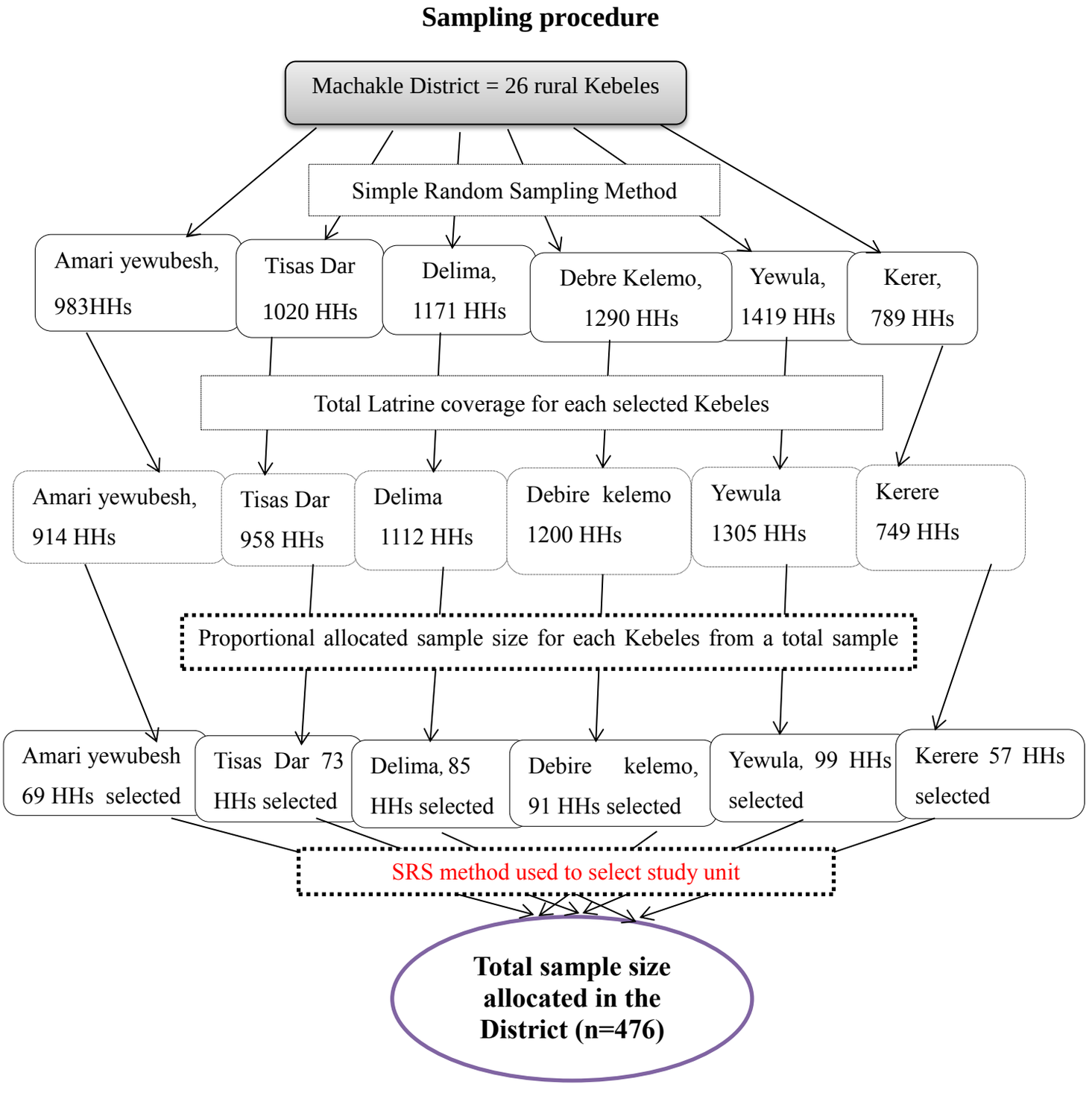

Figure 2 Schematic presentation of sampling procedure for research studies on open defecation practice and associated factors in Machakle District, East Gojjam zone, Northwest Ethiopia, 2019.

4.11. Data collection methods and procedures

Structured questionnaires and observation checklists were used to collect the data. The questionnaire first prepared in English and translated to local language of Amharic and finally the questionnaire was translated back into English by an expert who is fluent in both languages to maintain its consistency.

During screening of households with latrine, health extension workers were involved. And six trained environmental health professionals were collected the data using interview and observational checklist. Two supervisors were involved to oversee the data collector during data collection. To gain exact information, household head, father, mother, or representative of household was interviewed. For qualitative data collection tool: interview guide questionnaire, audio recording, note taking for FDG and KII. The qualitative component elaborated more on these factors thus giving a deeper meaning to the situation. Both the FGD and the KII questions were based on factors contributing to OD, nature of latrines.

4.12. Data quality assurance

Training was provided for data collectors and supervisors for two days before actual data collection takes place. The training was focused on how to fill the questionnaire and how to approach the respondents. And during data collection time, a clear introduction that explains the purpose and objectives of the study was provided to respondents. After training, pre-test was done to assess the applicability of procedures and tools using 5% of participant's from another Kebeles which is not actually included in the in the selected Kebeles. Some revision and corrective modifications was done on the questionnaire based on the result of pretest.

The principal investigator and supervisors was performing close site supervision during the whole data collection period. The collected data was checked for completeness, consistency, accuracy and clarity on a daily base. Finally, after collection of the necessary data, identified problems during an evaluation process was discussed with health officers.

For qualitative data: - There were two moderators moderating each of the focus group discussions. Training was given for the moderators who were familiar with the local language, to conduct, observe and record the FGDs. The study objectives and FGD moderation skills were briefed to the moderators through a one-day course. One moderator facilitated the discussion, while the other concentrated on note-taking and audio recording.

4.13. Data management and analysis

Data was checked visually, coded and entered into Epi info and was exported to SPSS (Statistical Package for Social Science) version 20.0 software package for further statistical analysis. Accordingly, the data was edited, coded, and cleaned. Some consistency checks were verified by running frequencies and crosstab. The data was analyzed using Bivariable and multivariable logistic regression to determine the effect of various factors on OD practice. All variables with p value of 0.25 and below in the bi-variable analyses was entered into multivariable logistic regression models(24), during this time back ward stepwise regression method was used. The goodness of fit of these models was assessed by the Hosmer-Lemeshow test. Odd ratio at 95% CI was used to measure strength of association between outcome and predictor variables and those variables having p value of less than 0.05 was considered to declare statistically significant association with OD practice.

For the qualitative data, once the FGDs and the KIIs were done, the audiotape of the discussions was carefully transcribed and others were translated. After the data had been transcribed, it was coded following keywords, key concepts and analyzed for common themes to achieve improved organization when pulling out the results and the key findings. Topic coding was used to group the texts into various categories in accordance with the subthemes of this study. This analysis was thematically presented in narrative form.

4.14. Ethical consideration

Ethical approval and clearance was obtained from the Bahir Dar University College of medicine and health science Ethical Review Board, before commencing data collection legal permission with letter of support was obtained from Debre Markos zonal health department and Machakl woreda health office and Kebele administrators and interviewers was informed about the purpose of study, importance and duration of the study in order to get their free time and prior to informed consent for the survey. Confidentiality was maintained and respondents were informed that participation was voluntary and they could withdraw at any time from the study. The right of participants to anonymity and confidentiality was ensured by making the questionnaire anonymous.

4.15. Dissemination of findings

The results of the study will be submitted and presented to Bahir Dar University and the respective district health office, zonal health department and regional health bureau with a hard copy and soft copy, and other stakeholders those who need to know and working with together.

5. RESULT

5.3. Socio-demographic characteristics of respondents

A total of 474 HHs, from six Kebeles of Machakle District, were included in the study with a response rate of 99.6%. Of the total HHs, 399 (84.2%) were predominantly headed by males whereas 15.8% were female. The mean age of the HH head was 46.05 with standard deviation of (±SD) of (±13.38) years. Regarding to the marital status of the HH head, 371 (78.3%) was married and 371 (78.3%) of HH head was engaged in farming. Above half (56.3%) of the HH had a family size of more than five people with a mean (±SD) family size of 5.99 (±2.18). Under-five children were found in 299 (63.1%) HHs and 355 (74.9%) HHs had students attending any level of education. Regarding to the educational status of HH head, above half, 278 (58.6%) were unable to read and write (Table 1).

Table 1: Socio-demographic characteristics of study respondents in Machakle District, East Gojjam zone, Northwest Ethiopia, 2019 (n=474).

Variables	Variable category	Frequency	Percent
Gender of HHs head			
	Male	399	84.2
	Female	75	15.8
Age of HH head (years)			
	15-29 years	45	9.5
	30-44 years	166	35.0
	>44 years	263	55.5
Marital status HH head			
	Married	371	78.3
	Single	24	5.1
	Widowed	30	6.3
	Divorced/Separated	49	10.3
Occupation of HH head			
	Farmer	371	78.3
	Non farmer	103	21.7

Presence of under five children in the house			
	Yes	299	63.1
	No	175	36.9
Family size in HH			
	≤5	207	43.7
	>5	267	56.3
Presence of students in the house			
	Yes	355	74.9
	No	119	25.1
Educational status of HH head			
	Unable to read & write	278	58.6
	Can read and write	122	25.7
	Primary schooling and above	74	15.6

5.4. Defecation practice of respondents among HHs with latrine

Out of 474 HHs with a latrine involved in the study, 132 (27.8%) reported that they practice OD, of 120(90.9%) of the participants responded that they defecate in the nearest bushes or open space as site of defecation. Above half, 69.8% of the respondents use leaf for anal cleaning material. On the other hand from HHs having babies 112 (37.5%) were disposing in the open field (i.e., throw in to the nearby garbage, ditch and left open). And from 132 HHs practicing OD, 86.3% were reason out, big squat hole of the latrine and 85.6% of respondents' offensive odour of the latrine pushed them to outdoor defecation (Table 2).

Table 2: Defecation practice and child faces disposal practice of respondents of Machakle District, East Gojjam zone, Northwest, Ethiopia, 2019

Variables	Category	Frequency	Percent
Open Defecation practice			
	Yes	132	27.8
	No	342	72.2
Place of practicing OD (n=132)			
	In bushes or forests	120	90.9
	Others	12	9.1
Anal cleaning materials used by respondents *			
	Leaf	327	69.8
	Water	185	39
	Paper	107	22.4
Baby faces disposal practice (n=299)			
	Put in the latrine using	187	62.6
	Put in the drain/ditch	41	13.7
	Throw in the garbage	47	15.7
	Left open	24	8
Reason for practicing Open Defecation practice*			
	Big squat hole of latrine	114	86.3
	Offensive odour	113	85.6
	Latrine structure not safe	89	67.4
	Slab is not safe to defecate	54	40.9
	Others	26	19.7

***multiple response questions**

From the total households practicing OD, under five children contributes 84.6% HHs of the practice. Likewise, 50.6% of the husband or wife was practicing OD as indicated (Figure 4).

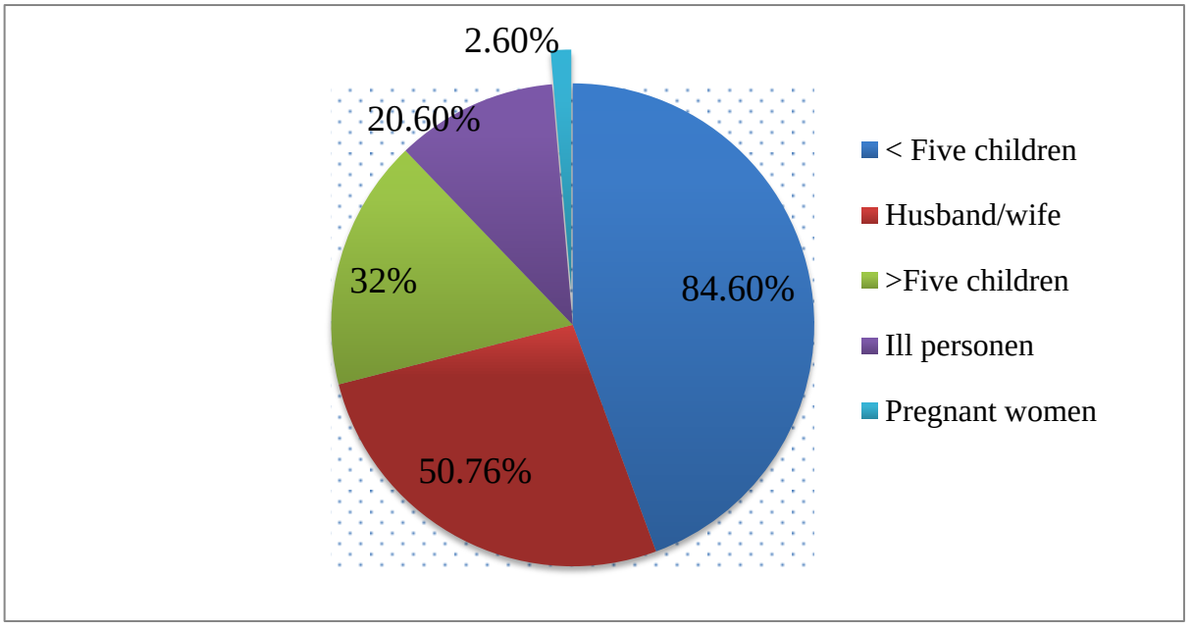

Figure 3 Magnitude of family members who practice OD in Machakle district, East Gojjam zone, Northwest Ethiopia 2019 (n=132).

5.5. Socio-cultural characteristics of respondents

Among a total of 474 respondents 91.6% reported that the practice of OD did not against any tradition and 62.9% prefer night time to defecate. On the other 80.8% answered OD practice didn't give manure for agricultural activity. Additionally, 93.2% HHs were reported that people did not object when a person practice OD. Likewise, 97.5% the subjects reported that there were no penalties related to OD in their village. Whereas, 362(76.4%) of respondents reported that they clean their latrine at different frequency (Table 3).

Table 3: Selected socio-cultural characteristics of respondents on OD practice in Machakle District, East Gojjam zone, North west, Ethiopia, 2019(n=474)

Variables	Category	Frequency	Percent
Is open defecation practice against traditional activity			
	Yes	434	91.6
	No	40	8.4
Preferred time for defecation			
	Night	298	62.9
	Day	176	37.1
Is Open defecation is an a life-long practice			
	Ye	123	25.9
	No	351	74.1
Is there a tradition OD gives manure for agricultural activity			
	Yes	91	19.2
	No	383	80.8
Taboos related with OD			
	Throwing the faces away from home is good	184	38.8
	Collecting faces in one place is good	290	61.2
Presence of penalty related with open defecation practice			
	Yes	12	2.5
	No	462	97.5
People objects persons practicing OD in the village			
	Yes	32	6.8
	No	442	93.2
Do you clean the latrine			
	Yes	362	76.4
	No	112	23.6

Concerning with the latrine cleaning frequency, from 362 households that clean their latrine 271 (74.9%) clean the latrine rarely and when it was dirty. From 362 HHs that cleans their latrine at different frequency and family members that share the responsibility for cleaning the latrine were, women account as 90% of the total

households with latrine with outnumbered from men and children, which reported as 30% and 25% for men and children respectively (Figure 5).

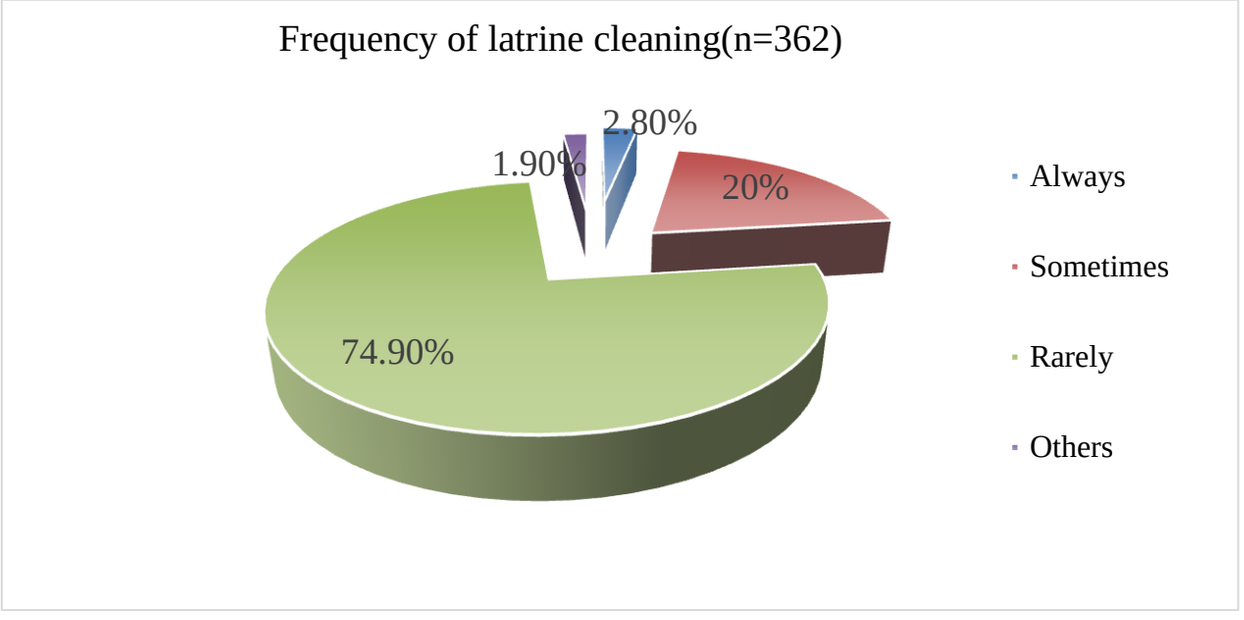

Figure 4 Frequency of latrine cleanness in Machakle district, East Gojjam zone, North West Ethiopia, 2019 (n=362)

5.6. Environmental (latrine) related variables of respondents

Majority, 98.9% HHs involved in the study had pit latrines, only 5 HHs were with ventilated improved (VIP) latrines. Majority, 86.9% of latrines were constructed more than 2 years and longer prior the study period. The mean (±SD) of duration of having a latrine was 5.09 (± 2.119) years. Only, 55(11.6%) share the latrine facility with others and of these all of them share with two households. On the other hand, only, 62(13.1%) of the latrines were reconstructed on all parts of it. Of 474 HHs interviewed more than half 56.1% observed the presence of bush and open fields nearby the house.

Concerning the conditions of a latrine, most of the latrines in the study are with super structures; about 90.3% had a super structure. However, 56.5% of the observed latrine during data collection period needs maintenance and 238(50.2%) of HHs with unclean latrine. On the other hand, about 70% of latrines had no cover on the squatting hole and about 53% of latrines were located greater than or equal to six meters far away from houses (Table 4).

Table 4: Environmental and latrine related characteristics on household in Machakle District, East Gojjam zone, Northwest Ethiopia, 2019.

Variables	Category	Frequency	Percent (%)
Latrine type			
	Pit latrine	469	98.9
	VIP latrine	5	1.1
Presence latrine super structure			
	Yes	428	90.2
	No	46	9.8
Years you have a latrine			
	≤ 2years	62	13.1
	> 2 years	412	86.9
Latrine sharing			
	Yes	55	11.6
	No	419	88.4
Latrine status			
	Neither reconstructed	216	45.6
	Upgraded	196	41.4
	Reconstructed	62	13.1
Presence of bush nearby the house			
	Yes	266	56.1
	No	208	43.9
Physical status of household latrine			
	Need maintenance	268	56.5
	No need maintenance	206	43.5
Distance of latrine from the living room			
	≤6 meter	228	49.1
	>6meter	246	51.9
Having Cover on the squatting hole			
	Yes	142	30

	No	332	70
Latrine cleanliness status			
	Clean	236	49.8
	Not clean	238	50.2
Height of latrine			
	≤ 1.5 meter	348	73.4
	>1.5 meter	126	26.6
Latrine Having good lighting			
	Yes	346	73
	No	128	27

5.7. Knowledge of respondents on open defecation practice

Regarding to the respondents knowledge on OD effect and benefited of latrine utilization, as the computed resulted that 56.8% of the study subjects had good knowledge. However, 68.1% respondents knew that a human face was the principal source of diarrhea and 70.9% subjects answered that there was a risk of getting problems if neighbors practice OD. 60.5% of the respondents, reported that latrine use can avoid diarrheal disease and 67.9% reflects that latrine had an effect to increase overall family health (Table 5).

Table 5 Knowledge of respondents effect of Open defecation practice and latrine utilization in communities areas of Machakle District, North West, Ethiopia.2019 (n=474)

Variables	**Yes (%)**	**No (%)**
Does defecation any palace have its own problem		
Yes	439	92.6
No	35	7.4
Does poor latrine condition encourages open defecation practice		
Yes	219	46.2
No	255	53.8
Does presence of flies encourages open defecation practice		
Yes	181	38.2
No	293	61.8

Daily hand washing with water and soap prevent diarrhoea		
Yes	358	75.7
No	116	24.5
Can household toilet improve personal hygiene		
Yes	314	66.2
No	160	33.8
Is using latrine to defecate is one way to break the chain of diarrhea disease transmission		
Yes	322	67.9
No	152	32.1
Latrine condition need not be checked on a regular basis because it is not possible to fix immediately		
Yes	171	36.1
No	303	63.9
Does Children are remarkably more vulnerable to diarrhea diseases than adults		
Yes	278	60.5
No	187	39.5
Does Open defecation practice is principal source of diarrhea		
Yes	323	68.1
No	151	31.9
Is there risk of getting disease if neighbors defecate openly		
Yes	336	70.9
No	138	29.1
Over all Respondents knowledge on Open Defecation practice		
Poor Knowledge	205	43.2
Good Knowledge	269	56.8

Concerning the problems related with OD practice, the majority 439(92.6%) of respondents reflected that defecating in the open had its own problem on human beings. Of these 88.3% and 82.2% perceived that disease and flies were the major problems related with OD practice (Figure 6).

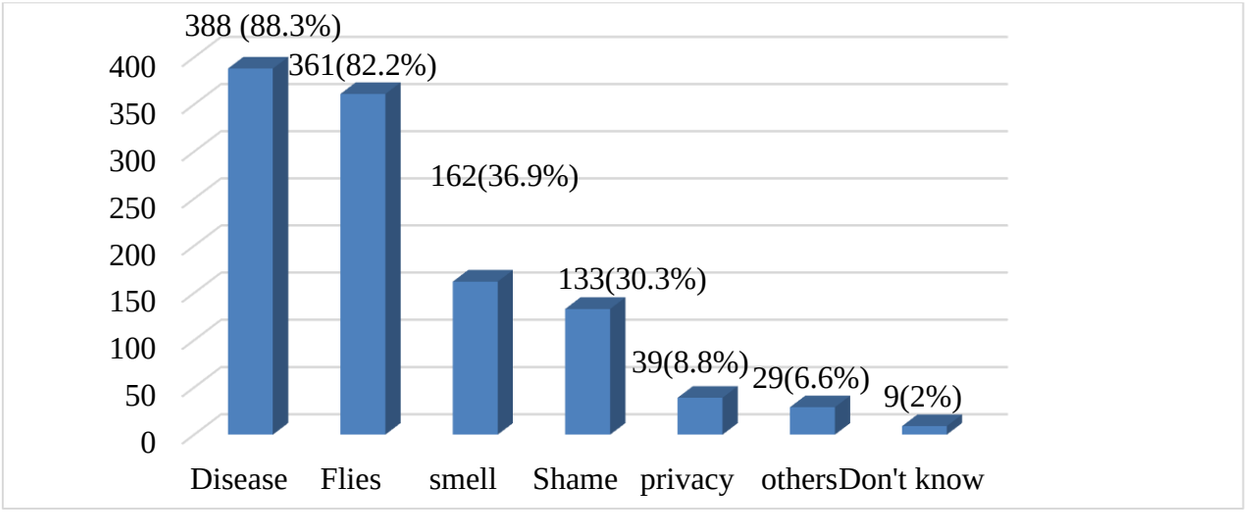

Figure 5 Perceived problems related with open defecation practice in Machakle District, East Gojjam zone, Northwest Ethiopia, 2019 (n=439).

Out of a total of 474 HHs, 198(41.8%) Hearing of information on latrine utilization on the last six months, and 276(58.2%) did not get any information on latrine utilization in the last six month. Of these 85% respondents were get it from HEW and a few 15% of respondents were get it from other sources (Figure 7).

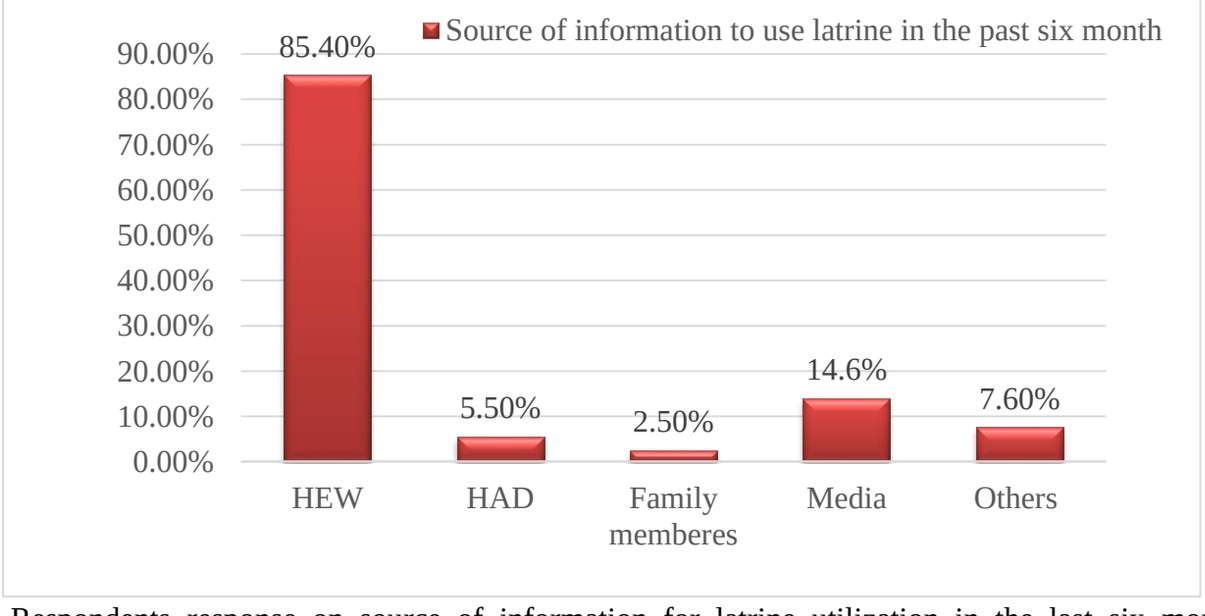

Figure 6 Respondents response on source of information for latrine utilization in the last six months in Machakle district, east Gojjam zone, north, west Ethiopia 2019 (n=198).

5.8. Attitudes of respondents on open defecation practice

Assessing of respondents attitude towards different issues related to OD practice, by using Likert scale analysis, the cut point (mean) of the total (twelve) attitude questions is calculated as 39.91 with standard deviation of ± 5.51. By using this cut point the computed attitude of respondents resulted that 223(47%) had Low attitude and 251(53%), of respondents had High attitude on OD practice (Table 6).

Table 6 Attitude of respondents on open defecation practice in Machakle District, East Gojjam zone, Northwest, Ethiopia, 2019 (n=474).

Variables	SD	D	N	A	SA
Presence of faeces all over the floor of the latrine forces the users to opt for the practice of OD?					
	252(53.2)	134(28.3)	7(1.5)	64(13.5)	17(13.6)
Do you agree open defecation is unsafe practice and should be discouraged					
	92(19.4)	176(37.1)	41(8.6)	130(27.4)	35(7.4)
Sharing a latrine between HHs may lead to poor latrine conditions which eventually discourage					
	49(10.3)	89(18.8)	39(8.2)	241(50.8)	56(11.8)
Do you agree People should embarrassed when see others practice Open Defecation?					
	71(15)	122(25.7)	39(8.2)	188(39.7)	54(11.4)
Do you believe defecating on the beach or in a river have no any problem					
	79(16.7)	165(34.8)	18(3.8)	155(32.7)	57(12)
Human excreta smell bad, attract many flies inside the latrine facility, so defecation in the bush more comfortable					
	95(20)	139(29.3)	30(6.3)	148(31.2)	62(13.1)
Do you agree using public toilet feels discomfort and have health problem?					
	89(18.8)	143(30.2)	9(1.9)	140(29.5)	93(19.6)
Do you agree diseases will spread to children if family members share the toilet?					
	156(32.9)	161(34)	32(6.8)	96(20.3)	29(6.1)
Do you agree children's feces are not harmful and OD by them is common?					
	101(21.3)	171(36.1)	60(12.7)	112(23.6)	30(6.3)
Do you agree people practicing OD put all community at risk of disease					
	42(8.9)	64(13.5)	59(12.4)	222(46.8)	87(18.4)
Do you perceive most of the illnesses occur as a result of Open Defecation practice					

	25(5.3)	37(7.8)	31(6.5)	225(47.5)	156(32.9)
Do you believe punishment regarding with OD helps to stop the practice					
	19(4)	23(4.9)	16(3.4)	183(38.6)	233(49.2)
Overall attitude of respondents	Poor attitude		Good attitude		
	223(47%)		251(53%)		

SD= Strongly Disagree, D =Disagree, N =Neutral, A = Agree, SA =Strongly Agree

5.9. Factors associated with OD practice among the households with latrine

5.9.1. Factors associated with OD practice on the households with latrine during Bivariable logistic regression analysis

The selected variables were tested their individual contribution for open defecation practice through binary logistic analysis. The variables showed significant association were the educational status of household head, presence of school age children in the household, occupation of household head, family size of house hold, presence of under five children in the household, distance of latrine from the house hold, conditions of cleanliness of the latrines, latrine without full superstructure, latrine without adequate lathing, latrine need maintenance and initiation of latrine use (P-value ≤ 0.25).

5.9.2. Factors associated with OD practice among HHs with latrine during multi variable analysis

For multivariate analysis variables eleven variables that had a p-value less 0.25 were candidate. These Variables were family size of HHs, presence of under five children in the house, occupation of HHs head, educational status of HHs head, presence of students in the house, latrines need of maintenance, initiation for latrine use in the last six month, conditions of cleanliness of the latrines, the latrines having wall, latrine distance from the living room and lightening status of latrine were the variables selected during Bivariable analysis.

After that these predictors were entered together to determine their effect on the outcome variable (OD) through logistic regression model and five of the predictors; presence of under five children, educational status of the HHs head, occupation of HH head, conditions of cleanliness of latrine and latrine need maintenance remained a significant and independent predictors of OD in the multivariable analysis.

The households having under five children 3.94 times [(AOR=3.94, 95% CI: (2.33, 6.67)] more likely to practice open defecation than households without under five children and HHs with farmer headed was 3.25 times [AOR=3.25, 95% CI: (1.7, 6.26)] more likely to defecate open than HHs headed by other occupants.

Likewise, HHs headed by a head that unable read and write uneducated 5.5 times [AOR=5.5, 95% CI: (2.462, 12.36)] more likely to defecate open than HHs headed by a head that have primary schooling and above. On the other hand HHs having latrine that need maintenance 2.6 times [AOR=2.6, 95% CI: (1.6, 4.25)] and HHs with unclean latrine 2.22 times [AOR=2.22, 95% CI :(1.4, 3.55)] more likely to practice open defecation than HHs with maintained and clean respectively (Table 7).

Table 7 Factors associated with Open defecation practice in Multivariable logistic regression analysis (n=474) in Machakle District, East Gojjam zone, Northwest, Ethiopia, 2019.

Variables	**OD practice**		**COR (95% CI)**	**AOR (95% CI)**
	Yes	**No**		
Family sizes in the house				
≤ 5 members	45	162	1	1
> 5 members	87	180	1.74 (1.15, 2.64)	1.15(0.70,1.9 0)
Presence student in the house				
Yes	106	249	1	1
No	26	93	0.66(0.40, 1.07)	1.64 (0.96, 2.82)
Presence of under five children				
Yes	104	195	2.80(1.75,4.48)	**3.94 (2.33,6.67)*** **
NO	28	147	1	1
Occupation of household head				
Farmer	118	253	2.97(1.62, 5.43)	**3.25(1.7,6.26) *** **
Non farmer	14	89	1	1
Educational status of HH head				
Unable to read and write	106	172	4.45(2.13, 9.31)	**5.5(2.462,12.36)*** **
Can read and write	17	105	1.17(.49, 2.778)	1.24(.49.3.13)
Above primary schooling	9	65	1	1
Latrine cleanness status				
Not clean	84	154	2.14(1.41, 3.23)	**2.22(1.4,3.55)** **
Clean	48	188	1	1
Latrine Distance from house				

≤6 meter	50	178	1	1
>6meter	82	164	1.78(1.18 2.68)	1.42(.89,2.27)
Presence of latrine super structure				
Yes	113	315	1	1
No	19	27	1.96 (1.05, 3.67)	1.66(.79,3.48)
Having of latrine good lightening				
Yes	87	255	1	1
No	45	87	1.52(0.982,2.34)	1.43(.86,2.36)
Physical status of Household latrine				
Need maintenance	98	170	2.92 (1.87,4.55)	**2.6(1.6, 4.25)*** **
No need maintenance	34	172	1	1
Hearing of latrine use information in the last six month				
Yes	43	155	1	1
No	89	187	1.72(1.13,2.62)	1.30(.80,2.13)

Note:- *= p<0.05, **= p<0.001, *** =p<0.0001

5.10. Qualitative data associated with OD collected from respondents

The result of qualitative data collected through Focus group discussion (FGD) and key informant interview (KII) supports the quantitative study results.

Educational status issue: Knowledge which is personal belief of the capacity to practice OD influenced by religion traditions and educational level, the results suggest that there is some relationship between educational background of respondents and OD practice as 38% of the HHs headed by ahead that cannot read and write practice OD. On the other hand, only 12% of those who had primary education and above practice OD. And the participant's in FGD states that people who practice OD hadn't enough awareness on threat of OD.

"In our village most people was compel by force to construct latrine in the first time. By the means most of them are constructed using poor quality not to be punished by law and then maximum after a year this latrine may collapsed, the family members opted to defecate open"(male FGD and KII participants, 2019).

Lack strict laws and follow-up issue: In certain situations, sanitation behaviors may be influenced by law enforcement and other regulations, therefore, lack of strict laws that govern OD practices was also stated as one factor contributing to continue OD practice. In one FGD that contain kebele leaders and selected persons, because there are no strict laws that prohibit residents from doing so. The interviewees stated that,

"Even the most household had access latrine facility, but the major reason why the residents used bushes, beaches and agricultural field as well as open space was the limitation in strict laws that prohibit residents from doing OD practice. People like being monitored and with an introduction of a sanction, I am sure the OD practice in the village will be eliminated" (Male FDG participants, 2019).

"As of our kebele found far distant from the health post and any of health professional was not visit our kebele, there for lack follow up by the health workers encourages open defecation practice in the village" (KII participants, 2019).

Existing practice (habit) and location of latrine: Defecating at night by women was perceived to be deeply influenced by the prevailing societal practice since historical times and building of a latrine in inappropriate places far apart from the house were also reasons for continuing OD.as 62.6% of respondents prefer night time

to defecate and 33% HHs with the latrine far apart 6 meter from the house defecate outside. And Participants of female FGD expressed that,

"As the latrine was built far away the house and wild animals visit the toilet at night, therefore, it is believed that accidents will occur on us as we go far at night. Therefore, we used open field on the backyard (female, FGD participants).

Hygiene and maintenance issue: Some of the respondents continued open defecation despite having a latrine at their house due to nuisance smell from the latrine. While some expressed concerns over cleaning up after using, some expressed concerns over the maintenance of the latrine and continues defecating in a latrine nearby their home was considered a source of disease. As the quantitative result from 238 HHs with unclean latrine 35% practice OD. But only 21% from HHs with clean latrine defecates outside. On the other hand, 36% of HHs with unmaintained latrine practices OD and only 17% of HHs with maintained latrine practices OD. Both FGD and KII participants states that;

"We did not have any idea before construction of the latrine, what nuisance the smell would be rather than use punishment for construction the latrine. It feels like we excrete in the bushes near by the house sometimes. And also, some individuals feels exposes for disease asthma, if we use latrine daily" (female, FGD participant, 2019).

"There are people who used to say 'we were about to vomit because of the smell,' but now they are being accustomed to it" (female, FGD and KII participant, 2019).

''There is no person to clean after the public toilet. The administration made the public toilet but hasn't hired a person taking care of. The toilet gets filthy if not cleaned each day. I lose my urge to defecate on that situation. It's the reason I prefer going to open spaces or the river banks or the bushes'' (KII, participants, 2019).

The occupation and season: The results again reveal that there is a relationship between occupation of respondents and OD practice. Out of 371 respondents who were farmers, only 32% Practice OD. However, only 13% non-farmers practice OD. Moreover it is also states by KII and FGD participants.

"I spend most of my time on my farm and keeping animals so as this time, if i want to defecate simply use open space and in the bush before coming home, because there is no latrine facility around that place and the farming place was far apart from our home" (KII communication 2019).

"Since this is the time of collecting our crops and if the latrine is collapsed at this time all the family members did not any choice rather than using open field to defecate"(Male FGD, communication, 2019).

6. DISSCUSSION

The findings of this study revealed that the prevalence of open defecation practice among households having latrine was about 132(27.8 %(95% CI :(23.8, 32)). This result was more comparable with that reported earlier from eight regions of Ethiopia (27%) and in Rural Districts of Tamil Nadu, India (31%) of the HHs with toilets practice OD (21, 28). Additionally, it was similar with the result reported in rural Nandivargam village of Kurnool District, Andhra Pradesh 27.6% of HH practice OD despite having a latrine(27).

The result of the study lower than others study done in Ilu Aba Bor zone, Southwest Ethiopia and Aneded District, Northwest Ethiopia, resulted that 64.1% and 37 % of HHs with latrine practice OD respectively(32, 33). Educational status and occupation of the HH head may cause for this variation. Similarly, the result was more lower than other study done in rural set up of Maharashtra and south India, OD was practiced by 67% and 54.8% of the HHs despite having a latrine respectively, likewise 80% of HHs with latrine in rural north India had at least one member who defecates in the open (7, 24, 31). The variations might be due to different health related information distribution, demographic characteristics and may also from difference in the sample size, the year of study done since communities awareness towards effect OD and benefit of latrine utilization increased time increases.

And the result was more higher than other study done in different places, like, cross sectional study done rural areas of hubballi, India among household with latrine 11% households practiced OD(29)**.** And 23.2% of the population practice OD despite having a latrine in rural village of Raipur District, India(30). And also higher than study done in Wondo genet district, South Ethiopia 16% of HHs with latrine practice OD(41). The difference might be coming from the educational status; place of residence of respondents and place for the study conducted might be the difference on OD prevalence and time of study. And also the low use of latrines in the study area can be explained that health extension workers promote the construction of latrine rather than utilization and less active in teaching proper latrine utilization.

As indicated by findings from the presented analysis, Presence under-five children was associated OD practice, HHs with < 5 children 4 times more practice OD than HHs without < 5 children. Similarly, Study done in Dembia district, the extent of latrine utilization were influenced by presence of < 5 children and in Eastern Nepal revealed that presence of < 5 children was the predictor variable for OD practice(38, 42). In Oda Bultum District, West Harerghe Zone (43), And in Wondo Genet district, South Ethiopia, results that < 5 children is the major facilitator for encouraging OD practice (41). The factor was presented in the study done in Chhattisgarh

presence of < 5 years children in the house encourages OD practice at household level(39).The reason may be children less than 5 years cannot use the latrine properly so they practice OD, and improper disposal of child faeces by parents. Those members accompanying these children could have practiced OD.

The results indicate a significant relationship between occupation and open defecation. Farmers constituted the single largest group 78.3% of respondents meaning that households whose heads are engaged in farming have a higher probability of defecating openly with 3 times more practice OD than non-farmers headed HHs. In other study also Occupation was the significant factor of non-utilization of latrine. And in Laelai Maichew Woreda, Aksum, Tigray, Ethiopia (44). other study done in Wa municipality of Ghana also identifies also occupation of HH head as the factor for OD practice, means being farmer should encourages OD practice (10) and study conducted in a rural area of Nalanda District, shows that occupation was significantly associated with OD practice(35). Study done in Tanzania on Ending OD and A community based cross sectional study done on tribal community in Thane districts on epidemiological factors associated on OD also identifies occupation was factor associated OD practice (36, 37). The possible reason for this is there is also the likelihood of farmers not having the urgent maintenance for damaged latrine since they spend a greater part of their time on farms during the farming season and there is no facilities around their farm, and exposes them to their family practice OD as of unmaintained latrine facilitates the practice. The result was supported by the qualitative finding, by saying *"I spend most of my time on my farm and keeping animals so as this time, if I want to defecate simply use open space and in the bush before coming home. Because there is no any latrine facility around that place and the farming place was far apart the home"(KII, participants 2019).*

Educational status was one of the factors statistically associated with OD practice. In this study HH head that can't read and write was 5.5 times more practice OD than HH head that had above primary schooling. Other study conducted in rural Community of Chencha District, Southern Ethiopia and Chiro Zuria District, West Harerghe zone, identifies educational status of HHs head was the significant factor for non- use of latrine(46, 47). The study done in Laelai Maichew District, Aksum, and Similarly study conducted in Hulet Ejju Enessie District, East Gojjam Zone identifies that education was the significant variable of OD (2, 44). Additionally, study done in rural Communities of Gulomekada District, Tigray Region, North Ethiopia shows similar finding. The possible elaboration for this is that education helps the literate HH head to access the information from different sources than illiterate HHs head about the effect of OD and advantage of latrine utilization. Likewise educational levels of HHs head increases direct influence on health related decisions and end up OD at HH level. Additionally, educational status of HH head significantly associated with OD as study done in Rural

Tanzania (36), South East zone of Tigray region, North Ethiopia (49), in rural area of Nalanda District and Perambalur district, Tamil Nadu results respectively (35, 40). The model result confirms that households who had educated head have more access to sanitation and hygiene related messages than households who had uneducated head. The qualitative finding also simplifies similar saying, lack education may encourage OD practice.

The practice of OD in the study area significantly associated with cleanness of latrine indicated that HHs with unclean latrine was **2** times more practice than HHs with clean latrine. Study done in Dembia district households which have unclean latrines were 4.3 times more likely to practice OD compared with HHs with clean latrines(42). And other study conducted in ODA Bultum district, West Harerghe zone, revealed that extent of OD on HHs have unclean latrine was high than HHs with clean latrine(43). Additionally, in Laelai Maichew Woreda, Aksum, Tigray, Ethiopia (44) and in Aneded District, North West Ethiopia, district also shows latrine cleanness had strong association with non-utilization of latrine or OD practice (33). The strong association between unhygienic conditions latrine and OD practice could be attributed to the user's fear of contamination, odour and flies on unclean latrine and the participant's behavior will be motivated through attractive environment. Hygienic condition of latrine was the factor accelerating the practice of OD as motioned by the FGD and KII participants. *"There are people who used to say 'we were about to vomit because of the smell,' but now they are being accustomed to it" female, FGD participant, 2019.*

Latrine that needs maintenance was the selected significant factors on OD practice; as indicated from analysis on the study, being unmaintained latrine was 2.6 times more practice OD practice than HHs with maintained latrine**.** Similarly, study conducted in Wondo genet and south west Ethiopia revealed that latrine that need maintained was the predictors of open defecation practice or non-utilization of existing latrine (32, 41). National DHS survey in Rural Tanzania reports that, the main reason encourages for OD were poor latrine condition and temporary latrine forced HHs to practice OD(36). The reason behind it might be the HHs with unmaintained latrine reflects that gives various problems such as leakage, privacy issues, lack of comfort that may hinder its use. And it will expose them for different accidents like fear of falling down, means if home toilet facilities are not well maintained, some HH members may opt to defecate in the open, especially where there are opportunities for them to practice OD.

7. STRENGTH AND LIMITATION

7.1. **Strength of study**

The study was supported by observation to confirm the response of respondents and complemented by qualitative finding data through focus group discussion and key informant interview study to strength the finding from quantitative approaches could be considered as the strength of the study.

7.2. Limitation of the study

The possibility of social desirability bias could be taken as the limitation of this study and the study was at the HH level, and thus we could not distinguish individual-level behaviors from HH practices could be taken as the limitation.

8. CONCLUSION

The data concluded that even if the latrine built for every household, OD is significantly practiced in the study area. Latrine cleanness status, latrine maintenance status, educational status of household head, presence of under-five years' old children and occupational status were significantly associated with OD practice and may impair people from the use or avoidance of infrastructure considered safe and hygienic by environmental and health standards. Lack of follow up by professionals, strict laws that govern OD practice and habit of the respondents were the additional factors accelerating open defecation practice in the study area. Therefore, this study finally concludes that even though latrine coverage are high in the study area, provision of a latrine facility alone may not be able to solve the current issue of open defecation without addressing the issue of factors encouraging the practice.

9. RECOMMENDATION

For health institutions

New and innovative approaches to public education need to be considered. Such an approach should consider moving away from law enforcement and emphasize on eradication of OD practice behavior through the design of appropriate educational campaign messages. Attention must be given to expand child-friendly feature of latrine, and assigning appropriate number of HEWs in the rural areas, serious follow-ups on the frequency of visits and quality of information

For health extension workers

Ongoing follow up for the communities found far from the kebele health post. Sanitation and hygiene education promotion should be done regularly, repeatedly and continuously to adopt behavior on latrine utilization in community particularly to mothers who can spend most of their time on the caring of their children.

For the community

Community based health development army and kebele cadres at community level should strengthen and enhance the agenda of latrine utilization closer to the community. Encouraging people to give immediate maintenance for damaged latrine and their latrine hygienic. Encourage children to use toilets by informing about hazards of OD.

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ANNEXES

I. Annexes 1 Participant information sheet

Bahir Dar University Collage of Medicines and Health Science, School of Public Health Department of Environmental Health

Dear participants

Good morning/afternoon;

My name is---------- I am working as a data collector for the study being conducted in this community by Abathun Temesgen who is studying his Master's degree at Bahir Dar University College of Medicine and Health Sciences School of public health, Department of Environmental health. Currently, He will be conducting a research on a topic entitled as assessment of open defecation practice and Associated Factors among house holds having latrine in Machakle district, East Gojjam Zone, Amhara Regional State, South west Ethiopia. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The purpose of the study The purpose of this study is to assess prevalence of open defecation practice and associated factors among house holds having latrine in Machakle district, East Gojjam Zone, Amhara Regional State, south west Ethiopia knowing this have paramount importance for the district health office to plan strategies that can create open defecation free environment and its sustainability system in the area. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's Program in water, sanitation and hygiene for the principal investigator.

Risks and benefits: - The risk of being participating in this study is very minimal, but only taking your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

Participant rights: - Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you not to decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

Confidentiality

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study community and will not reflect anything particular of individual persons or housing. No reference will be made in oral or written reports that could link participants to the research directly.

Contact address

If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses. Principal investigator:

Name: Abathun Temesgen

Mobile phone: +251-9 1860255/ +251-9 00185784 E- mail: kibertemesgen1221@gmail.com

Are you voluntary to participate in the interview?

A. If yes → takes the consent form & continues the interview
B. If No--→Thank you and stop the interview

II. Annexes 2 Declaration of informed voluntary consent

I have read for me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

_____	_____	_____Participant
code number	date	signature
_____	_____	_____
Name of data collector	date	signature

III. Annexes 3 Questioners (English) version

Designed to assess prevalence of open defecation practice and Associated factors in in Machakl district, east Gojjam zone, Amhara region, south west Ethiopia,2019.

Date of interview ----------

Questionnaire Number----------

Sub location (village) name ----------

Respondent code ----------

Part I: Socio-demographic and economic characteristics				
s/No	**Questioners**	**Answers**	**Code**	**Skip**
101	Gender of household head	Male	1	
		Female	2	
102	House hold head age	----------		
103	Marital Status of household head?	Married	1	
		Single	2	
		Widowed	3	
		Divorced	4	
		Separated	5	
104	Education statuses of house hold head?	Unable to read and write	1	
		Read and write	2	
		Primary school (1-8)	3	
		Secondary school (9-12)	4	
		Certificate	5	
		Diploma and above	6	
105	Main occupation of the household head	House wife	1	
		Farmer	2	
		Merchant	3	
		Daily laborer	4	
		Government employee	5	
		Self-employee	6	
		Other----------	99	
106	Family size	----------		
107	Do you have Under five children in household?	Yes	1	
		No	2	
108	Are there school age children of any age attending formal education?	Yes	1	
		No	2	
109	If answer yes, what is the level of their education	Primary	1	
		Secondary	2	

		Higher education (>12)	3	
	Part II: Defecation practice			
201	Do you practice open defecation?-(check through observation)	Yes No	1 2	
202	If yes, where do you defecate?	Agricultural fields Near water source In bushes/forests Other----------	1 2 3 99	
203	If yes for Q #201, how frequent do you practice it?	Always Mostly Sometimes Rarely	1 2 3 4	
204	During journey on the road, when you want to defecate what action do you take?	I will use public latrine beside the road Defecate on the field Use latrines of house hold found on the road side. Other action----------	1 2 3 99	
205	Reason for practicing open defecation	----------		
206	If yes for Q #201, who practice it?	Husband/wife Above 5 male children Above 5 female children Under five children Ill person/pregnant	1 2 3 4 5	
207	Which material do you use mostly to clean you anus after defecation?	Paper/tissue paper Leaf Water Sediment or stone Other----------	1 2 3 4 99	

108	How baby's feces are usually disposed of? (Do not read options, Circle only one which is very often)	Put into latrine using Popo Put into drain/ditch Thrown in garbage Buried. Left open Other (specify)----------	1 2 3 4 99	
	Part III. Knowledge and Attitude			
	Knowledge questions			
301	Which of these contributed towards the construction of this latrine?	Health workers Media Government officials Neighbors Other----------	1 2 3 4 99	
302	Does health extension worker house hold visit have contribution to stop open defecation	Yes No	1 2	
303	Have you seen / heard any promotion on latrine utilization in the last six months?	Yes No	1 2	
304	If yes, through which source or media have you heard? Workshop /training? (Do not read options, circle all that apply).	Radio Television Newspaper HEW HDA Family member Others ----------	1 2 3 4 5 7 99	
305	Is defecation any place have its own problem?	Yes No	1 2	
306	If Yes for Q# 305, What problems could be attributed?	Disease Stigma Privacy Shame Smell Flies	1 2 3 4 5 6	

		Don't Know	7	
307	Does human faces are the principle source of diarrhea?	Yes	1	
		No	2	
308	Is there risk of getting diarrhea if neighbor practices open defecation?	Yes	1	
		No	2	
309	Does Poor latrine condition encourages Open defecation	Yes	1	
		No	2	
310	Does presence of flies in the latrine encourage Open defecation	Yes	1	
		No	2	
311	Can house hold toilet improve personal hygiene	Yes	1	
		No	2	
312	Is using latrine to defecate is one way to break the chain of diarrhea disease transmission?	Yes	1	
		No	2	
313	Latrine condition need not be checked on a regular basis because it is not possible to fix immediately?	Yes	1	
		No	2	
314	Does Children are remarkably more vulnerable to diarrhea diseases than adults?	Yes	1	
		No	2	
315	Does daily hand washing with water and soap prevent diarrhoea?	Yes		
		No		
	Attitude questions			
316	Do you agree presence of faeces all over the floor of the latrine forces the users to opt for the practice of OD?	Strongly disagree	1	
		Disagree	2	
		Neutral	3	
		Agree	4	
		Strongly agree	5	
317	Do you agree OD is an unsafe practice and should be discouraged?	Strongly disagree	1	
		Disagree	2	
		Neutral	3	
		Agree	4	
		Strongly agree	5	

318	Sharing a latrine between households may lead to poor latrine conditions which eventually discourage people from using it?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
319	Do you agree it is embarrassing when people can see others defecating in the open?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4	
320	Do you believe it is not a problem defecating on the beach, or in a river?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
321	Do you agree human excreta smell bad, is disgusting, and attract many flies inside the latrine facility, so defecation in the bush more comfortable?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
322	Do you agree using public toilet feels discomfort and have health problem?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
323	Do you agree diseases will spread to children if family members share the toilet?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
324	Do you think Children's feces are not harmful and	Strongly disagree	1	

	defecation in open spaces by children is common?	Disagree Neutral Agree Strongly agree	2 3 4 5	
325	Do you agree people who defecate in open put entire community at risk of disease?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
326	Do you agree most of the illnesses occur as a result OD practice	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
327	Do you agree punishment regarding to OD helps at all household to end the practice?	Strongly disagree Disagree Neutral Agree Strongly agree	1 2 3 4 5	
	Part IV: Socio-cultural and behavioral characteristics			
401	Is the practice of open defecation is part of the tradition?	Yes No	1 2	
402	Is there a penalty in place when someone practices open defecation?	Yes No	1 2	
403	Do people in the community object when a person defecates in open	Yes No	1 2	
404	When do men/women mostly defecate?	Night time Day time Other ----------	1 2 99	
405	OD practice is a continuation of ancestor's way of life?	Yes No	1 2	

406	Defecating in agricultural fields provide manures?	Yes No	1 2	
407	Taboos related with defecation practice?	Throwing the faces as far as away from is good Collecting feces in one place is good	1 2	
408	Do you clean your latrine?	Yes No	1 2	
409	Who is responsible for cleaning latrines in your house hold?	Men Women Children	1 2 3	
410	How often clean the latrine?	Mostly Sometimes Rarely Other----------	1 2 3 99	
	Part V: Environmental factors (Latrine related and water availability)			
501	What kind of toilet facility does your household have?	Pit-latrine VIP latrine Pit latrine with slab Others ……..…	1 2 3 99	
502	When was your latrine constructed?	----------		
503	Do you share the latrine with other households?	Yes No	1 2	
504	If yes, how many?	----------		
505	Did you upgrade or reconstruct the latrine?	No Upgraded Reconstructed		
506	During your latrine not give service, where do you defecate?	Neighborhoods Open field Other place----------	1 2 99	

507	Is there open space (other place for defecation practice) close to your house? Observation	Yes No	1 2	
508	Is there fresh foot path leading to the latrine and Splash of urine or water on the latrine slab/floor?	Yes No	1 2	
509	What are the possible reasons for non-utilizing of latrine among family member?	Offensive odor Squatting hole is big Not comfortable to use The slab is not safe to use Other----------		
510	Is there availability of water for using the toilet? -	Yes No	1 2	
511	Main source of water for flushing/hand washing	Pipe water Well Hand pump Spring/river Pond/lake	1 2 3 4 5	
512	Distance between water source and latrine? (Check through observation)	<10m >10m	1 2	
513	Doe the latrine present adequate conditions of cleanliness?-(check through observation)	Not clean (visible feces or urine in the floor Adequately clean(no visible feces or urine Poorly clean(some dirt but no visible feces)	1 2 3	
514	Does latrine need maintenance currently?- Check through Observation)	Yes No	1 2	
515	Latrine super structure? Check through Observation)	Toilet wall Toile Roof Toile Door Toilet window Pit /Slab of toilet	1 2 3 4 6	

516	Does the latrine is greater than 1.5 meter in height?- (Check through Observation)	Yes No	1 2	
517	Does the latrine have good lightening?- (Check through Observation)	Yes No		
518	Does the latrine hygienically separate human excreta from human contact?-(Check through Observation)	Yes No	1 2	
519	Distance of latrine from the living room?	----------		
520	Does the latrine have cover on the squatting hole?- (Check through Observation)	Yes No	1 2	
521	Is hand washing facility near by the latrine? (Check through Observation)	Yes No		
522	Is there water In the hand washing facility? (Check through Observation)	Yes No		
523	Near the hand washing facility, is there soap/substitute now?- (Check through Observation)	Yes No		

If there is any question or comment welcome

1. _____

_____

Thank you for your participation!!!

IV. Annexes 4 Subject Information Sheet (Amharic Version)

በጥናቱ ዙሪያ አጠቃላይ መረጃ ለመስጠትና ስምምነት ለመውሰድ የተዘጋጀ ቅጽ በባህርዳር ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ በህብረተሰብ ጤና ትምህርት ቤት በአካባቢ ጤና አጠባበቅ ትምህርት ክፍል፤ የዋተር ሳኒቴሽን እና ሀይጅን መርሀግብር

የተከበሩ የጥናቱ ተሳታፊ!

በቅድሚያ እንደምን አደራቹሁ/ዋላቹህ!!!

ስሜ ----------እባላለሁ፡፡ በአሁኑ ስዓት በባህርዳር ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ በህብረተሰብ ጤና ትምህርት ቤት በአካባቢ ጤና አጠባበቅ ትምህርት ክፍል፤ የዋተር ሳኒቴሽን እና ሀይጅን መርሀግብር የማስተርስ ድግሪ ተመራቂ ተማሪ የሆኑት አቶ አባትሁን ተመስገን በዚህ ወረዳ ማህበረሰብ ዉስጥ ወጭ የመፀዳዳት ሁኔታን ምን ላይ እንደሆነና ምኪኒያቶች እና መንስኤዎችን ምን እንደሆኑ ለሚያደረገዉ ጥናታ መረጃ እንድሰበስቡለት ከመረጣቸው ባለሙያዎች መካከል እኔ አንዱ ነኝ፡፡ ስለ ጥናቱ እና ለጠናቱ ተሳታፊ በመመረጥዎ ስለ አብረሮኖተዎም ፍላግዎትን አንዲገልፀልኝ በደንብ አጠይቃለሁ፡፡እርስዎና ሌሎች የጥናቱ ተሳታፊዎችም በተመራማሪው አማካኝነት ስልታዊ በሆነ መንገድ እንዲሳተፉ የተመረጡ ስለሆን ከመሳተፍዎ በፊት ግን የጥናቱን ጠቅላላ ይዘት እና ዓላማ እንደሚከተለው ላብራራልዎት እወዳለሁ፡፡

የጥናቱ ዋና አላማ፤ በወረዳዉ፤ በማቻክል ወረዳ፤በምስራቅ ጎጃም ዞን፤ደቡብ ምራብ ኢትዮጲያ፣ማህበረሰብ ዉስጥ ዉጭ የመፀዳዳት ሁኔታን እና መክንያቶችን መገምገም ነዉ፣በተጨማሪም የዚህ ጥናት ዋና አላማ ለዋናዉ ተመራማሪ ሙሉ በሙሉ የመምህራን መርሃ ግብር የውኃ አቅርቦት, የአካባቢ ጽዳትና የግል ንፅህና አጠባበቅ መርሃ-ግብሩን ለመመላትና ለመርኃ-ግብር ለማሟላት መስፈርት ሆኖ መቅረፅ ነው፡፡

ጉዳት እና ጥቅሞች፤ በዚህ ጥናት በመሳተፍዎ ጉዳት በጣም ትንሽ ነው፤ ነገር ግን ጊዜዎን ብቻ ይወስዳል. በዚህ ጥናት በመሳተፍዎ ምንም ዓይነት ቀጥተኛ ክፍያ አይኖርም. ነገር ግን የዚህ ጥናት ግኝቶች ለአካባቢያዊ የጤና እቅድ አውጭዎች አስፈላጊ መረጃን ሊያሳዩ ይችላሉ፡፡

መብትን በተመለከተ፡ ተሳትፎዉ በፍቃደኝነት ላይ ተመሰረተ ነዉ ፤በዚህ ጥናት ዉስጥ ለመሳተፍ ወይም ላለመሳተፍ የማድረግ መብት አለዎት፤ላለመሳተፍ ከወሰኑ በማነኛዉም ዚኤ ክመተይቁ የቋረጥ መብትአለዎት፡፡ ይህ ደግሞ እርስዎ ለማዉቁት ማነኛዉም ትቅማትቅሞችአየሰጥም፡፡ለመመለስ የማይፈለጉትን ጥያቂ መልስ እንዲሰቱ አይግደዱም፡፡

ሚስጢር መጠበቅን በተመለከተ፡ እኛ የሚሰቱንን መረጃ በሚስጢር የመያዝ ሃላፊነት አለብን፤በተለይ እርስዎን ሚለይ መረጃ አይኖርም፡፡የትናቱ ግንቶች መህበረሰቡ አጠቃላይ ናቸዉ እናም እናም የግለሰብን ወይም የቤቱን ልዩነት የሚያንጸባርቅ አይደለም፡፡ በቃል ወይም በጽሑፍ የቀረቡ ሪፖርቶች ተሳታፊዎችን በቀጥታ በጥናቱ ላይ ሊያገናኙ የሚችሉ ማመሳከሪያዎች አይኖሩም፡፡ ስለጥናቱ ማንኛውም ዓይነት ጥያቄ ቢኖርዎት ወይም ስለጥናቱ የመጨረሻ ውጤት ማወቅ ቢያስፈልግዎት በሚከተለው የዋናው ተመራማሪ አድራሻ ማግኘት ይችላሉ፡፡

ዋናዉ ተመራማሪ፤

ስም፤ አባትሁን ተመስገን

ስልክ፤ 0918660255/0900185784 ኢሜል፤ kibertemesgen1221@gmail.com

በአጠቃለይ በጥናቱ ዙሪያ በተደረገለዎት ገለጻ ተስማምተውና አምነውበት ከሆነ በጥያቄው ለመሳተፍ ፈቃደኛ ነወት?

1. አዎ-----ጥያቄውን ይቀጥሉ
2. አይደለውም------ስለነበረን ቆይታ አመሰግናለው በማለት ጥያቄውን ያቋርጡ

V. Annexes 5 Informed voluntary consent (Amharic version)

እኔ ለተሳታፊ የመረጃ ዝርዝር አንብቤያለሁ፤የጥናቱን አላማ፤ ስነ ስርዓቶች፤ አደጋዎች እና ጥቅማጥቅሞች፤ ሚስጢራዊነት ጉዳዮች፤ የመሳተፍ መብቶች እና ለማናቸውም ጥያቄዎች ካሉ የግንኙነት አድራሻ በግልጽ ተረድቼያለሁ፤ ምናልባት ግልጽ ባልሆኑ ነገሮች ላይ ጥያቄ ለመጠየቅ እድል ተሰጥቶኛል፡፡ ከጥያቄዬ በማውጣት በማንኛውም ሰዓት የማቋረጥ መብት እንዳለኝ ተነግሮናል ወይም የማልፈልገውን ጥያቄ ያለመመለስ የማልችል መብት አለኝ. የጥያቄዎች መልሶች ለማንም ሌላ ሰው እንደማይሰጡ ተነግሮኛል፤እናም የዚህ ጥናት ሪፖርቶች በማንኛውም መንገድ እኔን ለይተው እንድማቀርብ ተረድቻለሁ፡፡

ስለዚህ፤ ከዚህ በታች በተመለከተው እንደተገለጸው በዚህ ጥናት ውስጥ ለመሳተፍ በፈቃደኝነት መስማማቴን እገልፃለሁ፡፡

የመረጃ ሰጭው መለያ ኮድ---------- ፊርማ----------ቀን----------

የመረጃ ሰብሳቢው ፊርማ----------ቀን----------

VI. Annexes 6 Amharic version questionnaire

በምስራቀ ጎጃም ዞን፤ ማቻክል ወረዳ ማህበረሰብ ዉስጥ ክፍት የመፀዳዳት ልምምድንና ምክኒያቶችን ለመገምገም በተመለከተ ለማጥናት የተዘጋጀ ቃለ-መጠይቅ፡

የቃለ መጠይቅ የተደረገበት ቀን ----------

የመጠይቅ ቁጥር ----------

የአካባቢው (መንደር) ስም ----------

የተሳታፊ ኮድ ----------

ክፍል 1፡ አጠቃላይ ማህበራዊና ስነ-ህዝባዊ መረጃዎችን በተመለከተ				
ተ.ቁ	ጥያቄዎች	አማራጭ	ኮድ	እሰፍ
101	የቤቱ ሃላፊ /እራስ/ ፆታ	ወንድ	1	
		ሴት	2	
102	የቤተሰብ ሃላፊ/ራስ/ ዕድሜ	----------		
103	የቤተሰብ ራስ የጋብቻ ሁኔታ?	ያላገባች/ባ	1	
		ያገባች/ባ አብረው የሚኖሩ	2	
		የተፋታች/ታ	3	
		የሞተባት/በት	4	
		ያላገባች/ባ ተለያይተው የሚኖሩ	5	
104	በአሁኑ ስዓት የቤተሰቡ ሃላፊ የትምህርት ደረጃ ምንድን ነው?	ማንበብ መጻፍ የማይችል	1	
		ማንበብ መጻፍ የምይችል	2	
		የመጀመሪያ ደረጃ የተማረ	3	
		ሁለተኛ ደረጃ የተማረ	4	
		ሰርትፍኬት ያለው	5	
		ድፕሎማና ከዛ በላይ	6	
105	የቤት የቤተሰቡኃላፊ ዋና ሥራ	የቤት እመቤት	1	
		ግብርና/ገበሬ	2	
		ነጋዴ	3	
		የቀን ሰራተኛ	4	
		የመንግስት ሰራተኛ	5	
		የግል ሰራተኛ	6	
		ሌላ ካለ ይገለጽ----------	99	
106	ጠቅላላ የቤተሰቡ ብዛት?	----------		

107	በቤተሰቡ ውስጥ ከአምስት አመት በታች ሆነ ልጅ አለ?	አዎ የለም	1 2	
108	ዕድሜያቸው ከየትኛውም የት/ት ዘመን ጀምሮ መደበኛ ትምህርት የሚከታተሉ ልጆች አሉ?	አዎ የለም	1 2	
109	አዎ ከሆን የትምህርት ደረጃቸው ምን ያህል ነው?	የመጀመሪያ ደረጃ ሁለተና ደረጃ ዲሎማ አና ከእዚያ በላይ	1 2 3	
	ክፍል2፡ መፀዳጃ ቤት መፀዳዳት ጋር የተያያዙ መጠይቆች			
201	ክፍት ቦታይፀዳዳሉ?-በምልከታያረጋግጡ	አዎ የለም	1 2	
202	መልስዎ "አዎ" ከሆኑ የት ነዉ የሚፀዳዱት?	የእርሻ ቦታዎች አካባቢ የውሃ ምንጭ አጠገብ በቅርብ / ቁጥቋጦ አጠገብ ክፍት ቦታ	1 2 3 4	
203	ለጥያቄ 201 መልስዎ "አዎ" ከሆኑ መቸ መቸ ነዉ የሚፀዳዱት?	ሁልጊዜ አብዛኛዉን ጊዜ አልፎ አልፎ አንዳንድ ጊዜ	1 2 3 4	
204	በጉዞ ላይ፤ እነዳለህ/ሽ መፀዳዳት ብትፈልግ/ጊ ምን ታደርጋለህ?	መንገድ አካባቢ ያሉ መ/ ቤቶችን አጠቀማለሁ ሜዳ ላይ አፀዳዳለሁ በአካባቢዉ ያሉ የግል መጸዳጃ ቤቶችን እጠቀማለሁ ሌላ ካለ----------	 1 2 3 9	
205	ክፍት ቦታ የሚፀዳዱበት ምክኒያት ምንድን ነዉ?	----------		
207	ለጥያቄ 201 መልስዎ "አዎ" ከሆነ ማን ነዉ የሚፀዳዳዉ?	ባል/ሚስት ከአምስት አመት በታች ልጆች ከአምስት አመት በላይ ልጆች ነፍሰጡር እናቶች የታመሙ ሰዎች	1 2 3 4 5	
208	ከተፀዳዱ በኋላ ለማፅዳት ምን ይጠቀማሉ?	ወረቀት ቅጠል ዉሃ ድንጋይ	1 2 3 4	

		ሌላ ካለ----------	5	
209	አብዛኛዉን ጊዜ የህፃናትን ሰገራ እነደት ነዉ አምታስወግዱት?	በፖፖ ተቀብለን መፀዳጃ ቤት አንጥለዋለን	1	
		በአጠገብ በሚገኝ ገደላማ ቦታ አንጥለዋለን	2	
		ሜዳ ላይ አነተወዋለን	3	
		ሌላ ካለ----------	99	
	ክፍል3፡እዉቀትንና አመለካክትን በተመለከተ			
	እዉቀትን በተመለከተ			
301	መፀዳጃ ቤት ለመገንባት መረጃ ከየት አገኙ?	የጤና ሰራተኞች	1	
		በራስ ተነሳሽነት	2	
		ሚዲያ	3	
		የመንግስት ባለስልጣናት	4	
		ጎረቤት	5	
		ሌላ ካለ----------	99	
302	የጤና ሰራተኞቼ ጉብኝት ሜዳ ላይ መፀዳዳትን ለማስቆም አስተዋፅኦ አለዉ?	አዎ	1	
		የለዉም	2	
303	ባለፈዉ ስድስትወር ዉስጥ ስለመፀዳጃ ቤት አጠቃቅም ሰምተዉ ያወቃሉ?	አዎ	1	
		የለዉም	2	
304	መልስዎ፤አዎ፤ ከሆነ ከምን ሚዲያ ነዉ የሰሙት?	ራዲዮ/ቴሌቪዥን	1	
		ጋዜጣ	2	
		ከጤና ሰራተኞቼ	3	
		ልማት ቡድን መሪዎቼ	4	
		ሌላ ካለ-------	99	
305	ሜዳ ላይ መፀዳዳት ጉዳት አለዉ?	አዎ	1	
		የለዉም	2	
306	ለጥያቄ 305 መልስዎ፤አዎ፤ከሆነ ጉዳቱ ምንድን ነዉ?	በሽታ	1	
		ሀፍረት	2	
		መጥፎ ሽታ	3	
		ለዝንብ መራቢያ	4	
		ሌላ ካለ---------	99	
307	የሰዎች ቆሻሻ ለተቅማጥ በሽታ ምንቼ ነዉ?	አዎ	1	
		አይድለም	2	
308	ጎረቤት ሜዳ ላይ ቢፀዳዳ እኛን ለተቅማጥ በሽታ ያጋልጠናል?	አዎ	1	
		የለም	2	
309	ችግር ያለበት መፀዳጃ ቤት ሜዳ ላይ መፀዳዳትን የስፋፍል?	አዎ	1	

		የለም	2	
310	የዝንቦች መራባት ሜዳ ላይ መፀዳዳትን የስፋፍል?	አዎ	1	
		የለም	2	
311	የቤት ዉስጥ መፀዳጃ ቤት ንፅህናን የጎለብታል?	አዎ	1	
		የለም	2	
312	መፀዳጃቤት መጠቀም ለትቅማጥ በሽታን መተላለፍ ይገታል	አዎ	1	
		የለዉም	2	
313	የመፀዳጃ ቤት ሁኔታ ሁልግዜ ቁጥጥር ሊደረግለት አይገባም ምክንየቱም ወዲያዉኑ ጥገና ስለማያስፈልገዉ	አዎ	1	
		የለም	2	
314	ልጆች ከምጣቦች በበለጠ ለተቅመጥ በሽታ ተጋላጭ ናቸዉ?	አዎ	1	
		አይድለም	2	
315	ሁልጊዜ አጅን በሳሙና መታጠብ ከጥቅመጥ በሽታ ይከላከላል	አዎ	1	
		የለም	2	
	አመለካክትን በተመለከተ			
316	የመፀዳጃ ቤቱ ወለል መቆሸሽ ሰዎችን ሜዳ ላይ እንዲፀዳዱ ይዳርጓቸዋል	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
317	ሜዳ ላይ መፀዳዳት መጥፎ ልምድ ስለሆ፤ሊቆም ይገባል ብለዉ ይስማማሉ	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
318	መጸ,ፀዳጃ ቤት ሁለት እና በላይ ቤቶች በጋራ መተቀም ለሽንት ቤቱ በጥፎ ገፅታ እንዲኖረዉ ስለሚያደርግ መቆም ይገባዋል ብለዉ ያስባሉ?	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
319	ሰዎች ሜዳ ላይ ሲፀዳዱ ማየት ሌሎችን ያስቆጣል?	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	

320	ሜዳ፤ቁጥቋጦ እና ዉሃ አካባቢ መፀዳዳት ምንም ጉዳት የለዉም	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
321	ሜየሰዎች ሽነት እና ሰገራ መጥ ሽታ ስላለዉ እና ዝንቦእን ስለሚስብ፤ ዉጭ መፀዳዳት ምቾት ይሰጣል ብለዉ ያስባሉ?	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
322	የህዝብ መፀዳጃ ቤት መጠቀም ምቾት የለዉም፤ለጤናም ጥሩ አይድለም ይስማማሉ	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
323	ቤተሰቡ የጋራ መፀዳጃ ቤት ቢጠቀም ልጆች በበሽታ ይጠቃሉ ብለዉ ይስማማሉ	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
324	የልጆች ስገራ፤ምንም ጉዳት ስለሌለዉ፤ልጆች ሜዳ ላይ መፀዳዳት የተለመደ ነዉ	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
325	ሜዳ ላይ መፀዳዳት ሁሉን ህዝብ ለበሽታ ይዳርግል	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	
		በጣም እስማማለሁ	5	
326	ሰዎች ከንፅህና ጉድለት ጋር ተያይዞ በሚከሰት በሽታ ስለ ልጆቻቸዎ የጨነቃሉ	በጣም አልስማማም	1	
		አልስማማም	2	
		ከሁለቱም አይድለም	3	
		እስማማለሁ	4	

		በጣም እስማማለሁ	5	
327	ሽንት ቤት ከመጠቀም ጋር የተያያዘ ቅጣት ወይም ሽልማትሁሉም ቤተሰብ መፀዳጃ ቤት እነዲጠቀም ያደርጋል	በጣም አልስማማም አልስማማም ከሁለቱም አይድለም እስማማለሁ በጣም እስማማለሁ	1 2 3 4 5	
	ክፍል 4፡ የህብረተሰቡን ባህል እና ባህሪ በተመለከተ			
401	የቤት ዉስጥ መፀዳጃ ቤት መጠቀም ጋር የተያያዘ ሰቲግማ አለ?	አዎ የለም	1 2	
402	መፀዳጃ ቤት በቤት ዉስጥ መኖር ከባህል ጋር ይጣረሳል?	አዎ የለም	1 2	
403	ሜዳ ላይ ከመፀዳዳት ጋር ተያይዞ ቅጣት አለ?	አዎ የለም	1 2	
404	ህብርተሰቡ ሜዳ ላይ የሚፀዳዳዉን ሰዉ የጋልጣል?	አዎ የለም	1 2	
405	ሴቶች /ወንዶች አብዛኛዉን ጊዜ መቸ ነዉ የሚፀዳዳት?	ቀን ማታ	1 2	
406	ሜዳ ላይ መፀዳዳት ከቅድመ አያት የአኗኗ ሁኔታ ጋር የተያያዘ ነዉ?	አዎ አይድለም	1 2	
407	እርሻ ቦታ፤ ላይ መፀዳዳት ለአፈር ለምነትን ለመስጠት ይጠቅማል?	አዎ የለም	1 2	
408	ሜዳ ላይ ከመፀዳዳት ጋር የተያያሁ ልምዶች ምን ምን ኖቸዉ?	ስገራን በርቀት መጣል ጥሩ ነዉ ሰገራን አንድ አካባቢ ማተራቀም መጠፎ ነዉ ሌላ ካለ----------	1 2 99	
409	መፀዳጃ ቤቱ/ሽንት ቤቱ ይፀዳል?	አዎ የለም	1 2	
410	ሽንት ቤቱን ለማፅዳት ሀላፊነቱ ለማን ነዉ?	ለእናቶች ለአባቶች ነልጆች ሌላ ካለ----------	1 2 3 99	
411	ለጥያቄ 410 መልስ ፤አዎ፤ከሆነ መቸ መቸ የፀዳል?	ሁልዚዜ አንዳድ ዚዜ አልፎ አልፎ		

	ክፍል 5፡ ከመፀዳጃ ቤት ጋር የተያያዙ መጠይቆች			
501	ምን አይነት መፀዳጃ ቤት ነዉ የጠቀሙት	የተለምዶ/ባህላዊ መፀዳጃ ቤት ቪአይፒ መፀዳጃ ቤት ባህላዊና የጉድጓድ ክዳን ያለዉ ባህላዊና የጉድጓድ ክዳን የሌለዉ	1 2 3 4	
502	መፀዳጃ ቤቱ ከተገነባ ምን ያህል አመት ሆነዉ?	----------		
503	ከሌላ ቤተሰብ ጋር መጸፀዳጃ ቤት የጠቀማሉ?	አዎ የለም	1 2	
504	መልስዎ፤ አዎ፤ ከሆነ ለምን ያህል አባዎራወች?	----------		
505	መፀዳጃ ቤቱ/ተጠግኗል ወይስ እንደገና ተሰርቷል?	የለም ተጠግኗል እንደገና በአዲስ ተሰረቷል	1 2 3	
506	መፀዳጃ ቤቱ አገልግሎት በማየሰጥበት ጊዜ፤የት ትፀዳዳላችሁ?	ጎረቤት መፀዳጃ ቤት ሜዳ ላይ ሌላ ካለ----------	1 2 99	
507	ክፈት ቦታ፤ዉሃማ፤ቁጥቋጦ፤በአካባቢዎ አለ?	አዎ የለም	1 2	
508	መፀዳጃ ቤት ጋር የሚያገናኝ አዲስ መንገድ፤ሽንት እና ዉሀ መፀዳጃ ቤቱ ወለል ለይ ይታያል?	አዎ የለም	1 2	
509	መፀዳጃ ቤት የማይጠቀም ከቤተሰቡ ዉስጥ ካል የማይተቀምበት ምክንያት ምን ነዉ?	መጠፎ ሽታ ቀዳዳዉ ስለሰፋ ላመጠቀም ወልሉ ቆሻሻ ስለሆነ ሌላ ካለ----------	1 2 3 99	
510	ለመፀዳጃ ቤቱን ላጠብ /እጅን ለመታጠብ ዉሃ ከምን ነዉ የምናገኘዉ?	ከቧምቧ ከጉድጓድ ከእጅ ፓምፕ ከወነዝ/ከምንጭ ፖንድ/ሃይቅ	1 2 3 4 5	
511	መፀዳጃ ቤቱ ከዉሃ መገኛ ቦታ ያለዉ ርቀት?	<10ሜትር >10ሜትር	1 2	
512	መፀዳጃ ቤቱ ወለል ላይ የሚታይ ዉሃ አለ?	አዎ የለም	1 2	

513	መፀዳጃ ቤቱ በቂ የሆነ ንፅና ያሟላ ነውን? - (በምልከታ ያረጋግጡ)	ንጹህ አየደለም (በወለሉ ላይ የሚታይ ሰገራ ወይም ሽንት) ደካማ ንጽህና (አንዳድ ቆሻሻ አለ ግን በግልጽ የሚታይ ሰገራ ወይም ሽንት የለም በደንብ ንጹህ ምንም ቆሻሻ አይታይም	1 2 3	
514	በአሁኑ ጊዜ መፀዳጃ ቤቱ ጥገና ይፈልጋል? (በምልከታ ያረጋግጡ)	አዎ የለም	1 2	
515	ጥገና የሚያስፈልጋችዎ የመጸዳጃ ቤት ክፍሎች፤(በምልከታ ያረጋግጡ)	ግድግዳ ጣሪያ የሚዘጋ በር የሚሰራ ፒት/ጉድጓድ አለዉ	1 2 3 4	
516	የመፀዳጃ ቤቱ ርዝመት 1.5ሜ እና በላይ ይሆናለ?	አዎ አይሆንም	1 2	
517	መፀዳጃ ቤቱ በቂ የሆነ ብርሃን አለዉ ? (በምልከታ ያረጋግጡ)	አዎ የለም	1 2	
518	መጸዳጃ ቤቱ የሰዉን ሰገራ ከሰዉ ንክኪ ይለያል?	አዎ የለም	1 2	
519	መጸዳጃ ቤቱ ከመኖሪያ ቤት ያለዉ ረቀት	----------		
520	የመፀዳጃ ቤቱ ጉድጓድ ክዳን አለዉ?	አዎ የለም	1 2	
521	መታጠቢያ እጅ መታጠቢያ ከመፀዳጃ ቤቱ ጋር ይገኛል? (በምልከታ ያረጋግጡ)	አዎ የለም	1 2	
522	ከእጅ መታጠቢያዉ ጋር ዉሃ አለ?-(በምልከታ ያረጋግጡ)	አዎ የለም		
523	ለእጅ መታጠቢያ የሚያስፈልጉ ነገሮች፤ /ሳሙና/አመድ/ ይገኛል?-(በምልከታ ያረጋግጡ)	አዎ የለም		

ጥያቄና አስተያየት ካለዎት መጠየቅ ይቻላል

ስለነበረን ቆይታ እጅግ አመሰግናለው!!!

Annexes 7 FGD AND KII QUESTIONNAIRES

Administrative unit…..……

FGD code…….

Date …….

Time start…….

FGD completed……

A FOCUS GROUP DISCUSSION GUIDE ON THE FACTORS THAT ARE ASSOCIATED WITH OPEN DEFECATION IN LODWAR SETTLEMENTS

Instructions; Do not write your name in this guide, tick. Explain your opinion in the spaces provided. To be filled by one member of the FGD group.

1. What is the major occupation of the household's head in this area?.....
2. Where are the places that people use to defecate that are not in a latrine?
3. Why do people choose to defecate in their backyard?
4. Do you think all members of the community dig latrine pits and use them?
5. Are Men likely to practice open defecation than women? Why is it so?
6. Is family size likely to have an impact on latrine use in the household? Why?
7. Is the education level of the members of the households likely to influence latrine ownership and use? Why?
8. What age of children is more affected by this practice? Why?
9. Is the practice of open defecation a taboo in your place or is it a tradition?
10. Do you think culture has an impact on latrine ownership and use in your community?
11. Do you think the practice of open defecation has some cultural;
    a) Advantages? Which are these?
    b) Disadvantages? Which are these?
12. Is human faeces considered as being impure in your community? Why?
13. Do you think sharing a latrine between men and women is okay? Why?
14. Does religion play a part in latrine use or practice of open defecation in your community? How and why?
15. Does cleaning of a latrine on a daily basis likely to influence its use? Why?
16. How is the latrine facilities distributed in the study area? Do you think they are okay? Why?
17. Do you think the distance of latrine location from the household has an influence on the practice of open defecation? How?

18. Do people pay for these latrines? If yes, do you think this might be of the contributing factors to the practice of open defecation in the study area?
19. Which bodies have contributed towards the construction of latrines in your area? Have they been successful in curbing the problem of open defecation in your area? If yes, how did they achieve this?
20. Are latrines shared among households? And if so, do you think sharing a latrine may contribute to the practice of open defecation? Why?
21. Do you think the practice of open defecation has some;
    a) Advantages? Which are these?
    b) Disadvantages? Which are these?
22. What could be some of the reason some household's members opt for open defecation whereas they possess a latrine? Why is this so?
23. How do you dispose of your children's faeces? Why?
24. Have you ever received any hygiene advices before? Do you practice them? Why yes or no?
25. Do you think poor faecal disposal may pose any threat to human health? Why?
26. What are some of the measures we can do to prevent children from getting sanitation related diseases in the area? (Probe on diseases such as diarrhoea, typhoid or cholera)
27. What are your thoughts about girls defecating in the open? (Probe regarding the adolescent girls at school and their male counterparts)

KII **QUESTIONNAIRES**

1. Demographic information
    - ✓ What is your occupation?
    - ✓ What are the main income sources in your household?
    - ✓ Do you think the household's head income level can have an influence on latrine ownership and use? Why?
2. Do you possess a latrine facility in your home? If yes, do all the members of your household use this facility?
    a) If yes, why do members of your household use a latrine to poop?
    b) If no, why do members of your household avoid using a latrine to poop?
    c) If no, where do you usually defecate?
3. Do you think the education level of the household head can have an influence on latrine ownership and use? Why?

4. Do people pay for community latrines? If yes, do you think this has an influence on the practice of open defecation?
5. How are the latrine facilities in your village?
6. If bad, what would you wish to change?
7. Does the government play a part in the construction of latrines in your area?
8. A lot of people poop in the open. What is the reason for this? Have you ever thought about why people go in the open? Does open defecation have any benefits? I am trying to learn
9. Do people in your village mostly use the latrine or mostly defecate in the open? Why is this so?
10. If in the open, where are some of the most common open defecation hotspots in your area?
11. Do you think latrine use have issues to do with tradition? How is this so?
12. How do you think someone feels when he or she realizes that someone else has seen him or her pooping? Does this matter to you?

Annexes 8 FGD እና KII ጥያቄዎች

አስተዳደራዊ አሀድ……

FGD ኮድ……..

ቀን……

ዉይይቱ የተጀመረት ሰአት……

የተጠናቀቀበት ሰአት……

የቡድን ውይይቱ፤ በማቻክል ዎረዳ ውስጥ ሜዳ ላይ መፀዳዳትን እና ምክንያቶችን በተመለከተ ከተካተቱት ዋና ዋና ጉዳዮች የተመለከቱትን ጉዳዮች ላይ ያተኩራል ።።

መመሪያዎች; በዚህ መመሪያ ውስጥ ስምዎ አይጻፉ ፣ ምልክት ያድርጉ፤በቦታዎች ውስጥ አስተያየትዎን ያስረዱ የተሰጠው ፤ በአንድ የ FGD ቡድን አባል ለመመሳት።።

1. በዚህ ረገድ የቤተሰቡ ራስ ዋና ሥራ ምንድነው?
2. ወንዶች ከሴቶች የበለጠ ቦታ የመፀዳዳት ዕድል አላቸው? ይህ የሆነው ለምንድን ነው?
3. የቤተሰብ መጠን በቤተሰብ ውስጥ በመፀዳጃ ቤት አጠቃቀም ላይ ተጽዕኖ ይኖረዋል? ለምን?
4. የቤተሰብ አባሎች የትምህርት ደረጃ የመፀዳጃ ቤት ባለቤትነት እና አጠቃቀም ላይ ተጽዕኖ ሊያሳድር ይችላልን? ለምን?
5. ይህ አሰራር በየትኛው የህፃናት ዕድሜ ላይ የበለጠ ነው የሚነካው? ለምን?
6. ዉጭ የመፀዳዳጽ ልምድ በእናተ አካባቢ እንደ ልምድ ነው ወይንስ ባህል ነው?
7. ባህል በመጸዳጃ ቤት ባለቤትነት እና አጠቃቀምዎ ማህበረሰብ ውስጥ ተፅእኖ ያለው ይመስልዎታል?
8. ክፍት ቦታ መፀዳዳት ተግባር አንዳንድ ባህላዊ የሆነ ይመስልዎታል?
    ሀ) ጥቅሞች? እነዚህ የትኞቹ ናቸው?
    ለ) ጉዳቶች? እነዚህ የትኞቹ ናቸው?
9. በሰዎችዎ ውስጥ የሚከሰቱት ስሜቶች እንደ ንፁህ እንደሆኑ ይቆጠራሉ? ለምን?
10. መፀዳጃ ቤት በወንዶችና በሴቶች መካከል መካፈል ጥሩ ነው ብለው ያስባሉ? ለምን?
11. በመጸዳጃ ቤት ውስጥ ወይም በመፀዳጃ ቤትዎ ውስጥ ክፍት የማከምን ተግባርን በመጠቀም ሃይማኖት ውስጥ ሚና ይጫወታል? ለምን እና ለምን?
12. የመፀዳጃ ቤትን በየቀኑ ማፅዳቱ አጠቃቀሙን ሊነካ ይችላል? ለምን?
13. በመፀዳጃ ቤቱ ውስጥ የመፀዳጃ ተቋማት እንዴት ተሰራጭተዋል? ደህና ናቸው ብለው ያስባሉ? ለምን?
14. የመፀዳጃ ቤት ከቤተሰብ ርቀት ርቀቱ ክፍት የማጥፋት ተግባር ላይ ተጽዕኖ ያሳድራል ብለው ያስባሉ? እንዴት?
15. ሰዎች ለእነዚህ መጸዳጃ ቤቶች ይከፍላሉ? አዎን ከሆነ ፣ በጥናቱ አካባቢ ክፍት የመሸከም ችግርን ለመፈጠር አስተዋፅ factors ከሚያደርጉ ምክንያቶች መካከል ይህ ሊሆን ይችላል ብለው ያስባሉ?
16. በአካባቢያችሁ ለመፀዳጃ ቤቶች ግንባታ አስተዋጽኦ ያደረጉት የትኞቹ አካላት ናቸው? በአካባቢዎ ክፍት የመፀዳዳት ችግርን በመከላከል ረገድ ስኬታማ ናቸው? አዎ ከሆነ ፣ እንዴት አገኙ?
17. መጸዳጃ ቤቶች በቤቶች መካከል ይጋራሉ? እና ከሆነ ፣ የመፀዳጃ ቤት መጋራት ለክፍት ቦታ ለመፀዳዳት ልምምድ አስተዋጽኦ ያበረክታል ብለው ያስባሉ? ለምን?
18. ክፍት ቦታ መፀዳዳት ልምምድ አንዳንድ የሆነ?

ሀ) ጥቅሞች? እነዚህ የትኞቹ ናቸው?

ለ) ጉዳቶች? እነዚህ የትኞቹ ናቸው

19. አንዳንድ የመፀዳጃ ቤት አባላት መጸዳጃ ቤት ሲኖራቸው ክፍት ቦታ ለመፀዳዳት የሚመርጡበት አንዳንድ ምክንያቶች ምን ሊሆኑ ይችላሉ? ይህ ለምን ሆነ?

20. የልጆችዎን ቆሻሻ እንዴት ያስወግዳሉ? ለምን?

21. ከዚህ በፊት የንጽህና ምክሮችን ተቀብለው ያውቃሉ? እነሱን ትለማመዳለህ? ለምን ወይም አይደለም?

22. ደካማ ቆሻሻ/ሰገራ/ አወጋገድ/ፍሰት በሰው ልጅ ጤና ላይ አስጊ የሆነ ይመስልዎታል? ለምን?

23. ልጆች የአካባቢ ጽዳትና የግል ንፅህና አጠባበቅ በሽታዎችን በአካባቢያቸው እንዳያገኙ ለመከላከል ምን ማድረግ አለብን? (እንደ ተቅማጥ ፣ ታይፎይድ ወይም ኮሌራ ባሉ በሽታዎች ላይ ምርምር ያድርጉ)

24. ስለ ሴቶች ዉጭ ስለመፀዳዳት ያለዎት ሀሳብ ምንድ ነው? (በትምህርት ቤት ውስጥ ያሉትን የጉርምስና ዕድሜ ያላቸውን ልጃገረዶች እና የወንዶችን ተጓዳኝ ሁኔታ ስለማወቅ)

KII ጥያቄዎች

1. የስነ-ሕዝብ መረጃ
   - ✓ ሥራህ ምንድን ነው? .....
   - ✓ በቤተሰብዎ ውስጥ ዋና የገቢ ምንጮች ምንድ ናቸው?.....
   - ✓ የቤተሰቡ ራስ የገቢ ደረጃ በመፀዳጃ ቤት ባለቤትነት እና አጠቃቀም ላይ ተጽዕኖ ሊኖረው የሚችል ይመስልዎታል? ለምን?
   - ✓ የትምህርት ደረጃዎ ምንድ ነው?.....
2. በቤትዎ ውስጥ የመፀዳጃ ቤት አለዎት? አዎ ከሆነ ፣ ሁሉም የቤተሰብዎ አባላት ይህንን ተቋም ይጠቀማሉ

   ሀ) አዎ ከሆነ ፣ የቤተሰብዎ አባላት ለምን ለመጸዳጃ ቤት ይጠቀማሉ?

   ለ) የለም ከሆነ ፣ የቤተሰብዎ አባላት ለምን መጸዳጃ ቤት ከመጠቀም ይቆጠባሉ?

   ሐ) የለም ከሆነ ብዙ ጊዜ የት ነው የሚጠቀሙት?
3. የቤተሰቡ ራስ የትምህርት ደረጃ በመፀዳጃ ቤት ባለቤትነት እና አጠቃቀም ላይ ተጽዕኖ ሊኖረው የሚችል ይመስልዎታል? ለምን?
4. ሰዎች ለማህበረሰብ መጸዳጃ ቤቶች ይከፍላሉ? አዎ ከሆነ ፣ ይህ ዉጭ የመፀዳዳት ሁኔታ ላይ ተጽዕኖ አለው ብለው ያስባሉ
5. በመንደሩዎ ውስጥ የመፀዳጃ ቤት ተቋማት እንዴት ናቸው?
6. መጥፎ ከሆነ ምን መለወጥ ይፈልጋሉ?
7. በአካባቢዎ ያሉ መጸዳጃ ቤቶችን በመገንባት ረገድ መንግስት አንድ ሚና ይጫወታል?
8. ብዙ ሰዎች በሜዳው ክፍት ቦታ ይፀዳዳሉ። ለዚህ ምክንያቱ ምንድነው? ሰዎች ለምን ክፍት ቦታ እንደሚፀዳዱ አስበው ያውቃሉ? ክፍት ቦታ መፀዳዳት ምን ምን ጥቅሞች አሉት?
9. በመኖሪያዎ ውስጥ ያሉ ሰዎች ብዙውን ጊዜ መጸዳጃ ቤትን ይጠቀማሉ ወይም አብዛኛውን ጊዜ በሜዳ ላይ የፀዳዳሉ? ይህ ለምን ሆነ?
10. በክፍት ቦታ የሚጠዳዱ ከሆነ፤ በአከባቢዎ ውስጥ በጣም የተለመዱ ስፍራዎች የትኞቹ ናቸዉ?
11. የመፀዳጃ ቤት አጠቃቀም ከባህላዊ ጋር የሚዛመዱ ይመስልዎታል? ይህ እንዴት ነው?
12. አንድ ሰው ሌላ ሰው እንዳላደገ ሲረዳ ምን ይሰማዋል? ይህ ለእርስዎ አስፈላጊ ነውን?