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Influence of social factors and status of faecal management facilities on human faecal management in Changamwe Sub-County, Mombasa County, Kenya

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ABSTRACT

The Sustainable Development Goals (SDGs) agenda 6.2 focuses on ensuring that human faecal matter is safely managed for improved human health. Although efforts to improve sanitation standards such as provision of excreta management facilities, community education programs, and construction of sewerage systems have been made, excreta management still remains poor especially in areas with high population. The study examined the influence of social factors and status of faecal management facilities on human faecal management in Changamwe Sub-County, Kenya. Convergent design with a mixed methods approach was used where quantitative and qualitative data was gathered simultaneously. Structured questionnaires were used to gather quantitative data from 397 household heads selected using cluster and proportionate simple random sampling techniques. The data was analysed in both descriptive and inferential statistics. Qualitative data was obtained from a focus group, analyzed thematically and presented as narratives. Results showed that toilet sharing between gender and in-laws affected toilet use. Residents believed that handling of feaces was unclean which restricted proper management of faeces on filled up toilets. Children were more likely to defecate in the open compared to adults because they feared collapsing inside the scary huge toilet holes. Findings showed that beliefs and age were significant predictors of human faecal management practices. Due to lack of education or knowledge on safe management of faeces, residents disposed of faecal matter in open drains which contaminated the environment. Toilet sharing across in-laws of opposite gender was a taboo. The characteristics of more than 50% of toilet facilities were gaps around the walls, lack of lighting, flies and bad smell. Respondents highlighted that emptying of full pits was a challenge due to narrow apertures and poor status of the slab which could not permit removal of faeces from pits. Observation findings also revealed evidence of faeces left in the open. A unit improvement in status of faecal management facilities improved human faecal management by 0.922 units (p-value=0.000). The study concluded that human faecal management in Changamwe was poor due to social factors and status of faecal management facilities among other factors which require exploration. The study recommends the need for initiation of sustained social interventions by both the government and non-governmental organisations so as to facilitate behavioral change which can have substantial influence on human faecal management. The study also recommends the need for sanitation infrastructural development by the County Government of Mombasa particularly in densely populated areas to improve their faecal management practices.

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Introduction

The management of human faecal waste is a critical challenge in peri-urban areas, where the rapid urbanization process often outpaces the development of adequate sanitation infrastructure (Daley, 2019). Inadequate access to basic sanitation facilities and services contributes to the prevalence of open defecation, unsafe disposal practices, and unregulated wastewater discharge, leading to severe public health and environmental risks (Sarkar & Bharat, 2021). Safe management of human faecal matter is a fundamental component in the promotion of human health. When human faecal matter is safely managed, excreta-related diseases such as cholera and diarrhea could reduce and health standards of the community could improve (Pfäfflin *et al.,* 2017). The Sustainable Development Goals (SDG) agenda 6.2 have a strong focus on ensuring that excreta generated by the population is safely managed to promote good health for all (United Nations, 2015). However, progress towards attainment of safe human faecal management has not been attained. Globally, only 39% of human feces generated gets safely managed with only 2.9 billion people using technologies capable of ensuring safe management of human excreta (WHO, 2017). This low coverage signifies a need to address the factors associated with slow progress in sanitation. The study examined the influence of social factors and status of faecal management facilities on faecal management.

The challenge of managing human waste poses a significant problem for numerous cities. According to data from UNICEF/WHO (2021), there has been progress in terms of improved sanitation access for urban populations worldwide. However, in developing countries, access to urban sanitation is predominantly achieved through on-site sanitation systems due to low connection to sewerage network. In Sub-Saharan Africa, only half of the utilities serving major cities operate a sewerage network, and most of these networks cater for less than 10 percent of the population (Morella *et al.,* 2009). In urban Africa, more than half of the population relies on traditional latrines, while eight percent do not have access to any toilet facilities (Angoua *et al.,* 2018). Lower-income individuals often depend on informal or unmanaged on-site systems. In Sub-Saharan Africa, over 50 percent of the poorest 20 percent either use inadequate sanitation facilities or lack access to toilets completely (Abubakar, 2017). Even in regions like Latin America and the Caribbean (LAC), where overall access is relatively better, there is still a significant reliance on unplanned on-site systems and instances of open defecation in many cities (UNICEF/WHO, 2021). Regardless of the region, waste from on-site sanitation facilities rarely undergoes proper treatment for safe disposal or reuse (UNICEF/WHO, 2021) which could expose the population to health hazards. Despite some progress in improving sanitation access, concerns persist regarding the reliance on on-site systems, the prevalence of inadequate facilities, and the lack of proper waste treatment mechanisms.

Taboos, education levels, cultural norms, community organization, age, and gender have been associated with significant impacts on the way faecal management is approached in Bangladesh (Md *et al.,* 2022), Kenya (Busienei *et al.,* 2019) and Ethiopia (Assefa *et al.*, 2021). Understanding how these social factors influence faecal management could be crucial for developing effective strategies and interventions to improve sanitation practices in developing countries. In Sub-Saharan Africa, a study by Morella *et al.* (2009) found out that a significant portion of the population, particularly the poorest individuals, lacked access to toilets or used unimproved sanitation facilities. The study showed that community taboos and beliefs that prohibited toilet sharing across gender facilitated open excreta disposal since residents could not afford separate toilets. Excreta disposed in the open could contaminate water sources with diarrhea-causing pathogens. Despite recognition that social factors could influence sanitation practices, there is still a gap in the literature regarding how gendered toilet access poli-

cies impact sanitation in different settings. A study by Assefa *et al.* (2021) in Ethiopia unveiled how the lack of proper faecal management facilities disproportionately affected women and girls and encouraged them to practice unsafe faecal management practices such as open defecation. Despite these findings, there remains a gap in the literature regarding how to address these social factors through sanitation planning and interventions. Further research is needed to fully understand the influence of these social factors in different settings and how to effectively address them in sanitation interventions.

Faecal management facilities need to be adequate and culturally responsive and require lighting, complete superstructure for privacy high level of maintenance, and proper location for acceptance and usability (Busienei *et al.* 2019). In Kenya, a study by Simiyu *et al.* (2021) which assessed characteristics of a good excreta management technology established that pit latrines, ecological sanitation (Ecosan) and flush toilets were some of the faecal management options. However, the community preferred using pit latrines because they could allow for disposal of sanitary pads and their maintenance was easy unlike water -based systems like flush toilets. Access to poorly maintained sanitation facilities which do not support needs of women and girls could negatively impact their health and willingness to use the facilities, resorting to unsafe practices during menstruation due to inadequate toilet facilities. Besides ignorance of unmaintained toilets, a study by Wada *et al.* (2022) in Nigeria established that there was a high probability of people practicing open defecation due to access to dilapidated excreta management facilities. Studies have shown that well-maintained toilets can promote good hygiene practices, prevent the spread of sanitation and hygiene-related diseases, and encourage safe disposal of human waste (Akter *et al.,* 2019; Gelaye *et al.,* 2014). Inadequate or poorly maintained sanitation facilities can lead to open defecation and improper waste disposal, which could contaminate the environment and contribute to the spread of diseases (UNICEF/WHO, 2021).

Despite efforts to bring about change in human faecal management behavior through community participation and provision of affordable human faecal management facilities, unsafe human excreta management remains a growing challenge in less developed countries, Kenya included. As a result of access to unsafe human faecal management facilities, faecal-oral transmitted infections continue to be reported in such countries (Desmond *et al.,* 2021). Moreover, studies for instance by Wada *et al.,* (2022), Abubakar (2017) and Busienei *et al.* (2019) confirmed that unsafe human faecal management may be associated with social factors and status of faecal management facilities which seem to have received little attention in research particularly in peri-urban areas such as those in coastlines. It was therefore necessary to conduct this study to find out the influence of social factors and status of faecal management facilities on faecal management in Changamwe Sub-County.

Problem Statement

Sustainable development goal 6.2 which targets to stop open defecation and ensure that everyone has access to basic sanitation and hygiene, with a focus on the needs of women, girls, and those who are most vulnerable by 2030, calls for committed efforts by governments to ensure that human waste is safely managed to prevent diseases and promote health (United Nations, 2015). However, low-income countries especially in Sub-Saharan Africa, Kenya included, are too far from the realization of this target as the population continue facing challenges in access to safe sanitation. A report by WHO/UNICEF (2021) indicated that 46% of Kenyans use human waste management facilities which do not promote safe excreta disposal and 9% dispose excreta in the open. Unsafe ways of faecal disposal could keep communities exposed to disease-causing pathogens and could contribute to unending poverties in the attempt to treat such diseases.

Despite awareness creation efforts on safe sanitation, people, even those who have faecal management facilities still continued to practice unsafe human faecal management practices such as open defecation (Bhatt *et al.,* 2019). While efforts have been made to improve sanitation access globally, it is evident that the challenge extends beyond technical, economic, and infrastructural aspects.

Social factors and status of faecal management facilities could play a significant role in shaping how communities manage faecal matter. Faecal management issues in peri-urban areas seem to have received little attention in research which was the focus of this study.

Objectives

i) To establish the influence of social factors on Human Faecal Management in Changamwe Sub-County in Mombasa
ii) To examine the influence of status of faecal management facilities on human faecal management in Changamwe Sub-County in Mombasa.

Methodology

Study design

The study employed a convergent mixed methods research design which involved simultaneous collection and analysis of both qualitative and quantitative data.

Study site

The study was carried out in Changamwe Sub-County, Mombasa County, Kenya, which has a multicultural population. The area is a Portland in Coast, and boarders Indian Ocean.

Target population

The study targeted household heads, community health volunteers, Public Health Officers (PHOs), and Sub-Chiefs. According to KNBS (2019), there are 46,671 households in Changamwe Sub-County.

Sample size determination and sampling techniques

A sample of 397 participants was obtained using Yamane's (1967) formula as shown;

$$n = \frac{N}{1 + Ne^2} = \frac{46671}{1 + 46671 * 0.05^2} = 397$$

Where N=Total population and e=margin of error

Cluster sampling technique was used to subdivide the area into five clusters of its administrative Sub-Locations namely Changamwe, Chaani, Khamisi, Kwa Hola and Port Reitz (KNBS, 2019). Household heads were selected from households of each cluster using proportionate simple random sampling technique. Samples per cluster were obtained by dividing number of households per cluster by the total number of households in the entire Sub-County then multiplied by the calculated sample size. The focus group discussion participants purposively selected because they understood community sanitation affairs better.

Data Collection and Analysis

Quantitative data was collected from household heads at the household level using structured questionnaires and analysed in both descriptive and inferential statistics. Observation checklist was also used for collection of household data on status of faecal management facilities in terms of cleanliness, presence of flies and odour, and complete superstructures for privacy. Qualitative data was gathered using open-ended focus group discussion guide from a focus group containing Public Health Officers, Community Health Volunteers, and Sub-Chiefs, analysed thematically and presented in form of narratives.

Ethical considerations

Permission to collect data was sought from the Meru University Institutional Research and Ethics Review Committee (MIRERC). Ethical clearance was obtained from the National Commission for Science Technology and Innovation (NACOSTI). The study was based voluntary participation and respondents signed a consent form before participation to ascertain their willingness to be part of

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Mean	Std. Dev
Toilets are available	102(26.8%)	172(45.1%)	80(21.0%)	17(4.5%)	10(2.6%)	4.213	0.396
Toilets are usable	73(19.2%)	146(38.3%)	118(31.0%)	36(9.4%)	8(2.1%)	3.746	0.527
Practice Open defecation	66(17.3%)	143(37.5%)	123(32.3%)	41(10.8%)	8(2.1%)	3.561	0.692
Available facilities are properly used	21(5.5%)	73(19.2%)	155(40.7%)	121(31.8 %)	11(2.9%)	2.972	0.603
Faecal waste is properly treated and disposed	68(17.8%)	135(35.4%)	114(29.9%)	42(11.0%)	22(5.8%)	3.217	0.716
I am ready to construct a new toilet once this fills up	66(17.3%)	136(35.7%)	120(31.5%)	58(15.2%)	1(0.3%)	3.874	0.461

Table 1: *Human faecal management*

the study. Information obtained from participants was treated with utmost confidentiality to avoid access by a third party.

Results and discussion

Response rate

From the 397 questionnaires distributed, 381 respondents returned the questionnaires fully filled. This made a response rate of 96% which was considered adequate for the study (Vasileiou et al., 2018).

Demographic information

More females (54.6%) than males took part in the study attributable to the fact that the predominant religion in Mombasa was Islam which allows for polygamy and women-headed households. Majority of the respondents (87.4%) were aged above 30 years which agreed with the findings of a study done by Mwai et al. (2023) who established that the average age of household heads in Kilifi and Mombasa counties was 30.8 years. In terms of education, all the sampled respondents were literate having attained at least primary-level education, an implication that they understood the implications of poor faecal management.

Human faecal management

Participants were given statements in a 5-point scale ranging from strongly disagree to strongly agree respectively as shown in Table 1. At a mean of 3.746, Standard deviation (SD)=0.527 and 4.213, SD=0.396, toilets were available and usable respectively.

Respondents agreed that open defecation was a common practice in the area (mean=3.561, SD=0.692). When asked whether toilets were properly used, at mean of 2.972 participants disagreed. More than 1/3 of the participants disagreed that faecal waste was properly treated and most (40.7%) had a neutral stand. On readiness to construct a new toilet facility once the available one was filled up, a mean of 3.874 was attained, showing that the respondents agreed with the statement.

It was generally established that toilets were available in most households and usable, however, open defecation was still being practiced, and the disposal and treatment of faecal waste was not so adequately done. It is therefore prudent, that the role of social factors in human faecal management be established and documented.

Influence of social factors on human faecal management

The study sought to determine the opinion of respondents on the influence of social factors on human faecal management and findings were as indicated in Table 2. At a mean of 3.92, SD=0.948, participants reported that men were not allowed to share toilets with women. These findings were supported in the Focus Group Discussion where respondents said that:

"In some cases, there could be separate toilet facilities for men and women, and strict rules around who is allowed to use which facility."

"It is a taboo in our culture for female and male in-laws to be naked at the same time, we have a toilet and bathroom attached together, but I cannot go use that toilet when my father-in-law is bathing. That would offend the gods. I find it easier to defecate in the open."

Majority of the households had social norms and cultural beliefs related to faecal management (Mean=3.67, SD=0.965). The social and cultural norms as revealed in the Focus Group Discussion revolved around purity which discouraged emptying of filled up toilets because handling of faeces was considered impure. A respondent said:

"In my culture, faeces are considered unclean, and we are not allowed to touch it with our right hand. We clean ourselves using water contained in a special jug called a 'lota'. The left hand is considered unclean, and it is important to use the right hand for eating or other activities. We cannot even remove faeces from toilets which fills up"

More than 60% of the participants agreed that the role of toilet cleaning was for women thus men were less concerned on cleanliness of toilets. From the results, 38.6% of the participants agreed and 17.6% strongly agreed that household members were open to learning about new and improved human faecal management practices. At a mean of 3.95 (SD=0.930), participants agreed that education and awareness programs for promotion of proper faecal management practices were available and that people with increased education were likely to dispose of faecal matter properly (mean=3.99, SD=0.927). The findings signified that increased awareness on ways of managing human faeces and on implications of improperly disposed faeces boosted chances of improved practices of handling faeces. The role of training on promotion of proper human faecal management was also appreciated in the Focus Group where a participant reported:

"I was brought up knowing that human excreta is unclean and should be handled with care. Growing up, my mother would tell us stories of people who suffered from stomach illnesses due to mishandling of excreta. Even now, as an adult, I am careful to dispose of excreta properly and observe certain rituals to maintain cleanliness and purity."

Lack of awareness on the dangers that faeces left on human health facilitated disposal of faeces in open drains.

"When it rains and you are walking across the streets sometimes you meet faeces in open channels. I guess it is by parents who do not understand that throwing even children faeces in the open contaminates water"

Many respondents (39.1%) agreed and other 20.2% strongly agreed that adults were more likely to embrace proper ways of disposing faeces than children. It was reported in the focus group discussion that some toilets in the community had wide drop holes which were scary for use by children. A respondent from the Focus Group Discussion said that:

"Some toilet holes are very large and children do not like going to such toilets. They fear getting inside the pits through the huge holes"

A correlation analysis using Pearson Product Moment approach as shown in Table 3 showed that beliefs in the study area had a positive significant influence on use of toilets (r= 0.850, p-value=0.000), open defecation (r= 0.727, p-value=0.000) and excreta disposal (r= 0.454, p-value=0.000). These findings implied that some beliefs could increase chances of toilet use and improved excreta disposal while others facilitated the practice of open defecation. In Zambia, a simi-

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree	Mean	Std Dev
Men are not allowed to share toilets with women	11 (2.90%)	15 (3.90%)	77 (20.20%)	170 (44.60%)	108 (28.30%)	**3.92**	**0.948**
Our household has a social norm or cultural belief related to human faecal management	8 (2.10%)	33 (8.70%)	112 (29.40%)	150 (39.40%)	78 (20.50%)	**3.67**	**0.965**
Cleaning of toilets is supposed to be done by women	7 (1.80%)	41 (10.80%)	118 (31%)	147 (38.60%)	68 (17.80%)	**3.60**	**0.962**
Our household members are open to learning about new and improved human faecal management practices	10 (2.60%)	40 (10.50%)	113 (29.70%)	147 (38.60%)	71 (18.60%)	**3.41**	**0.991**
Our household has access to education and awareness-raising programs that promote proper human faecal management	11 (2.90%)	10 (2.60%)	79 (20.70%)	169 (44.40%)	112 (29.40%)	**3.95**	**0.930**
People with increased education are more likely to dispose faecal matter properly	10 (2.60%)	12 (3.10%)	75 (19.70%)	170 (44.60%)	114 (29.90%)	**3.99**	**0.927**
Adults are more likely to follow proper faecal disposal ways than children	8 (2.10%)	34 (8.90%)	113 (29.70%)	149 (39.10%)	77 (20.20%)	**3.66**	**0.967**
Social support from my peers encourages me to properly dispose off faecal matter	11 (2.90%)	131 (34.40%)	157 (41.20%)	70 (18.40%)	12 (3.10%)	**2.85**	**0.864**

Table 2: *Influence of social factors on human faecal management*

lar study by Lawrence et al. (2016) also reported the influence of beliefs on toilet non-sharing and open defecation.

The correlation between age and use of toilets (r=0.568, p-value=0.000) and improved excreta disposal (r=0.442, p-value=0.000) was significant. Age however correlated negatively with open defecation. The findings signified that older people were more likely to manage excreta more effectively compared to young children. Similar findings were reported in Kenya by where Elis et al. (2020) who found out that barriers to toilet utilization by children included beliefs that the faeces were not harmful.

Findings from the study also showed that the higher the education level, the higher were the chances of using toilets (p=0.816, p-value=0.000) and of proper excreta disposal (r=0.454, p-value=0.000). Findings also showed that literate people were less likely to practice open defecation. In Nigeria, a study by Ngene and Okwudiri (2016) also reported a direct relationship between awareness creation or increased level of education and safe faecal management. The relationship between gender and open defecation (r=0.328, p-value=0.000) and with use of toilets (r=0.191, p-value=0.000) was positive and significant which implied that the fact that one was a female or male influenced latrine use practices.

Regression results in Appendix I showed that beliefs and age significantly influenced human faecal management while knowledge showed a non-significant relationship with human faecal management (p>0.05).

Influence of Status of Human Faecal Management Facilities on Human Faecal Management

Based on the findings of the study shown in Table 4, when participants were asked to indicate whether faecal facilities were cleaned daily, al-

			Human Faecal Management		
			Use of Toilets	Open Defecation	Excreta Disposal
Social Factors	**Belief**	Pearson Correlation	.850**	.727**	.454**
		Sig. (2-tailed)	.000	.000	.000
		N	381	381	381
	Age	Pearson Correlation	.568**	-.741**	.442**
		Sig. (2-tailed)	.000	.000	.000
		N	381	381	381
	Education	Pearson Correlation	.816**	-.449**	.319**
		Sig. (2-tailed)	.000	.000	.000
		N	381	381	381
	Gender	Pearson Correlation	.191**	.328**	.117**
		Sig. (2-tailed)	.000	.000	.192
		N	381	381	381

Table 4: *Correlation between social factors and human faecal management*

most ¾ of the participants disagreed. Results also showed that many participants (45.7%) agreed and 28.6% strongly agreed that toilet cleanliness affected human faecal management options while 37.8% agreed and other 19.4% strongly agreed that the type of toilet facilities available in households affected people's willingness to use them. The findings signaled that majority of the toilets were used while dirty and that dirty toilets could be avoided for other options like open defecation as supported in the Focus Group Discussion where respondents argued that:

"Toilets were shared by all the tenants, and there was no one responsible for cleaning them, it was supposed to be done by us. Sometimes you could find that the toilet was so dirty that we opted for the bushes."

Findings signified that lack of cooperation was often attributed to a lack of clear responsibility or ownership of the facilities, with nobody taking charge of toilet cleaning or maintenance, hence leaving the facilities in deplorable conditions making it difficult for regular use. In Bangladesh, Saxton et al. (2017) also reported reduced toilet use as a result of poor maintenance.

Observation findings showed that more than 50% of the toilets were characterised with odour, flies and urine stagnation on floors and 23% were above 1 meter full at the time of survey. Respondents in the Focus Group Discussion revealed that it was difficult to excavate pits in the area because it was rocky and hard.

"Yes there are flies and there is nothing we can do. You will find a rock when you dig a few meters on the ground. It becomes difficult to use a jembe."

"sometimes back our toilet covers and holes were too small for emptying. We used the toilets the way they were"

More than 50% of the participants agreed that distance to toilets influenced their choice of human faecal management practices. It was observed that 83% of toilets had no lights, 53% had had incomplete superstructures either with broken doors or gapped walls which minimized privacy of users. Location of toilets far from the households and access to unlit toilets influenced disposal of human faeces in the open as residents feared visiting lonely places particularly at night. Participants in the Focus Group Discussion explained that:

"In our compound the toilet is located a bit far from where the main house is, so when it gets dark, I am usually scared of walking alone to the toilet, I usually opt to urinate or defecate behind the house since I am sure by morning animals would have fed on the excreta."

"Most do it outside at night since the toilets are not well lit. In some toilets even those who are passing through the road can see who is using them during the day because their walls are not complete. I would rather urinate on the toilet wall than run the risk of

	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree	Total
Our feacal facilities are usually cleaned daily	175 (45.9%)	108 (28.3%)	78 (20.5%)	10 (2.6%)	10 (2.6%)	**381 (100%)**
The cleanliness and hygiene of toilet facilities affect my human faecal management options.	10 (2.6%)	10 (2.6%)	78 (20.5%)	174 (45.7%)	109 (28.6%)	**381 (100%)**
The type of toilet facility available in my household affects my willingness to use it	8 (2.1%)	36 (9.4%)	119 (31.2%)	144 (37.8%)	74 (19.4%)	**381 (100%)**
The distance to the nearest toilet facility influences my choice of human faecal management practices	1 (0.3%)	46 (12.1%)	136 (35.7%)	149 (39.1%)	49 (12.9%)	**381 (100%)**

Table 4: *Status of Faecal Management Facilities Indicators*

			Human Faecal Management		
			Use of Toilets	Open Defecation	Excreta Disposal
Status of Faecal Management Facilities	**Availability & type**	Pearson Correlation	.689**	.945**	.505**
		Sig. (2-tailed)	.000	.000	.000
		N	381	381	381
	Distance	Pearson Correlation	-.508**	.221**	.076
		Sig. (2-tailed)	.000	.000	.141
		N	381	381	381
	Maintenance	Pearson Correlation	.829**	-.600**	.415**
		Sig. (2-tailed)	.000	.000	.000
		N	381	381	381

Table 5: *Correlation between status of faecal management facility and human faecal management*

being bitten by a snake inside a toilet that is not well lit."

Similar findings on ignorance of the available toilets for consideration of open defecation were also recorded in Turkana, Kenya, by Businei et al. (2019) where people particularly women avoided visiting toilets situated far from households in fear of sexual assaults at night. In Nigeria, inadequate privacy in toilets facilitated the practice of open defecation (Abubakar, 2017).

Correlation results shown in Table 4 indicated that availability and type of faecal management facility had a positive significant association with toilet use (r=0.689, p-value=0.000), open defecation (r=0.945, p-value=0.000), and excreta disposal (r=0.505, p=0.000). The correlation, r, between distance of toilets from households and use of toilets (-0.508) and open defecation (r=0.221) was significant ($p<0.05$). Maintenance of toilets recorded a positive significant relationship with use of toilets (r=0.829, p-value=0.000) and with excreta disposal (r=0.415, p-value=0.000) and a negative relationship (r=0.600, p-value=0.000) with open defection.

These findings suggested that the use of toilets, the practice of open defecation and excreta disposal was informed by the availability and type of faecal management facility used at the households. In addition, results signified that location of faecal management facilities far from households reduced chances of latrine use, and increased the likelihood of open defecation as echoed in a study by Businei et al. (2019) in Turkana, Kenya.

Similarly, results implied that high maintenance of faecal management facilities improved latrine use practices, reduced open defecation chances and increased proper excreta disposal.

Regression analysis shown in Appendix II revealed that a unit improvement in status of faecal management facilities improved human faecal management by 0.922 units (p-value=0.000).

Conclusion

People can ignore the available faecal management facilities even in their presence due to social factors and status of the facilties. Faecal management in Changamwe Sub-County is poor due to the influence of age, gender, beliefs, awareness or education level and status of available sanitation facilities.

Recommendations

The study recommended targeted interventions by the Government of Kenya through the Ministry of Health focusing on promoting educational initiatives to improve toilet utilization. The interventions should address the specific barriers and motivations related to age and beliefs for each faecal management practice. There is need for Public Health Officers to implement and adopt comprehensive awareness campaigns on importance of proper faecal management, appropriate faecal management practices and risks associated with open defecation targeting specific social groups. The messaging and delivery should be tailored to address the unique needs, beliefs, and cultural practices of different age groups and gender.

The County Government of Mombasa need to invest in the development and improvement of sanitation infrastructure, particularly in areas where access to toilets is limited. This includes ensuring the availability of clean and functional toilets, especially in public spaces and areas with high population density to enhance adoption of proper faecal management practices.

Future studies should establish more robust relationship between gender and faecal management practices to quantify the strength and significance of this relationship.

Competing Interests

The authors declare that there are no competing interests

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