

Latrine Utilization and Associated Factors Among Households in SebetaHawas Woreda, Oromia Special Zone, Ethiopia

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Abstract: In developing regions almost half of the population does not have access to improved latrine facilities. In Ethiopia up to 60% of the current disease burden was attributable to poor sanitation. However, the information regarding latrine utilization was minimal in the study area. This study assessed the magnitude of latrine utilization and associated factors among households in SebetaHawas Woreda Oromia special zone, Ethiopia from June 1-20, 2019. Cross-sectional study design was conducted. Using interviewer administered semi-structured questionnaires and observational checklist; data were collected from 631 households by using stratification sampling technique. Then data were entered in to Epi-Info version 7 and analyzed using statistical package for social science (SPSS) version 21. Descriptive statistics were performed to analyze frequencies, percentages, mean and standard deviation to describe the study population. Using bivariate and multivariate logistic regression, independent variables with P-value of <0.25 was considered a candidate for the final multiple logistic regression model. The association was expressed in odds ratio with 95% confidence interval and P-value <0.05 were used as cut-off points to declare significance in the final model. A total of 631 households were assessed for their latrine utilization status with 100% of response rate. The latrine utilization was 68% [(95%CI: 64.8-71.8)] in the study area. In multivariable analysis, respondents with age greater than or equal to 48 years [AOR: 6.24, 95%CI: 1.23-32.91], collage and above [AOR: 8.02, 95%CI: 6.96-16.52], family size greater than or equal to five [AOR: 0.51, 95%CI: 0.32 - 0.82], households with no availability of hand washing facility [AOR: 0.36, 95%CI: 0.14-0.89], knowledgeable towards the use of latrine [AOR: 0.07, 0.02- 0.27], and no feces observed around the pit hole [AOR: 4.37, 95%CI, 1.78-10.73] were factors associated with latrine utilization. The magnitude of latrine utilization among households of SebetaHawas Woreda was low. Age, educational status, family size, availability of hand washing facility, knowledgeable towards the use of latrine, cleanliness of latrine were factors which affects latrine utilization. It needs attention to maximize 100% latrine utilization and zero open defecation.

Keywords: Latrine, Household, SebetaHawas, Oromia

1. Introduction

In developing regions almost half of the population does not have access to improved latrine facilities. In Ethiopia up

to 60% of the current disease burden was attributable to poor sanitation. However, the information regarding latrine

utilization was minimal in the study area; the majorities (71%) of those without sanitation live in rural areas, where 90% of all open defecation (OD) takes place [1]. According to world health organization (WHO) and United Nations children's Fund (UNICEF) Joint monitoring Program (JMP) sanitation defined as the 'lowest cost option that ensures a clean and healthful living environment both at home and in the neighborhood of users [2]. At the household level, adequate sanitation facilities include an improved toilet and a disposal that separates waste from human contact [3]. On account of proper utilization of well-maintained latrine, improves the health status of the people [1, 4].

According to United Nations Millennium Project Task Force on Water and Sanitation, basic sanitation or utilization of latrine was the "lowest-cost option for securing sustainable access to safe, hygienic and convenient facilities and services for excreta and sewage disposal that provide privacy and dignity while at the same time ensuring a clean and healthful living environment both at home and in the neighborhood of users. The organization also defines latrine utilization (sanitation) as building, using and maintaining latrines and toilets [5]. Reports of sanitation interventions typically incorporate both latrine construction and educational efforts and hygiene promotion, such as efforts to educate people about the significance of hand washing with soap. Educational and hygiene promotion efforts were particularly essential prior to latrine construction. This was primarily because people were unlikely to utilize newly constructed latrines if they were not properly educated about their benefits and not properly trained on how to maintain them [6].

Poor sanitation and hygiene conditions were among the major causes of public health problems in Ethiopia. In Ethiopia 82% of the population use unimproved sanitation facilities, 38.1 million populations still practice open field defecation [3]. The morbidity report of the district indicated that the burden of diarrheal disease was still 5th of top ten disease of the area and other related illness lead to the economic impacts that is; cost for treatment per infection, decreased work time influencing their growth and in addition, the trachoma survey 2009 in the district shows that the prevalence of active trachoma and trachoma trichiasis were high [6]. The right to sanitation was acknowledged as a distinct human right in 2015. But globally over 2.5 billion people were still without access to improved sanitation [7]. In developing regions almost half the population does not have access to sanitary facilities an estimated 1.1 billion people practice open defecation, exposing themselves and their communities to major health risks [7, 8]. In sub-Saharan Africa, only 24% of the rural population was using an improved sanitation facility [7]. In Ethiopia up to 60% of the current disease burden was attributable to poor sanitation where 15% of total deaths were from diarrhea, mainly among the large population of under-five year's children. In addition to diarrheal diseases, there was a high prevalence of worm infestations contributing to the high levels of malnutrition [5].

According to Ethiopia Demographic and Health Survey (EDHS) 2016 report 68% of households have toilet facility.

The majority of households, 80.2% use non-improved latrine facilities. In addition to that, level of handling and utilization status of existing latrines was not known [9, 10].

However, the government has been promoting universal sanitation coverage to ensure better health and quality of life for all Ethiopians working hard to increase access to and utilization of improved sanitation to its rapidly growing Population. But still it needs a clear, reliable, consistent and sustainable sanitation use by all family members beyond the coverage.

Unsanitary disposal of human excreta, together with unsafe drinking water and poor hygiene conditions contribute for 88% of diarrheal diseases; the burden of this disease was a leading cause of morbidity and mortality particularly in young children and lack of access to sanitation has significant non-health consequences, especially for women and girls, including lack of security and privacy, decreased school attendance and basic human dignity. In addition, inadequate sanitation was implicated in helminthes infections, enteric fevers and trachoma [11-13]. In total, the prevention of sanitation and water-related diseases could save some \$7 billion per year in health system costs; the value of deaths averted based on discounted future earnings, and adds another \$3.6 billion per year [14].

In 2012, an estimated 2.5 billion people in the world have no access to improved sanitation facilities. Of these, 761 million use public or shared sanitation facilities and another 693 million use facilities that do not meet minimum standards of hygiene [1]. The order of the magnitude of sanitation and related health context were striking; every year the failure to tackle these problems claim the lives of 1.5 million children and result in severe welfare losses-wasted time, reduced productivity, ill health, impaired learning, environmental degradation and lost opportunities-for millions more [11, 15, 16].

In developing regions people were most vulnerable to infection, where only one in every three people was accessed to improved sanitation; the vast majority, 82% of people practicing open defecation now lives in middle-income populous countries [17, 18]. In Sub-Saharan Africa 69% of the populations do not have access to improved sanitation facilities and the practice of open defecation has highest prevalence in Southern Asia, Oceania and sub-Saharan Africa which was associated with significant negative externalities as it releases germs into the environment that can harm the rich and poor alike even those who use latrines, thus it needs to be brought to an end [19-22].

In SebetaHawas Woreda Even where toilets do exist, many were not used, meaning that open defecation was common for almost all the rural population. Therefore, the reasons for conducting this study was open defecation and unsafe excreta disposal continue to be widespread in the district with major public health and economic consequences. It's ordinary to observe human feces in most of the villages even in and near homes where children playing around and this served as a source of transmission of the diarrheal diseases [7].

Understanding the practice of effective latrine utilization

was very important for the design and promotion of sanitation and hygiene. So, this study was important information for local stakeholders such as SebetaHawas health office, non-governmental organizations (NGOs), policy implications for health intervention programs and with a view of adding to the existing body of knowledge as well as help in policy change that was improve child health care in the study area in particular. On the other hand this study was serving as base line information for further health oriented action that could be taken. By identifying the gaps and factors, the findings were also be offer motivation for professionals to minimize these factors and to increase improved latrine utilization practice as well and it was help them to design, justify and implement appropriate interventions and evidence based practice. The study further helps to give information for those who were interested for further study as a reference and for doing further research.

2. Methods and Materials

2.1. Study Area and Period

The study was conducted in SebetaHawas Woreda which was one of 6 Woreda found in Finfinne surrounding special zone, Oromia regional state, which was located at 25 kilometers away from Addis Ababa, the capital city of Ethiopia to the south Western part of our country which has a total number of 123,559 people (Projected from 2007 population census); 61,285 (49.6%) were females and 62,274 (50.4%) were males. The Woreda depends heavily on agriculture, mainly from crop production. The Woreda has 2 rural towns, 36 rural kebeles (the lowest administrative units in Ethiopia). It has a total of 6 health centers and 36 community health posts. The study was conducted from June 1- 20, 2019.

2.2. Study Design

Community based cross-sectional study design was conducted.

2.3. Population

2.3.1. Source Population

All households in SebetaHawas Woreda.

2.3.2. Study Population

All households in the selected kebeles of SebetaHawas Woreda.

2.4. Inclusion Criteria

In selected kebeles of the Woreda, households owned latrine were included in the study and mothers or household heads were interviewed for the study.

2.5. Sample Size Determination

The sample size was determined using single population formula with the following assumptions:, P-57.3% of rural

community latrine utilization [23], with a margin of error (d) of 0.04% at the 95% confidence level and adding a 10% non-response rate, the total calculated sample size was:

$$n = \frac{Z(Z\alpha/2)^2 * P(1 - P)}{d^2}$$

$$n = \frac{(1.96)^2(0.573)(0.427)}{(0.04)^2} = 588$$

Where;

1. "Z" was a standard score corresponding to 95% confidence level
2. "P" was proportion of latrine utilization.
3. "d" was the margin of error 4%, and non-response rate of 10% was considered.
4. N=23,559. Thus, the total required sample size was 631 residents of the households.
5. Sample size was calculated for some of the associated factors obtained from different literatures by using the following assumptions using Epi-info [Table 1].

The sample size for associated factors was smaller than 631. Hence, 631 were selected as the total sample size for the study.

2.6. Sampling Procedure

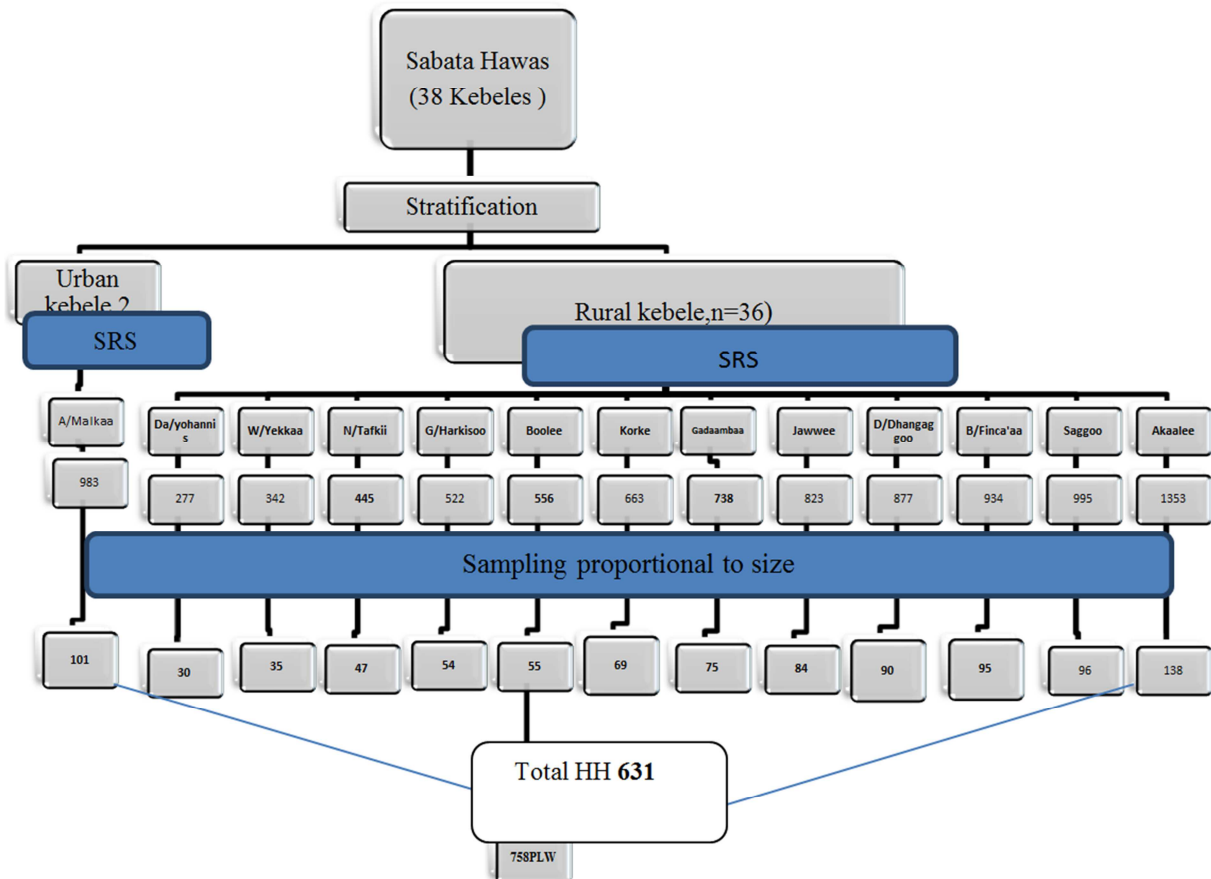
Stratification sampling method was employed to select the study population based on their residence (2 urban and 36 rural kebeles). First, one kebele from urban kebeles and twelve kebeles from the rural kebeles were selected by simple random sampling technique. Then, the sample sizes were distributed to each selected kebeles proportional to household size of the kebeles. Secondly, individual households owned latrine in the selected kebeles was selected using a simple random sampling technique after obtaining households lists or sampling frame from kebeles [Figure 1].

2.7. Data Collection Procedures

The data were collected using an interviewer administered semi-structured face-to-face interview questionnaire, which includes socio-demographic and other characteristics that would measure the latrine utilization and associated factors after reviewing relevant literatures. The questionnaire was prepared in English first and then translated in to the regional language (Afaan Oromo), and then back translated to English to ensure the consistency of the thought of the questions. Ten experienced level 4 clinical nurse data collectors and two Environmental health BSc supervisors were hired to collect the data and one days training on the content, objective and methods of data collection and interviewing technique was given. The supervision was done at each step of data collection by principal investigator and supervisors. An observational checklist was also used to observe the materials used for latrine construction, worn path to latrine, presence of fresh feces in the latrine, presence of water container, presence of water in the container, and presence of feces around the home.

Table 1. Sample size calculation for associated factors, using epi-info stat calc (30; 31).

No	Associated factors	Ratio	% of outcome in unexposed group	Power	CI	AOR	Calc. sample size
1	Having no knowledge on latrine use	1.1	60.2	80	95	0.379	154
2	Illiterate mothers	1.1	27.4	80	95	0.264	26

**Figure 1.** Sampling procedure to assess latrine utilization and associated factors at SebetaHawas Woreda, Oromia special zone, Ethiopia, 2019.

2.8. Study Variables

2.8.1. Dependent Variable

Latrine utilization.

2.8.2. Independent Variables

1. Socio-demographic factors: - Age, sex, residence, religion, marital status, house ownership, family income, family size and level of education.
2. Environmental factors:-Availability of latrine, types of latrine facility, cleanliness of latrine, feces observed on the floor and compound, proximity of latrine from home, number of households sharing one sanitation facility, availability of hand washing facility near latrine (water and soap), squatting hole cover, presence of the door, need of maintenance, slab and superstructure, latrine service year and support from health extension workers.
3. Knowledge factors: - Knowledge on importance of latrines and hand-washing behaviors after latrine use.

2.9. Operational Definition

In order to avoid ambiguity, the following terms were

operationally defined (WHO/CDC, 2012).

1. Latrine:-Facilities used for the safe disposal of human feces and urine.
2. Latrine utilization:-By considering the percentage of correctly answered or fulfilled from seven questionnaires such as privately owned latrine, feces observed on the floor, latrines with superstructure, presence of the door, having improved latrine, availability of hand washing facility with latrine and regular latrine utilization.
3. Pit latrine:-This was a hole that have superstructure which has been designed for defecation.
4. Sanitation:-The provision of facilities for the safe disposal of human feces and urine.
5. Open defecation:-Disposal of human feces in fields, forests, bushes, bodies of water or other open spaces.
6. Improved latrines:-Facilities that ensure hygienic separation of human excreta from human contact.
7. Unimproved latrines: - Facilities that do not ensure hygienic separation of human excreta from human contact.
8. Shared latrines:-Sanitation facilities of an otherwise

acceptable type shared between two or more households. It also includes public toilets.

9. Hygiene:-The practice of keeping oneself and the surrounding environment clean.

2.10. Data Quality Control

The questionnaire was initially prepared in English and then translated into the regional language (Afaan Oromo) and then translated back in to English by different experienced persons to check the consistency of meaning. The questionnaire was pre-tested on 5% of the total sample size of the study households in non-selected nearby kebele to make sure that the questions consistent with regard to easy understandability, coherence and completeness to households. Training was given for one day for data collectors and supervisors on data collection process. The principal investigators and the supervisors were supervised daily on data collection process.

2.11. Data Processing and Analysis

Collected data were entered into Epi-Info version 7.1.5, cleaned, edited and then exported to SPSS version 21.0 for analysis. Descriptive statistics like frequency, distribution and percentage calculation were worked out for most of the variables. Simple and multiple logistic regression analyses were performed to identify the factors affecting latrine utilization. During bivariate logistic regression independent variables with P-value of <0.25 were considered a candidate for the final logistic regression model. Finally, 95% confidence interval (CI) and adjusted odds ratios (AORs) were computed in order to identify statistically significant associations between latrine utilization and associated factors. The level of statistical significance were considered at $P < 0.05$. The goodness of fit of the final model was checked using Hosmer and Lemeshow test of goodness of fit considering good fit at $P\text{-value} > 0.05$ level of significance.

2.12. Ethical Considerations

Ethical approval and clearance were obtained from the Institutional Review Board of Adama Hospital medical college and Oromia Special Zone health office. Kebele administrators and interviewers were informed about the purpose of study, importance and duration of the study in order to get their free time and prior 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 insured by making the questionnaire anonymous.

3. Results

3.1. Socio Demographic Characteristics

In this study, a total of 631 households were included in

the study with 100% of response rate. The mean age and standard deviation of the respondents was (40 ± 11 SD) years with an average household family size of five. The majorities, 581 (92.1%) of respondents were Orthodox religion followers and 563 (89.2%) of respondents were married. Regarding household heads, 554 (87.8%) households were headed by husbands. About occupational status, 433 (68.6%) was farmers, followed by housewife 132 (20.9%). Regarding their educational status, about 218 (34.5%) of the respondents had primary education and 180 (28.5%) had unable to read and write [Table 2].

Table 2. Socio demographic characteristics of the study participants at SebetaHawas Woreda, Oromia special Zone, Ethiopia, 2019 (n=631).

Characteristics	Categories	N (%)
Age (years)	18-27	132 (20.9)
	28-37	400 (63.4)
	38-47	83 (13.2)
	>47	16 (2.5)
Sex	Female	430 (68.1)
	Male	201 (31.9)
Family size	<5	377 (59.7)
	≥ 5	254 (40.3)
Religion	Orthodox	581 (92.1)
	Protestant	32 (5.1)
	Others	18 (2.8)
Ethnicity	Oromo	532 (84.3)
	Amhara	67 (10.6)
	Others	32 (5.1)
Educational level	Unable to read & write	180 (28.5)
	Primary (1-4)	218 (34.5)
	Elementary (5-8)	179 (28.4)
	High school (9-12)	26 (4.1)
	Collage & above	28 (4.4)
Household Head	Husband	554 (87.8)
	Wife	70 (11.1)
	Other/Specify	7 (1.1)
Occupational status	Farmers	433 (68.6)
	House wife	132 (20.9)
	Daily labourer	22 (3.5)
	Others	56 (7)

3.2. Knowledge Factors

Five hundred ninety seven (94.6%) use of latrine prevent from diarrheal disease. Almost nine tenth of the households (90.2%) explained that there were hindering factor to have improved latrine. Regarding regular latrine utilization, 432 (68.5%) had used latrine regularly. Concerning the reasons not using latrine regularly, 135 (67.8%) was due to bad smell, followed by fear of collapse 31 (15.6%). Four hundred seventy seven (75.6%) households washed their hands after latrine utilization. The respondents were also asked that, what materials they used to clean their hands after latrine utilization, 520 (82.4%) of respondents used soap and water. About the reasons for hand washing after latrine utilization,

385 (61.0%) participants washed their hands to prevent diseases. Concerning the overall household knowledge and

practices, 493 (78.0%) respondents had good knowledge and practices [Table 3].

Table 3. Knowledge factors of the study population at SebetaHawas Woreda, Oromia special Zone, Ethiopia, 2019 (n=631).

Characteristics	Category	N (%)
Use of latrine prevent spread of diarrheal d disease	Yes	597 (94.6)
	No	34 (5.4)
Hindering factor to have improved latrine	Yes	569 (90.2)
	No	62 (9.8)
Regular latrine utilization	Yes	432 (68.5)
	No	199 (31.5)
Reason not using latrine regularly	Bad smell	135 (67.8)
	Fear of collapse	31 (15.6)
	Not needed by family	25 (12.6)
	Others	8 (4)
Hand washing practices after latrine utilization	Yes	477 (75.6)
	No	154 (24.4)
Materials used for hand washing after latrine utilization	water only	80 (12.7)
	Soap and water	520 (82.4)
	Ash and water	26 (4.1)
	Others	5 (0.8)
Reasons for hand washing after latrine utilization	To be clean	217 (34.4)
	To reduce disease	385 (61)
	Others	29 (4.6)
Overall household knowledge	Good	493 (78)
	Poor	138 (22)

3.3. Environmental (Latrine Condition)

Concerning the ownership of latrines, 580 (91.9%) of households owned the latrines privately. Regarding cleanness latrine, 47 (7.4%) of respondents feces were observed on the floor of latrines. Four hundred fifty five (72.9%) participants had latrines with superstructure and 522 (82.7%) households had latrines with door for privacy. Five hundred seventy (90.2%) households had improved type of latrines and 477 (75.6%) prepared facilities for hand washing near latrine (by observation). Regarding the overall households effective latrine utilization, 427 (68%) respondents had utilized their latrine effectively [Table 4].

Table 4. Latrine condition of study participants at SebetaHawas Woreda, Oromia special Zone, Ethiopia, 2019 (n=631).

Characteristics	Category	N (%)
Owned House hold latrine	Yes	580 (92)
	No	51 (8)
Feces observed on the floor	Yes	47 (7.4)
	No	584 (92.6)
Latrines with superstructure	Yes	455 (72.9)
	No	176 (27.9)
Presence of the door	Yes	522 (82.7)
	No	109 (17.3)
Having Improved latrine	Yes	570 (90.2)
	No	61 (9.8)
Availability of hand washing facility with latrine	Yes	477 (75.6)
	No	154 (24.4)

3.4. Latrine Utilization Status

Regarding the overall households latrine utilization; 427 (68%) [(95%CI: 64.8-71.8)] respondents had utilized their

latrine effectively [Figure 2].

Effective latrine utilization

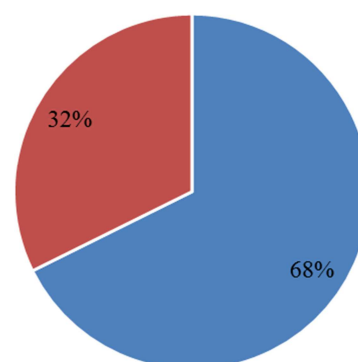


Figure 2. Effective latrine utilization of study participants at SebetaHawas Woreda, Oromia Special Zone, Ethiopia, 2019 (n=631).

3.5. Factors Associated with the Extent of Latrine Utilization

Age, educational status, family size, feces observed around the pit hole and hand washing practices after latrine utilization, use of latrine prevent diseases were the variables that fulfilled the criteria $p < 0.25$ and transferred to multivariable analysis. After adjusting of confounder variables in the multivariable analysis, age, educational statuses, family size, feces observed around the pit hole, availability of hand washing facility with latrine and use of latrine prevent diseases were significantly associated with latrine utilization.

Respondents with age greater than or equal to 48 years

[AOR=6.24, 95%CI: 1.23-32.91)] were 6.24 times more likely to utilize latrine than those respondents within age 18-27 years interval. Similarly respondents with educational status in collage and above [AOR: 8.02; 95%CI: 6.96, 16.52)] were 8.021 times more likely to utilize latrine effectively than those respondents with education status were unable to read and write.

Regarding to family size households whose family number greater than or equal to five [AOR: 0.51; 95%CI: 0.32, 0.82] were 49% less likely to use latrine than households having family number less than five.

Households with no availability of hand washing facility

with latrine were 64% [AOR: 0.36; 95%CI: 0.14, 0.89)] less likely to utilized compared to those households avail of hand washing facility with latrine.

Respondents who were not knowledgeable towards the use of latrine prevents spread of diseases was 93% [AOR: 0.07; 0.02, 0.27)] less likely to utilized latrine compared to those households who were knowledgeable.

Households with no feces observed around the pit hole 4.37 times [(AOR: 4.37; 95%CI: 1.78, 10.73)] more likely latrine utilized compared to those households with feces seen around the latrine hole [Table 5].

Table 5. Bivariate and multivariate logistic regression of factors associated with latrine utilization of study participants at SebetaHawas Woreda, Oromia Special Zone, Ethiopia, 2019 (n=631).

Variables	Latrine utilization		COR (95%CI)	AOR (95%CI)
	Utilized	Not utilized		
Age				
18-27	113	19	1.00	1.00
28-37	269	131	2.896 (1.707-4.915)	.970 (.352-2.669)
38-47	42	41	5.806 (3.034-11.111)	1.691 (0.428-6.678)*
≥48	8	8	5.947 (1.992-17.758)	6.245 (1.231-32.917)*
Educational status of respondents				
Unable to read & write	11	169	1.00	1.00
Primary (1-4)	207	11	0.673 (0.527-0.720)	0.458 (0.100-1.108)
Elementary (5-8)	171	8	0.244 (0.078-0.765)	0.401 (0.091-0.750)
High school (9-12)	20	6	0.215 (0.065-0.714)	7.957 (5.855-8.303)*
Collage & above	23	5	1.380 (0.365-2.215)	8.021 (6.967-16.521)*
Family Size				
<5	155	99	1.00	1.00
≥5	277	100	0.565 (0.402-0.794)	0.51 (0.32-0.82)*
Availability of hand washing with latrine				
Yes	122	355	1.00	1.00
No	77	77	0.344 (0.236-0.501)	0.361 (0.146-0.897)*
Use of latrine prevent spread of diarrheal disease				
Yes	172	425	1.00	1.00
No	27	7	0.105 (0.045-0.245)	0.074 (0.020-0.275)*
Feces observed around the pit hole				
Yes	107	34	1.00	1.00
No	92	398	13.614 (8.702-21.299)	4.372 (1.781-10.732)*

Key:*=Significant at $p<0.05$, Age categorical interval above (WHO, 2012).

4. Discussion

The main objective of this study was to assess the level of latrine utilization and its associated factors in SebetaHawas Woreda. Accordingly, the present study revealed that level of latrine utilization in the community of study area was 68% [95%CI: 64.8, 71.8)]. The finding of this study was greater than studs done at Dilla town, southern, Ethiopia (47.3%) [24], Awabe district (52%) [23] and Aneded district (63%) from North West Ethiopia [23]. However, it was lower than the finding in Hulet Ejju Enessie Woreda, Northern, Ethiopia (97%) and report from rural village of Eastern Nepal (95%) [23]. This variation could be partly explained by the fact that the study population of these areas could have differences in socioeconomic and cultural setting with the others area and may also be due to sample size and study period difference.

In this study respondents with age greater than or equal to 48 years were 6.24 times more likely to utilize latrine effectively than those respondents within age 18-27 years

interval. The study was supported by study conducted by UNICEF, WHO and. progress on drinking water and sanitation [25]. The reason it might be due to people learn through their experience.

According to this study those educated in collage and above 8.02 times more likely to utilized latrine than those unable to read and write. The study was supported by similar study conducted in Benishangul Gumuz [26] and Dilla town, Southern, Ethiopia [24], Education, especially for women, was also important because educated mothers were more likely to adopt healthy hygiene and sanitation behaviors and consequently have lower infant mortality rates in their households.

The study also shows that there was an association between latrine utilization and family size. Hence households having family size greater than five and above 49% less likely to utilize compared to those households having family size less than five. As evidenced by study finding from Denbia district, Northwest Ethiopia [27]. High number of

family may be impact on latrine sanitation and hygiene cleanliness, responsibility and may decrease year of utilization.

The finding of this study revealed that, there was an association between latrine utilization and availability of hand washing facility with latrine. Hence, households with no availability of hand washing facility with latrine were 63.9% less likely to utilize compared to those avail of hand washing facility with latrine. This study finding was similar with study from Bahirdar Zuria [28] and ArbaMinch Ethiopia [29]. This was might be due to the poor practice of hand washing among households and poor understanding of its relationship with disease prevention.

Respondents who were not knowledgeable towards the use of latrine prevents spread of diseases was 93% less likely to utilized latrine compared to those households who were knowledgeable. This finding was supported by Study conducted in Hawassa town, Southern, Ethiopia [30]. This might be due to having awareness latrine utilization for diseases prevention may increase the utilization rate.

Households with no feces observed around the pit hole 4.37 times more likely latrine utilized compared to those households with feces seen around the latrine hole. Similarly, it was supported with study done in rural district of Andeded, Northwest of Ethiopia [27] showed that, households that had clean latrine facilities were more likely to use latrine than households that had dirty latrine facilities. The reason may be households that had bad latrine facilities were less likely to utilize latrine because of bad odor and aesthetics.

5. Conclusion and Recommendation

5.1. Conclusion

The magnitude of latrine utilization among households of SebetaHawas Woreda was low compared to other study findings and the country level planned target for SDG (sustainable development goal). In this study, age, educational status, family size, availability of hand washing facility, knowledgeable towards the use of latrine, and cleanliness of latrine were factors which affects latrine utilization.

5.2. Recommendation

SebetaHawas Woreda health office

1. Provision of hygiene and sanitation education should be done regularly, repeatedly and continuously to adopt behavior and practice on latrine utilization among the communities.
2. SebetaHawas Woreda health office should improve the counseling and promotion of family planning to control family size.

Household families

1. Household sanitation and hygiene practice shall be promoted, especially having latrine with appropriate hand washing facility.
2. Aged experienced house hold members should be strengthen and shared their experiences to others

3. Those households which had daily cleanliness should be strengthened and supported to be considered as a model for others.

Researchers

Qualitative research was on effective utilization of latrine and associated factors

Lists of Abbreviations

AORs	Adjusted odds ratios
CI	Confidence interval
COR	Crude Odds Ratios
EDHS	Ethiopian demographic health survey
JMP	Joint monitoring Program
KAP	Knowledge Attitude and practice
OD	Open Defecation
ODF	Open Defecation Free
ORHB	Oromia Regional Health Bureau
SPSS	Statistical Package of Social Sciences
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSP	Water, Sanitation and Program

Declarations

Ethics Approval and Consent to Participate

Ethical approval and clearance were obtained from the Institutional Review Board of Adama Hospital medical college and Oromia Special Zone health office. Kebele administrators and interviewers were informed about the purpose of study, importance and duration of the study in order to get their free time and prior 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 insured by making the questionnaire anonymous.

Availability of Data and Materials

The finding of this study was generated from the data collected and analyzed based on the stated methods and materials. The original data supporting this finding are available from the corresponding author on reasonable request.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

AZ participated in the design of the study, performed the data collection and statistical analysis, and served as the corresponding author of the manuscript. ZK and RW supervised the study, ensured quality of the data, and assisted in the analysis and interpretation of the data. All authors read and approved the manuscript.

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