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FACTORS CONTRIBUTING TO LOW LATRINE COVERAGE IN HOMESTEADS AT KITASIBA VILLAGE, KAKUUTO PARISH, KYOTERA DISTRICT. A CROSS-SECTIONAL STUDY.

Kizito Butaayi* , Gerald Niwamanya
Kampala School of Health Sciences

Abstract

Background

Low latrine coverage refers to the reduced number of human waste disposal facilities in an area. There are different latrine types which include; cat system, pit latrine, VIP, waterborne toilets, Ecosan (ecological sanitation), among others. This study determined the factors contributing to low latrine coverage in homesteads at Kitasiba village, Kakuuto parish, Kyotera district.

Methodology

A cross-sectional study design was carried out at Kitasiba village using a simple random sampling technique on 76 respondents. Data was collected using a pretested questionnaire and observation checklist. Data analysis was carried out both manually using tally sheets and using Microsoft Excel. The study units were heads of households above 18 years.

Results

65% of the participants were aged 58-65 years, (64%) participants were female. Regarding individual factors, results indicated that 43(56.6%) respondents reached a primary level, 61.8% were farmers, 21% of Participants reported that Health workers rarely visit the community with 59.2%, Environmental factors included excreta disposal method had 30% of people use the bush for fecal disposal, 70% use the pit latrine, soil type was greatly found to influence latrine coverage - the loam soil occupied by 41(54%) respondents. Community factors indicated that 59.2% of respondents indicated health workers rarely visit, and 21% had never seen any health worker in the community. The latrine coverage in Kitasiba village was at 70%.

Conclusion

Individual level of education always influences good latrines related practices and health decisions: the level of education value affect the latrine coverage, the highly educated households have a higher probability of using the latrines compared to their counterparts.

Recommendation

The study recommended that the frequency of supportive visits be increased, sanitation training programs and incentives should be availed to households.

Keywords: *Low latrine coverage, Homesteads in Katasiba village, Kyotera village.*
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Corresponding Author: *Kizito Butaayi*
Email: butayikizito@gmail.com,Kampala
School of Health Science

Background

Low latrine coverage refers to the reduced number of human waste disposal facilities in an area. There are different latrine types which include; cat systems, pit latrine, VIP, waterborne toilets, Ecosan (ecological sanitation) among others (Mubatsi et al., 2021). Over 1.5 billion people still do not have basic sanitation services such as private toilets or latrines. Of these, 419 million still defecate in the open for example, in street gutters, behind bushes, or into open bodies of water. In 2020,44% of the household water generated globally was discharged without safe treatment (Progress on Wastewater Treatment UN, 2020).

Open defecation perpetuates a serious cycle of debases and poverty. The countries where open defecation is most wide

spread have the highest number of deaths of children under 5 years as well as the highest levels of malnutrition, poverty, and big desperations of wealth. (UNICEF,2022). Poor sanitation is linked to the transmission of diseases such as cholera and dysentery, exacerbates stunting, and contributes to the spread of antimicrobial resistance (Ali et al., 2015). The national service delivery report shows that four (4) in every ten (10) households in Uganda use a covered pit latrine without a slab compared to only 2% that used flash

toilets (Mubatsi et al., 2021). The proportion of households using a covered pit latrine without a slab.in rural areas 45% is twice that reported for urban areas (22%) on the other hand,30% of the households covered pit latrines with a slab with the majority in the urban areas. Overall,61% of the households do not have sanitation facilities.

Poor latrine conditions, structure, and design may deter latrine use and provoke reversion to open defecation (OD). Statistics show that only 18% of the households in Turkana County, Kenya, have access to a latrine facility with most of these facilities in poor structural designs and poor hygienic conditions, which encourages rampant OD practices (Busienei, 2019). The constitution of the Republic of Uganda1995 chapter 3 article (7) states that every citizen in the country should have and protect a clean environment: this largely encompasses sanitation promotion which has been marginalized both globally and in the country. This contrary to the Kyotera as a District which has no sole data indicating the sanitation status a call for this research to be done. Therefore, this study determined the factors contributing to low latrine coverage in homesteads of Kitasiba village, Kakuuto parish, Kyotera district.

Methodology

Research design

A community-based cross-sectional study design was used .

Study area

The study was conducted in kitasiba village Kakuuto sub county in Kyotera district in central Uganda at the boarder of Uganda and Tanzania.

Study population

This study included any member of the family above 18 years who was able to consent.

Sample Size determination

The sample size was calculated using Burton's formula (1905) S=2(QR) O: where

S=required sample size

Q=number of days that would be spent while collecting data

R=maximum number of people per day

O= maximum time the researcher will spend on each participant

= 2(5days×10 participants ×0.76hrs)

= 76

Therefore, the sample size was 76 participants

Data collection procedure

After obtaining consent from the respondents, I the researcher fully explained the questions to the respondent, Interpretation was done for those who did not know how to read and write English. Questionnaires were used to collect data which was later compiled.

Study variables

Dependent variable

Sampling technique

The study involved a simple random probability sampling technique to select respondents where every individual in the population will have an equal chance of participating in the study.

Inclusion criteria

Household members above or equal to eighteen (≥ 18) years and are residents of the study area and those consented to participate in the study.

Sampling procedure

Obtained permission from the research committee of the Kampala School of Health Sciences to aid in the collection of data from the study area, the permission was granted and, the researcher trained two research assistants in questionnaire administration, they introduced themselves to the respondents. The respondents were met in a private place and the data collection process began with the first consenting process, then the research assistant administered the questionnaire.

Data collection method

Data was determined by quantitative method. The use of questionnaires achieved this.

Data collection tools

A structured questionnaire was designed to collect data relevant to the study's objectives. All research questionnaires were translated into Luganda and then back into English to ensure precision and accuracy in the results.

Observational checklist

Observation as a method of collecting research data was employed during the study and pertained to the physical outlook and inclusiveness of the researcher. This observation was used to generate data on observable features of the households mostly latrines and the level of hygiene practices by the facility users in these cases, as well as other information that when asked has the potential of arousing emotions, tensions, or conflicts in the community. Other key observable features of interest to observe were cleanliness, the privacy of the latrine, and the presence of a hand-washing facility near the latrine. All observations were immediately recorded in the observation checklist.

The dependent variables were low latrine coverage in homesteads of Kitasiba village.

Independent variables

The independent variables were factors contributing to low latrine coverage in the homesteads of Kitasiba village.

Quality control

Pre-visiting

Before the study, the researcher visited the Chairperson of

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Kitasiba village and obtained permission to conduct a study in the area. This helped the research team to make arrangements that ensured all the data was collected.

Pretesting

Before the actual day of data collection, pretesting of the questionnaire was done. The questionnaires were printed in English and interpreted into the local language (Luganda) to ensure that respondents understand the questions. It was pretested in Kitasiba village. This was aimed at evaluating the validity and reliability of the tools.

Data analysis and presentation

After collecting raw data, the data was analyzed both by manually using tally sheets and using Microsoft Excel and presented in the form of frequency distribution tables, pie charts and bar graphs.

Social demographic characteristics

Figure: 1 shows the gender distribution for the study participant

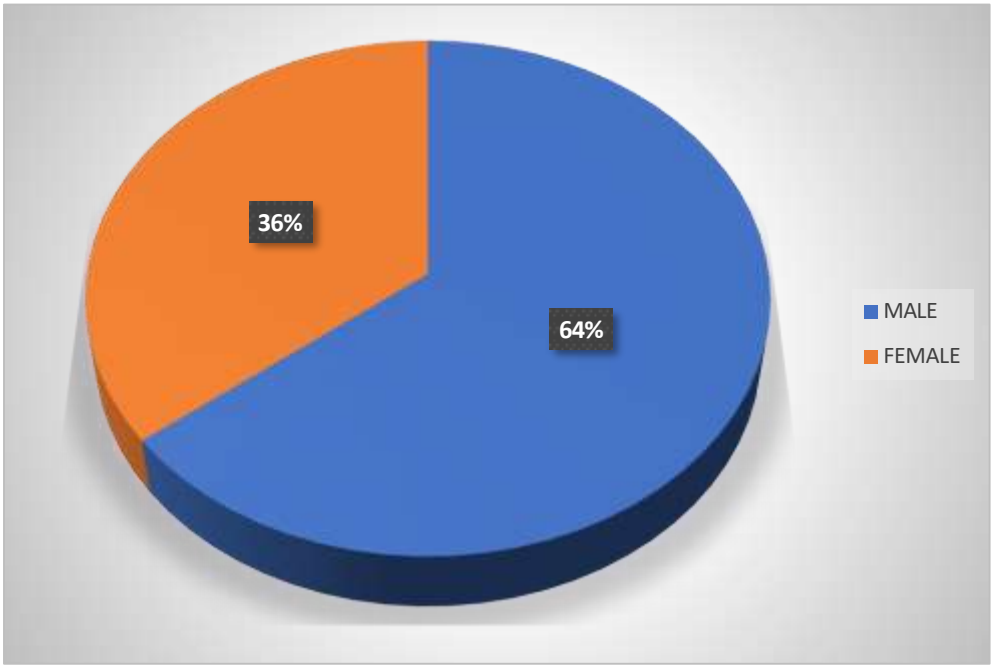

Figure 1: shows that, the majority of the respondents 64% were female and 36% of the respondents were males.

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Figure 2: Shows the age distribution for the study participant

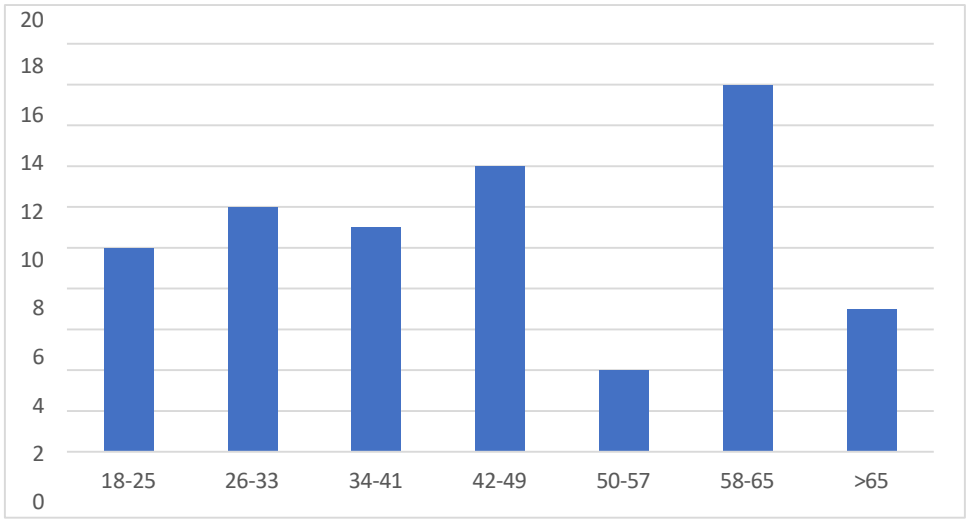

Figure 2 shows that, the majority of respondents were in the age bracket of 58-65 (23.7%), and the minority were in the age bracket 50-57 (5.3%).

Figure 3: Shows the marital status of the respondents from our study

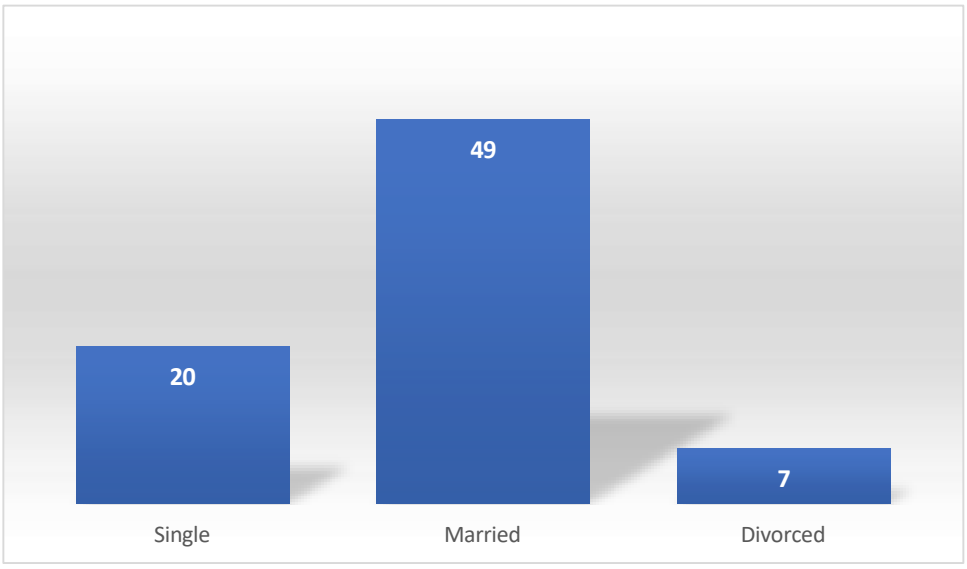

Figure 3, shows that, the majority of the respondents 49/76 were married, 20/76 were singles and 7/76 had divorced

Individual factors associated with low utilization of latrines.

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Figure 4: indicated below describes the educational level of the respondents

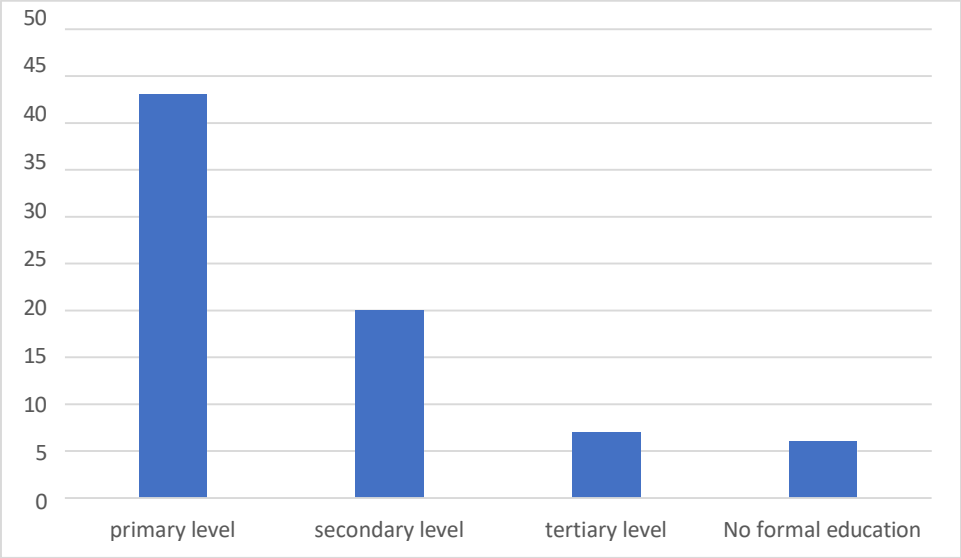

Figure 4 indicates that, 43(56.6%) respondents reached primary level, 20(26.3%) of the respondents reached secondary level, 7(9.2%) people reached tertiary education, 6(7.9%) people had no formal education.

Figure 5: Shows the employment status of the study respondents

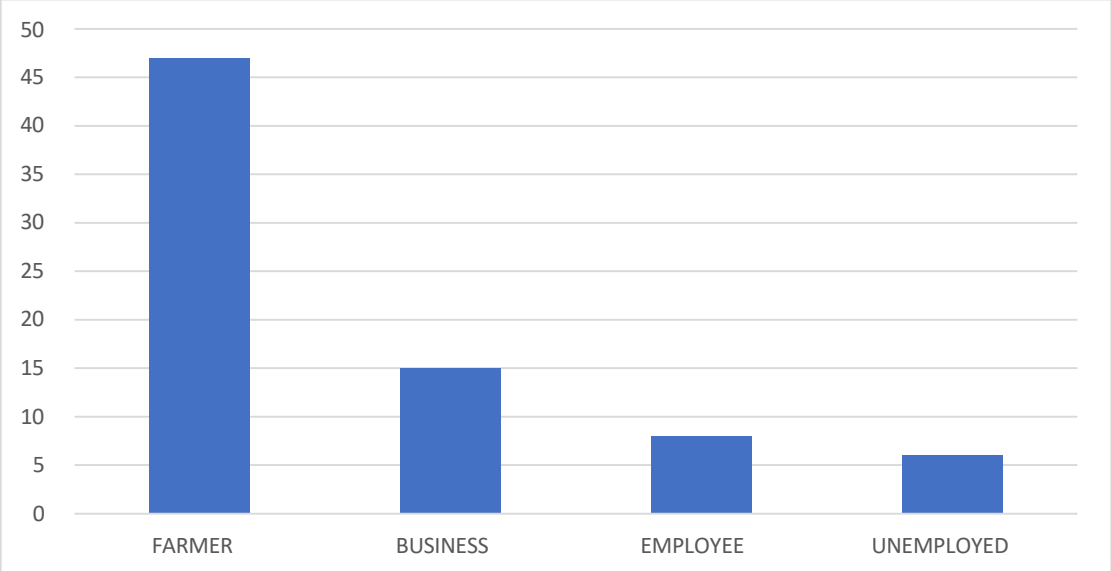

Figure 5 indicated that (61.8%) were farmers, (19.7%) were business people, (10.5%) were employed and (7.9%) were unemployed**.**

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Table 1: indicates the training level on latrine construction in Kitasiba village

Training received	Number	Percentage
Yes	27	35.5(%)
No	49	64,5(%)

Table 2: shows the health worker visitation visits in the village

	Respondents	Percentage response
Daily	0	0
Weekly	05	6.7%
Monthly	10	13.1%
Rarely	45	59.2%
Never	16	21.0%

Tables 1 and 2 show that, most participants responded that health workers rarely visit the community 59.2%, 21.0% never seen any health worker in the community, 13.1% see and visit every month, with weekly visitation having 6,7% of the study respondents

Environmental Factors Influencing Low Latrine Coverage

Figure 6: Shows the commonest method of excreta disposal by percentage used in kitasiba

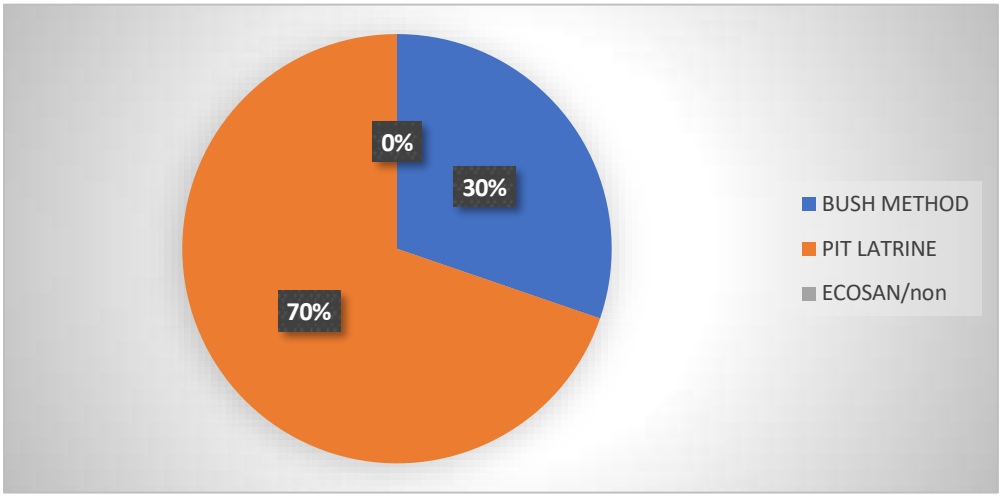

Figure 6: shows that 30% use the bush method for fecal disposal, 70% use the pit latrine, and none use ECOSAN.

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Figure 7: Shows the soil type found in the community.

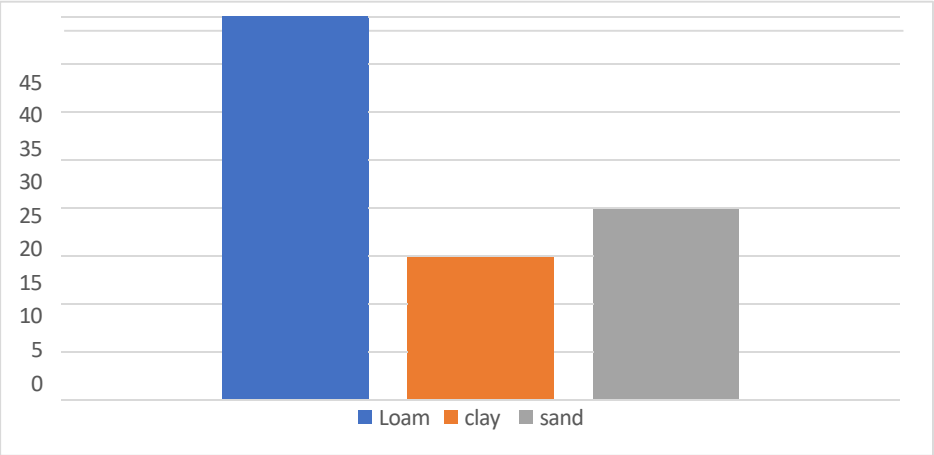

Figure 7: shows that, the loam soil occupied by 41(54%) respondents, sand occupied by 20 (26%) and 15 (20%) respondents occupied clay soil.

Community factors contributing to low latrine coverage

Figure 8: Shows the latrine coverage in the households

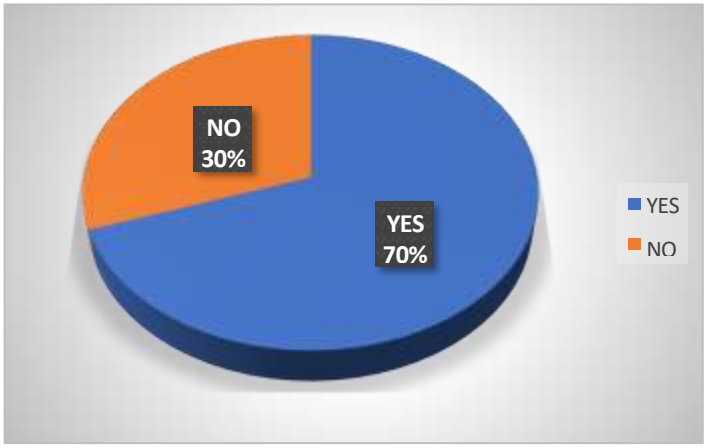

Figure 8: shows that, 70% (53/76) of respondents had a pit latrine and 30 (23/76) did not have a pit latrine.

Table 3: Shows the different land terrain for the community respondents

Terrain	Number	Percentage (%)
Flat	36	47.4
Wetland	10	13.1
Hilly	20	26.3
Rocky	10	13.1

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Table 3: 47.4% of the study participants occupy flat areas, 26.3% occupy Hilly areas, and 13.1% occupy wetlands, and Rocky.

Figure 9: indicates the community factors hindering the latrine coverage

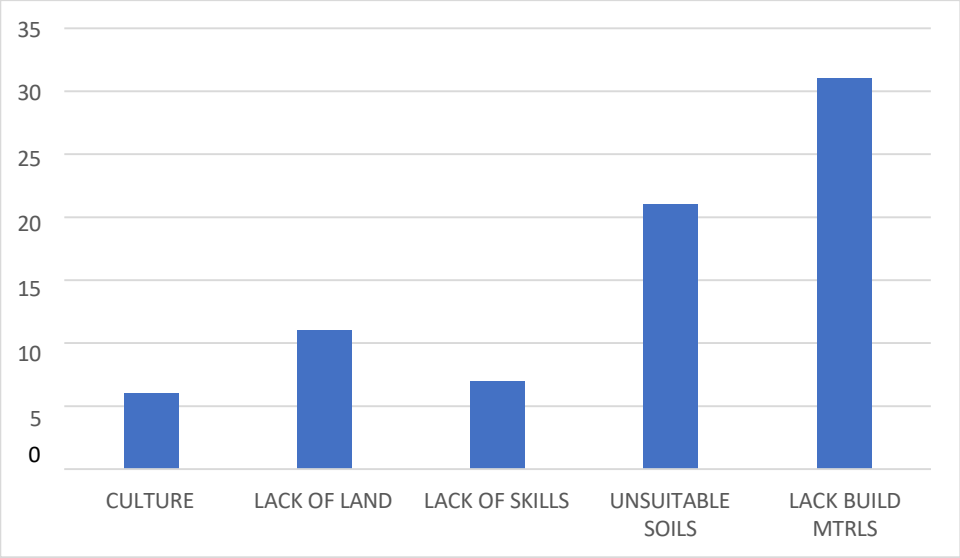

Figure 9 indicates that, lack of building material with the highest number (32%) and the culture with the least number (6%).

Discussion of results

Individual factors contributing to low latrine coverage in homesteads of Kitasiba village, Kakuuto parish, Kyotera district

In the study 61.8% were farmers, 19.7% were Business people, 10.5% were employed and 7.9% were unemployed this literately explains that farmers, business people, and the employed may be in the position of building pit latrines in comparison to the 7.9% unemployed people who have no source of income to finance the latrine construction and this in agreement with the study carried out showed that the type of occupation of the household heads gives an insights in the economics of the household who had 71.5% as farmers provided with information about latrine construction so, Community sensitization activities such as home visits, health talks at health centers, and sanitation campaigns need to be enforced to scale up the sanitation levels. This is in agreement with the study which showed that intensifying community sensitization campaigns on latrine construction motivates communities to build household latrines (Unicef, 2017).

The study indicates that there was 70% latrine coverage, meaning 30% of households had no latrine, facilities this result is consistent with the findings in Bahir Darzuria, Ethiopia which indicated that about 39% of rural areas lacked latrine facilities (Awoke & Muche, 2014), and were able constructed latrines. (Woyessa et al., 2022) Consequently, from the study, 43(56.6%) respondents reached the primary level, 20(26.3%) of the respondents reached the secondary level, 7(9.2%) people reached tertiary education, 6(7.9%) people had no formal education, those reached tertiary education had latrines and this is in the agreement with the study which showed that the individual level of education always influences good latrine- related practices and health decisions, the level of education variable affects the latrine coverage, the highly educated households/heads have higher probabilities of using pit latrines compared to their counterparts (Adzawla et al., 2020)

The study revealed that community outreaches are rarely done with 59.2%, which indicates that people are not

Environmental Factors contributing to low latrine coverage in homesteads of Kitasiba village, Kakuuto parish, Kyotera district

47.4% of the study participants occupy flat areas, 26.3% occupy Hilly regions, 13.1% occupy wetlands, and Rocky, this implies that many times residents find it hard to dig deep and construct the pit latrines in wetlands and rock areas. This is in line with the study which showed that rocky soils are the major environmental factor affecting latrine construction (Trop, 2014) the thick vegetative cover observed in this area provides hiding places encouraging bush fecal disposal, this is in agreement with the study which showed that 60% of the

population in South Sudan are still practicing open defecation due to increased bushes (UNICEF, 2020)
Besides that, 30% of the study population use the bush method for fecal disposal, 70% use the pit latrine, and no one uses ECOSAN, due to the noted percentage (30%) of the population without latrines that use the bush method will lead to contamination of the environment hence leading to the diarrhea diseases, this is in line with the study carried out by National Environmental Sanitation Policy Kampala, stated that every household in Kampala is to have improved hygiene and sanitation in order to stop transmission of sanitation related diseases (national sanitation and hygiene guidelines ministry of health, 2017).

Community factors contributing to low latrine coverage in homesteads of Kitasiba village, Kakuuto parish, Kyotera district

47.4% of the study participants occupy flat areas, 26.3% occupy Hilly areas, 13.1% occupy wetlands, and Rocky which makes it hard for them to construct latrines, this is in agreement with the study which showed that in most of the sub-Saharan African countries, human excreta disposal remained the major sanitary issue in the region especially Northern Nigerian where over 60% of the population rely on pit latrine for defecation due to the lack of the proper sewer system (Gokcekus, 2020) Most participants responded that health workers rarely visit the community 59.2%, 21.0% never seen any health worker in the community, which indicates that these respondents will not have information about latrine construction and maintenance, this is line with the study which showed that health education and sensitization was greatly found to be an important pillar scale up latrine coverage in some states and countries(Birhan et al., 2023).

Conclusion

The study area is covered with thick vegetation which created an opportunity for those with no latrines to practice open defecation underneath the vegetation cover. Also, the terrain of the area is rocky, and the sand soils hindered latrine construction in the study area.
The study also showed that the individual level of education always influences good latrines related practices and health decisions, the level of education value affect the latrine coverage, the highly educated households have higher probability of using the latrines compared to their counterparts.

Recommendations

Community sensitization activities include outreach, home visits, health talks at health centers, and sanitation campaigns and competitions.
Sensitizing the individuals about the construction of latrines knowledge and appropriate construction technology
Giving incentives to community members as health benefits for acquiring a latrine in the community
Equip local councils with health manuals to sensitize the community members about the need for latrines in their respective homesteads.

Acknowledgement

I would like to express my deepest gratitude to my research supervisor Mr. Niwamanya Gerald, for his invaluable guidance, support, and encouragement throughout this research project. His expertise and insights have been instrumental in shaping my work, and their patience and understanding have made the research process not only productive but also enjoyable. I am truly grateful for the opportunity to learn from such a dedicated and knowledgeable mentor.
Finally, I must express my very profound gratitude to my parents and friends for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this report. This achievement would not have been viable without them. Thank you.

List of abbreviations

MDG : Millennium Development Goals
VIP : Ventilated Improved Pit Latrine
WHO : World Health Organization
ECO-san: Ecological Sanitation
WASH:Water Hygiene and Sanitation
OD: Open Defecation
GOU : Government of Uganda
NSHG: National Sanitation and Hygiene Guidelines
HH: House Hold
UAHEB: Uganda Allied Health and Examination Board

Source of funding

There is no source of funding.

Conflict of interest

No conflict of interest declared.

Availability of data

Data used in this study is available upon request from the corresponding author

Author's contribution

KB designed the study, conducted data collection, cleaned and analyzed data and draft the manuscript and GN

supervised all stages of the study from conceptualization of the topic to manuscript writing.

Ethical approval

Participation in the study shall be voluntary, informed consent will be obtained before data collection, all identifiable information such as participants' names shall not collected, only codes are to be used and maximum confidentiality of information gathered will be assured to all participants throughout the study process.

Informed consent

A consent form was filled by the respondents after explaining the purpose of the study to them. The respondents were assured of confidentiality as no name will appear on the questionnaire. No participant was forced to participate in the study and all the study materials used during the interviews were safely kept under lock and key only accessible by the researcher.

Author's biography

Kizito Butaayi is a student of diploma in clinical medicine and community health at Kampala School of Health Sciences.

Gerald Niwamanya is a research supervisor at Kampala School of Health Sciences.

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Contact: +256 702 986 663
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Website: https://whr.phafrica.org
Address: Scholar's Summit Nakigalala, P. O. Box 166256, Entebbe Uganda, East Africa