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Environmental and socio-cultural factors contributing to open defecation among community members of Tukokur Cell, Kween ward in East Division, Kapchorwa municipality. A cross-sectional study.

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Abstract

Background:
This study aims to find out the environmental and socio-cultural factors contributing to open defecation among community members of Tukokur Cell Kween Ward in East Division, Kapchorwa Municipality.

Methodology:
A cross-sectional study using a quantitative approach was employed, with data collected from 80 respondents using structured questionnaires and analyzed descriptively.

Results:
Regarding environmental factors, dense vegetation's contribution to open defection privacy documented half of the respondents 40 (50%) agree, while 10 (12.5%) attribute it to other factors; (75%) of respondents said flooding affects sanitation practices, while 25% disagreed; 72.5% believe open defecation happens in flooding areas, with 6.3% citing water contamination. Most (87.5%) support building latrines in hilly areas, while 10 (12.5%) are against it. About 37.5% acknowledge climatic damage to latrines, and 6.2% cite other factors; 78.6% think soil composition affects latrine construction, and 17.04% (21.3%) do not agree with this view.
On social and cultural factors, 43.7% rarely used sanitation facilities, while 15% used them frequently. 52.5% used pit latrines, while 10% used dustbins; 62.5% feared facility costs, with only 6.2% reporting UTIs. Open disposal was noted by 75% while 25% did not, and 87.5% cited cultural influences, and 12.5% did not. Half (50%) cleaned latrines monthly, and 6.2% did so frequently, with fathers primarily responsible for construction (71.3%), and 3.8% mentioned community members as responsible. More than half (57.5%) allowed visitors to use latrines, while only 8.8% allowed children.

Conclusion:
The study established that environmental, social, and economic factors affected open defecation behavior among the residents of Tukokur Cell.

Recommendation:
The local communities, government, and community leaders should intervene and address the above factors to promote improved sanitation practices and reduce open defecation in the community.

Keywords: *Environmental and Social Cultural Factors, Open Defecation, Community Members.*
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Background of the study
Awere et. al (2020), in Ghana, revealed that 91.3% of communities with soils conducive to pit latrine construction had lower rates of open defecation. The favorable soil composition facilitated the digging of latrine pits, making it easier for households to construct and maintain sanitation facilities, thereby reducing reliance on open defecation.
However, research by Jordan et. al (2022), in Uganda, revealed that communities with rocky or clayey soil faced challenges in constructing latrine facilities. It was impractical to install sanitation infrastructure, leading to higher rates of open defecation among affected populations.
Surprisingly, a study by Mbewe et. al (2020), in Zambia, revealed that communities surrounded by dense vegetation had lower rates (5.7%) of open defecation. The presence of foliage provided privacy and discretion for individuals using latrine facilities, encouraging proper sanitation practices and reducing the likelihood of open defecation.
Conversely, research by Malima et. al (2022), in Tanzania, analyzing the sparse vegetation and challenges faced in maintaining privacy and hygiene when using latrine facilities, found that the lack of natural barriers exposed individuals to discomfort, leading to higher rates of open defecation as individuals sought more isolated locations for sanitation purposes.

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In a study by Beukes et. al (2022), in South Africa, 23.5% of communities where religious teachings emphasized cleanliness and hygiene had lower rates of open defecation. Religious leaders promoted the use of latrine facilities as religious obligations, encouraging adherence to proper sanitation practices and reducing open defecation. Conversely, research by Mujuzi et. al (2022), in Uganda, found that religious taboos associated with defecating close to living spaces led to higher rates (77.6%) of open defecation among communities adhering to such beliefs. Meanwhile, in a study by Obeng et. al (2020), in Rwanda, it was elaborated that communities with strong social norms promoting sanitation and cleanliness had 10.2% lower rates of open defecation. Social gatherings and community events were used as platforms to reinforce positive behaviors, reducing open defecation.

However, research by Ojambo et. al (2022) in Uganda revealed that 33.6% of communities with entrenched social norms of open defecation faced challenges in adopting alternative sanitation practices. Generational customs led to resistance towards behavior change initiatives promoting latrine usage. Also, a study conducted by Opio (2022) in Uganda regarding gender segregated latrine facilities and open defecation revealed that gender-segregated latrine facilities mandated by cultural traditions impacted open defecation practices. 97/121 households were required to maintain separate toilets for men and women, with additional facilities for in-laws to avoid taboos associated with mixing feces. However, community perceptions of foul odors emanating from latrine facilities discouraged consistent latrine usage to open defecation VerKuilen et. al, 2023).

Methodology

Study design and rationale

A cross-sectional study employing a quantitative method of data collection was used.

Study setting and rationale

The study was undertaken in Tukokur Cell Kween Ward in East Division, Kapchorwa Municipality in Eastern Uganda. This study area is geographically located between Kwoti Primary School and Kwoti HCII and in the slopes of Mt. Elgon, bordered by Sironko and Bulambuli district to the West, South, and North, respectively, and Kween district to the East.

It's about 254 miles from Kampala City and 66 km from Mbale town (kapchorwa.go.ug, 23 April 2024). Additionally, its climate and weather were conducive to fresh air and sweet natural water from Mt. Elgon National Park (forest), which gives an added advantage to settlement, athletics (the home of athletes), agriculture (farming), setting up and growth of small businesses, which improve the standards of living of the people. The local people were very social and welcoming, hence the name (home of friends).

I selected this area because it provided a sufficient number of respondents involved in the study.

Study population

The study population consisted of household heads or their representatives who were above 18 years of age from the study area of Tukokur Cell.

Sample size determination

A sample size of 80 respondents was selected from a given population of 100 community members received per week. A sample size was determined using Krejcie and Morgan's (1970 table (KENPRO, 2012).

Sampling procedure

The researcher used a simple random sampling method to select the required number of respondents, where he wrote the words YES and NO on pieces of paper, placed them in an enclosed box, and offered potential respondents an opportunity to participate by picking a single paper from the box. Any respondent who picked a paper with the word YES written was requested to participate in the study. This continued until the total number of respondents to be reviewed per day was achieved. The sampling technique was chosen for this study because it ensured an equal chance of participation and reduced bias in the sample.

Inclusion and exclusion criteria

Inclusion criteria

Household heads above eighteen (18) years and residents of the study area, and those who consented to the study.

Exclusion criteria

Those who are ill, unavailable, unable to speak, or deaf and blind.

Definition of variables

Dependent variable

The dependent variable was open defecation.

Independent variables

The independent variables were social demographic factors like age, sex, occupation, education, and marital status, environmental factors like nearness to rivers or water bodies and heavy rains, and socio-cultural factors like cultural beliefs, behaviours, and customs.

Research instrument

The primary data collection tools were structured questionnaires. They were written in the most simplified English language that was easily understood. The questionnaire was divided into three sections according to the study objectives.

Data collection procedure

The researcher presented an introductory letter from Kampala University School of Nursing and Health Science to the Chairman of LC1 of Turkokur Cell, who

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introduced the researcher to the community members. The researcher introduced himself to the respondents and gave a brief explanation about the study. Respondents agreed and signed the informed consent form, and the researcher interviewed the respondents using face-to-face interviews. This improved efficiency and confidentiality during data collection.

Data management

The researcher edited the data before leaving the study area to ensure that there were no mistakes or areas left blank and that they were corrected. The researcher stored the collected data in safe custody under lock and key, and it could only be accessed by the researcher.

Data analysis and presentation

The collected data was manually analyzed, tallied, and the results were processed using the Microsoft Word and Excel programs. This was presented in the form of frequency tables, graphs, and pie charts.

Ethical consideration

Approval was obtained from the research supervisor; permission was sought and granted from the Principal of Kampala University School of Nursing and Health Sciences by obtaining an introductory letter. The study was commenced by the researcher introducing and explaining the topic and the objectives to respondents, and they had to understand and voluntarily consent to participate in the study. The researcher assured the respondents that the information given was strictly confidential, and numbers instead of the respondents' names were used to identify the respondents.

Limitations of the study

Lack of confidence among the respondents; some respondents tended to be reluctant to respond to some questions.

Cultural and personal bias by some of the respondents showed up as a result of not having latrines. Weather challenges, especially too much rainfall and excessive coldness.

Results

The environmental Factors contributing to open defecation among community members of Tukokur cell, Kapchorwa municipality, April 2024

Table 1: A table shows environmental factors contributing to open defecation among households of Tukokur cell, Kapchorwa Municipality, April 2024. (n=80)

Variable	Frequency (f)	Percentage (%)
Flooding areas affect sanitation practices		
Yes	60	75
No	20	25
Flooding areas are more prone to open defecation		
Access to water	10	12.5
Water contamination	5	6.3
Cultural practice	58	72.5
Environmental considerations	17	21.3
Construct the latrines in hilly areas		
Yes	70	87.5
No	10	12.5
Climatic condition		
Damage to the latrines	30	37.5
Water splashes on you when defecating	20	25
Fear of toilet jiggers	25	31.3
Others	5	6.2
Soil composition impact		
Yes	63	78.6
No	17	21.3
Dense vegetation contribution		
Privacy	40	50
Hygiene	14	17.5
Comfort	16	20
Others	10	12.5

(Source: Primary data, 2024).

Table 1 shows that quarter 60 (75%) of respondents indicated that flooding areas affect sanitation practices, whereas the remaining 20 (25%) reported otherwise. Regarding open defecation in flooding areas, the results

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showed that nearly three-quarters, 57(72.5%) of respondents believe it to be true, while less than a tenth, 5.04 (6.3%) attribute it to water contamination. When it comes to constructing latrines in hilly areas, the overwhelming majority, 70(87.5%), favor this practice, while 10 (12.5%) are against it. Regarding the impact of climatic conditions on latrine damage, 30 (37.5%) of respondents acknowledge it, while 4.96 (6.2%) attribute it to other factors.

Three-quarters of the respondents, 62.88 (78.6%), believe that soil composition impacts latrine construction, while 17.04 (21.3%) do not agree with this view. Regarding dense vegetation's contribution to open defection privacy, half of the respondents, 40 (50%), agree, while 10 (12.5%) attribute it to other factors, as shown in Table 1 below:

Socio-cultural factors contributing to open defecation practices among households of Tukokur cell, Kapchorwa municipality, April 2024.

Table 2: A table showing the socio-cultural factors contributing to open defecation among household members of Tukokur cell, Kapchorwa municipality, April 2024. (n=80)

Variable	Frequency (f)	Percentage (%)
Utilize the available sanitation		
Once a day	20	25
2-3 times a day	13	16.3
4 times a day	12	15
Rarely or never	35	43.7
Dispose of human waste		
Use a pit latrine	42	52.5
Dispose of in a dust bin	8	10
Dispose of in open fields	18	22.5
Others	12	15
Issues with the **Utilization of Sanitation Facilities**		
Odor and cleanliness issues	10	12.5
Lack of privacy	15	18.8
UTIs	5	6.2
Fear of potential costs	50	62.5
Have you observed open disposal?		
Yes	60	75
No	20	25
Cultural beliefs		
Yes	70	87.5
No	10	12.5
How frequently do you clean the latrine?		
Daily	20	25
Weekly	15	18.8
Monthly	40	50
Frequently	5	6.2
Responsible for construction		
Father	57	71.3
Mother	12	15
Children	8	10
Community members	3	3.8
Allowed to use a latrine		
The pregnant	10	12.5
Children	7	8.8
Visitors	46	57.5
The old	17	21.3

(Source: Primary data, 2024).

According to Table 2, a significant majority, 34.96 (43.7%) of respondents reported that they rarely used available sanitation facilities, whereas only 12 (15%) reported utilizing available sanitation facilities 4 times or more a day.

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About half, 42 (52.5%) of respondents reported disposing of human waste using a pit latrine, while 10% mentioned using a dustbin for disposal.

The majority of the respondents, 50 (62.5%), reported the fear of potential costs associated with sanitary facilities, whereas UTIs were reported by only 4.96 (6.2%) of respondents as an issue with the utilization of sanitation facilities.

Three-quarters 60 (75%) reported observing open disposal practices, while the remaining 20 (25%) did not.

Cultural beliefs influencing sanitation practices were acknowledged by the majority of respondents, 70 (87.5%), while only 10 (12.5%) did not perceive such influence.

Half of the respondents, 40 (50%), reported cleaning their latrines monthly, while only 4.96 (6.2%) did so frequently.

The responsibility for latrine construction was primarily attributed to fathers 57.04 (71.3%), with a smaller proportion 3.04 (3.8%) mentioning community members as responsible.

More than half, 46 (57.5%) of the respondents reported that visitors were allowed to use a latrine, while only 7.04 (8.8%) mentioned children.

Discussion

Three-quarters 60 (75%) of respondents indicated that flooding areas affect sanitation practices. This most likely implies that flooding swamps sanitation facilities, contaminates water sources, and disrupts sewage systems, creating unsanitary conditions that compel individuals to resort to open defecation as a coping mechanism. This is in contrast with a study conducted by Ssemugabo et. al (2021) in Uganda, which revealed that 34.9% of communities located near rivers or bodies of water had lower rates of open defecation. The proximity to water sources ensured proper sanitation practices, leading to reduced open defecation behaviors.

When it comes to constructing latrines in hilly areas, the overwhelming majority, 70 (87.5%), favor this practice. This suggests the recognition among respondents of the importance of proper sanitation infrastructure, even in challenging terrain such as hilly areas, which can help mitigate the risk of open defecation. This is in line with a study conducted by Kayiwa et. al (2020) in Uganda, which revealed that communities residing in mountainous regions faced challenges in constructing and maintaining latrine facilities as a result of rugged terrain and rocky landscape, resulting in higher rates of open defecation.

Regarding the impact of climatic conditions on latrine damage, 30 (37.5%) of respondents acknowledge it. This may imply that climatic factors can contribute to erosion, structural instability, or waterlogging, leading to the degradation or destruction of latrines and compromising their functionality and duration.

This is in contrast with a study by Bomuhangi (2023) in Uganda, who revealed that communities experiencing temperate climates had lower rates of open defecation. The favorable weather conditions encouraged outdoor activities and latrine usage.

Three-quarters of the respondents, 62.88 (78.6%), believe that soil composition impacts latrine construction. This may show that favorable soil compositions facilitated the digging of latrine pits, making it easier for households to construct and maintain sanitation facilities, thereby reducing reliance on open defecation. Similarly, a study conducted by Jordan (2022) in Uganda revealed that communities with rocky or clayey soil faced challenges in constructing latrine facilities, leading to higher rates of open defecation among affected populations.

Regarding dense vegetation's contribution to open defection privacy, half of the respondents, 38 (47.5%), agreed. The presence of foliage provided privacy and discretion for individuals using latrine facilities, encouraging proper sanitation practices and reducing the likelihood of open defecation. Similarly, a study conducted by Mbewe (2020) in Zambia revealed that communities surrounded by dense vegetation had lower rates (5.7%) of open defecation.

A significant majority, 34.96 (43.7%) of respondents reported that they rarely used available sanitation facilities. This may imply that factors such as cultural taboos, privacy concerns, or traditional practices may deter individuals from utilizing existing sanitation facilities, leading them to resort to open defecation instead. This is in line with a study conducted by Obeng et. al (2020) in Rwanda, which revealed that communities with strong social norms promoted sanitation and cleanliness had 10.2% lower rates of open defecation.

About half, 42 (52.5%) of respondents reported disposing of human waste using a pit latrine. This probably indicates that pit latrines are a widely used and accepted sanitation option in many communities, offering a relatively simple and affordable solution for human waste management.

The majority, 50 (62.5%) of respondents reported the fear of potential costs associated with sanitary facilities. This may show the importance of implementing cost-effective and sustainable sanitation solutions that prioritize affordability and ensure the long-term viability of sanitation infrastructure.

Cultural beliefs influencing sanitation practices were acknowledged by the majority of respondents, 70 (87.5%). This may indicate that cultural beliefs influence perceptions of cleanliness, purity, and taboos surrounding waste disposal practices, impacting the utilization of sanitation facilities. This is in line with a study conducted by Nyamugara et. al, (2024), in Congo, which revealed that cultural beliefs and practices influencing open defecation as community members adhered to (61.8%) to traditional beliefs that associating latrine facilities with homes could attract misfortunes related to supernatural spirits.

Half of the respondents, 40 (50%), reported cleaning their latrines monthly. This is probably due to resource-constrained or rural settings, having limited access to water and cleaning supplies. As a result, latrines may become breeding grounds for bacteria and pathogens,

increasing the likelihood of UTIs among residents. Conversely, a study conducted by VerKuilen et. al (2023) revealed that community perceptions of foul odors emanating from latrine facilities discouraged consistent latrine usage and open defecation.

Conclusion

The findings indicate that environmental factors, such as dense vegetation and flooding, significantly influence sanitation practices. Many respondents believe these factors contribute to open defecation and challenges in latrine construction, particularly in areas with specific soil compositions or hilly terrains. Social and cultural factors also play a critical role, with a noticeable portion of the population rarely using sanitation facilities due to concerns like cost and cultural influences. The responsibility for maintaining and constructing latrines often falls on fathers, and there is a tendency to restrict access for certain groups, such as children. These insights highlight the complex interplay between environmental and cultural factors in shaping sanitation behaviors.

Recommendation

Implementation and enforcement of robust sanitation policies that prioritize equitable access to safe and sustainable sanitation facilities for all citizens. Allocate adequate resources and funding towards sanitation facility development in rural and underserved areas.

Mobilization of community members to advocate for improved sanitation infrastructure and services. Build coalitions with government agencies, NGOs, and healthcare professionals to amplify community voices and influence decision-making processes.

Empower local communities by establishing community-led sanitation committees, comprising members responsible for overseeing maintenance activities of sanitation facilities and promoting hygiene education initiatives tailored to local needs.

Acknowledgement

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List of Abbreviations

WHO: World Health Organization.

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This study was not funded.

Conflict of interest

No conflict of interest declared

Author Biography

Jacob Sande is a student of the Diploma in Nursing Extension at Kampala University School of Nursing and Health Sciences. Rogers Isabirye is a tutor at Kampala University School of Nursing and Health Sciences, and Grace Denise Akwang is a principal tutor at Kampala University School of Nursing and Health Sciences.

References

1. Awere, E., Appiah Obeng, P., Asirifua Obeng, P., & Bonoli, A. (2020). Characterization of faecal sludge from Pit Latrines to guide management solutions in Cape Coast, Ghana. Journal of Geography, Environment and Earth Sciences International, 24(1), 1-13. https://doi.org/10.9734/jgeesi/2020/v24i130189
2. Beukes, L. S., & Schmidt, S. (2022). Manual emptying of ventilated improved pit latrines and hygiene challenges baseline survey in a peri-urban community in KwaZulu-Natal, South Africa. International Journal of Environmental Health Research, 32(5), 1043-1054. https://doi.org/10.1080/09603123.2020.1823334
3. Bomuhangi, A. (2023). Impacts of Climate Change on Men and Women in Kapchorwa and Manafwa Districts, Eastern Uganda.
4. Jordan, I., Röhlig, A., Glas, M. G., Waswa, L. M., Mugisha, J., Krawinkel, M. B., & Nuppenau, E. A. (2022). Dietary diversity of women across agricultural seasons in the Kapchorwa District, Uganda: results from a Cohort Study. Foods, 11(3), 344. https://doi.org/10.3390/foods11030344
5. Kayiwa, D., Mugambe, R. K., Mselle, J. S., Isunju, J. B., Ssempebwa, J. C., Wafula, S. T., ... & Yakubu, H. (2020). Assessment of water, sanitation, and hygiene service availability in healthcare facilities in the greater Kampala metropolitan area, Uganda. BMC Public Health, 20, 1-11. https://doi.org/10.1186/s12889-020-09895-9
6. Malima, G., Mshida, H., Machunda, R., Moyo, F., Banzi, J., Gautam, O. P., ... & Njau, K. N. (2022). What influences individuals to invest in improved sanitation services and hygiene behaviours in a small town? A formative research study in Babati, Tanzania. Plos one, 17(7), e0270688. https://doi.org/10.1371/journal.pone.0270688

7. Mbewe, Z. (2020). Demonstration of presence of human helminthes and protozoa in faecal matter from pit latrines of selected residential compounds in Lusaka, Zambia (Doctoral dissertation, The University of Zambia).
8. Mujuzi, J. D. (2022). Construing pre-1995 laws to bring them in conformity with the Constitution of Uganda: Courts' reliance on Article 274 of the Constitution to protect human rights. African Human Rights Law Journal, 22(2), 520-547. https://doi.org/10.17159/1996-2096/2022/v22n2a9
9. Nyamugara, L. B., Bigumandondera, P., Bayumbasire, C., Bukuru, J. J., Nyabukara, A., & K'Eka, C. N. K. (2024). Faecal sludge management in the city of Bukavu, Democratic Republic of Congo.
10. Obeng, P. A. (2020). Factors associated with perception of bad odor by users of ventilated improved pit latrines in Cape Coast, Ghana. International Journal of Energy and Water Resources, 4(1), 55-62. https://doi.org/10.1007/s42108-019-00046-4
11. Ojambo, R. (2022). The 1995 Constitution as a Tool for Dictatorship in Uganda: An African Dilemma of Constitutionalism. In Democracy and Africanness: Contemporary Issues in Africa's Democratization and Governance (pp. 3-19). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-11248-5_1
12. Opio, I. (2022). Design and construction of an improved motorized sewage sucker machine for emptying filled manholes (Doctoral dissertation, Busitema University).
13. Ssemugabo, Charles, Solomon Tsebeni Wafula, Rawlance Ndejjo, Jimmy Osuret, David Musoke, and Abdullah Ali Halage. "Characteristics of sanitation and hygiene facilities in a slum community in Kampala, Uganda." International health 13, no. 1 (2021): 13-21. https://doi.org/10.1093/inthealth/ihaa011
14. VerKuilen, A., Sprouse, L., Beardsley, R., Lebu, S., Salzberg, A., & Manga, M. (2023). Effectiveness of the Swachh Bharat Mission and barriers to ending open defecation in. https://doi.org/10.3389/fenvs.2023.1141825
15. KENPRO. (2012, August 25). Sample Size Determination Using Krejcie and Morgan Table. KENPRO. https://www.kenpro.org/sample-size-determination-using-krejcie-and-morgan-table/

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