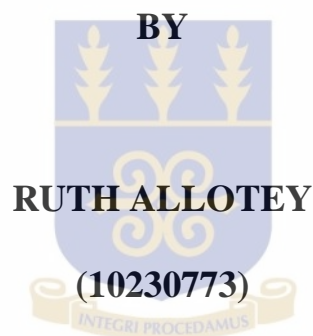


UNIVERSITY OF GHANA
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF BIOLOGICAL, ENVIRONMENTAL AND
OCCUPATIONAL HEALTH SCIENCES

BARRIERS TO SAFE DISPOSAL OF HUMAN EXCRETA IN PRAMPAM



**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF MASTER OF PUBLIC HEALTH DEGREE**

JULY, 2012

DECLARATION

I hereby declare that this dissertation is the result of my own work and that to the best of my knowledge, it contains no material previously published or written by another person nor material which has been accepted for award of any degree or diploma of University or other institution of learning except where due acknowledgement is made in the text.

.....
Ruth Allotey
(MPH Student)

.....
Date



.....
Dr. Mawuli Dzodzomenyo
(Supervisor)

.....
Date

DEDICATION

This work is dedicated to the Almighty God for his loving mercies on me. I also dedicate it to my husband Mr. Frederick Quarcoo, and my son Theodore Quarcoo. To my parents Miss Agnes Foley and Mr. Daniel Adjai, my siblings Michaelina, Kobina Enyawosika and all other family members especially Ama. I love you all.



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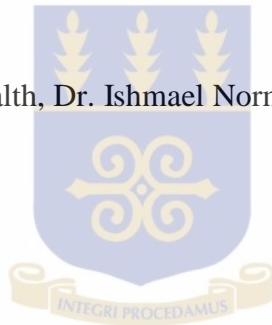


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ABSTRACT

INTRODUCTION: Safe disposal of human excreta is a major Public Health concern since improper disposal of human excreta can lead to an outbreak of excreta related problems.

Improving human excreta disposal, hygiene and water supply prevent at least 9.1% of the global disease burden and 6.3% of all the deaths. In Ghana, diseases such as cholera and dysentery have resurfaced; therefore a look at the barriers to safe disposal of human excreta can play an important role in reducing the menace.

OBJECTIVES: The study was conducted to assess the physical, social and cultural barriers to safe disposal of human excreta in Prampram.

METHOD: This was a cross-sectional study among 200 participants who were conveniently sampled from the four communities in Prampram. Quantitative data was collected using structured questionnaire. Qualitative data was also collected using twelve in-depth interviews.

RESULTS: The findings from the study showed that majority of the respondents (81%) had no toilet facilities in their places of residence. There was limited number of toilet facilities in the district. More than half of the toilet facilities were well ventilated. There were some beliefs such as “children faeces are not harmful” and “defecating at the beach is equivalent to a flush toilet” that promote unsafe disposal of human excreta. Also, payment for the use of toilet facilities, cost involved in the construction of toilet facilities as well as dislodgement of excreta contributed largely to unsafe disposal of human excreta. There was a significant relationship between levels of education and the use of toilet facility ($\chi^2 = 47.36$, $p < 0.01$), implying that people with low level of education tend to use the beach for human excreta disposal.

CONCLUSION: The results indicated that safe disposal of human excreta in study area is inadequate due to limited access to toilet facilities, some beliefs and finance. Measures should therefore be put in place by all members of the community including stakeholders to help improve sanitation in Prampram.

CHAPTER ONE

1.1 INTRODUCTION

Human excreta, such as urine and faeces are discharged from the body. They are usually referred to as the by-product of metabolism. Faeces and urine are the two main products when human excreta is mentioned. Human excreta is a potential resource and contain nutrients such as Nitrogen Phosphorus Potassium (N.P.K) and organic matter. They are widely used as fertilizer and soil amendment in both developed and developing countries. Apart from the direct use of urine as medication to treat ailments like swollen ankles and feet, burns from the fire, eye infections and spots on the skin (Duncker, 2007), human excreta has for many years served as a source or organic manure for farmers. This may date back as far as 3000 years ago according to Chinese history (Shiming, 2002). It has also served as a source of fuel through the production of biogas.

However, human excreta is one of the main sources of microbiological pollution. One gram of faeces can contain 10,000,000 viruses, 1,000,000 bacteria, 1000 parasites cysts and 100 parasites (UNICEF, 2000). Therefore unsafe disposal of human excreta can cause diseases such as endemic diarrhoea, intestinal helminthes, giardiasis, schistosomiasis, trachoma, among other globally important infections (Bartram & Cairncross, 2010). Several factors are responsible for the unsafe disposal of human excreta. These factors include social, physical and economic. Social barriers identified in some studies include superstition (where it is believed that accumulation of toilets at a place brings bad luck), children's faeces are not harmful, loss of respect for using a shared facility, fear of loss of unborn children in the case of pregnant women, lack of social support, non-enforcement of environmental laws, the need to pay for using the toilet facility and believe that toilet facility is of western origin (Zombo, 2010).

Physical issues that influence unsafe human excreta disposal are lack of toilet facilities, lack of space, and condition of the toilet facilities, durability and neatness, topography of the

community, proximity of the toilet facility to their homes, availability of water especially for users of water closet, physical ability of the people who use the toilet for example children and the aged, ventilation (the room is usually very warm) and limited number of toilet facilities, long queues at communal toilet facilities as well as poor maintenance of these facilities, smell and heat (Water Aid, 2008).

Economic barriers to safe disposal of human excreta include poverty, inadequate funds to build new and to sustain existing structures (Dittmer, 2009). Safe disposal of human excreta refers to access to improved excreta disposal facilities. Improved facilities mostly found around the world include the indoor water closets mostly found in the developed world and at urban centers and institutions within the developing world. According to Howard et al, 2002, other improved facilities are the cartage, pit latrines with slabs, sanplat, Very Improved Pit, pour-flush among others. In most sub-Saharan African countries, 31 percent of the population use shared sanitation facilities like public toilets as a means of reducing open defecation and thereby controlling its consequences (WHO/UNICEF, 2010).

In Ghana, recommended human excreta disposal facilities are the water closet and septic tank system, the pour flush latrine, the ventilated improved pit latrine (VIP), the aqua privy, and any other proven technologies recommended by the Ministry of Local Government and Development (MLGRD). However, according to WHO/UNICEF Joint Monitoring Programme (JMP) only 10% of the population in Ghana use improved toilet facility. About 20% of Ghanaians defecate in drains, fields, streams, the bush and the beaches (WSMP, 2008).

Prampram is the largest sub-district of the Dangme West district. The community faces sanitation problems such as safe handling and disposal of human excreta. Toilet facilities in the district do not often meet the standards of improved latrines and waste disposal methods are not

hygienic or environmentally safe. Even though approximately 21% of households use unimproved pit latrines, a large proportion of households, about 43%, have no toilet facility therefore use the bush, beach or field for open defecation (WHO, 2006; Kjellen, 2001). This study therefore seeks to document the barriers that hinders safe disposal of human excreta in Prampram. This information would be used to help improve sanitation in Prampram.

1.2 Statement of the Problem

Generally, availability of sanitation facilities in Ghana is low and according to the WHO/UNICEF Joint Monitoring programme, only 10% of the population of Ghana use improved toilet facility (WHO/UNICEF, 2010). In addition, about 20% of Ghanaians defecate in drains, fields, streams, the bush and the beaches (WSMP, 2008).

Prampram is a rapidly developing peri-urban community and according to recent findings, about 57% of the population has toilet facilities in their homes (WHO, 2006; Kjellen, 2001). This therefore implies that most of the population of Prampram has access to a sanitation facility, but anecdotal reports indicate that most of them prefer to defecate along the beach and other places for social and traditional reasons. Recent studies have confirmed that majority of the population (73%) defecate on the beaches, where they think it is more appropriate (SUSA, Baseline study, 2011).

Reports from the Dodowa Health Research Centre also indicated that diseases such as schistosomiasis and diarrhoea are among the top 10. These are associated with unsafe disposal of human excreta. There is therefore the need to assess reasons that contribute to the unsafe human excreta disposal in this peri-urban community. This study therefore seeks to document the physical, social and economic barriers that hinders safe disposal of human excreta in Prampram.

1.3 RESEARCH QUESTIONS

The following questions were addressed in this study to achieve study objectives:

- What are the physical barriers to safe disposal of human excreta?
- What are the social barriers to safe disposal of human excreta?
- What are the economic barriers to safe disposal of human excreta?

1.4 CONCEPTUAL FRAMEWORK

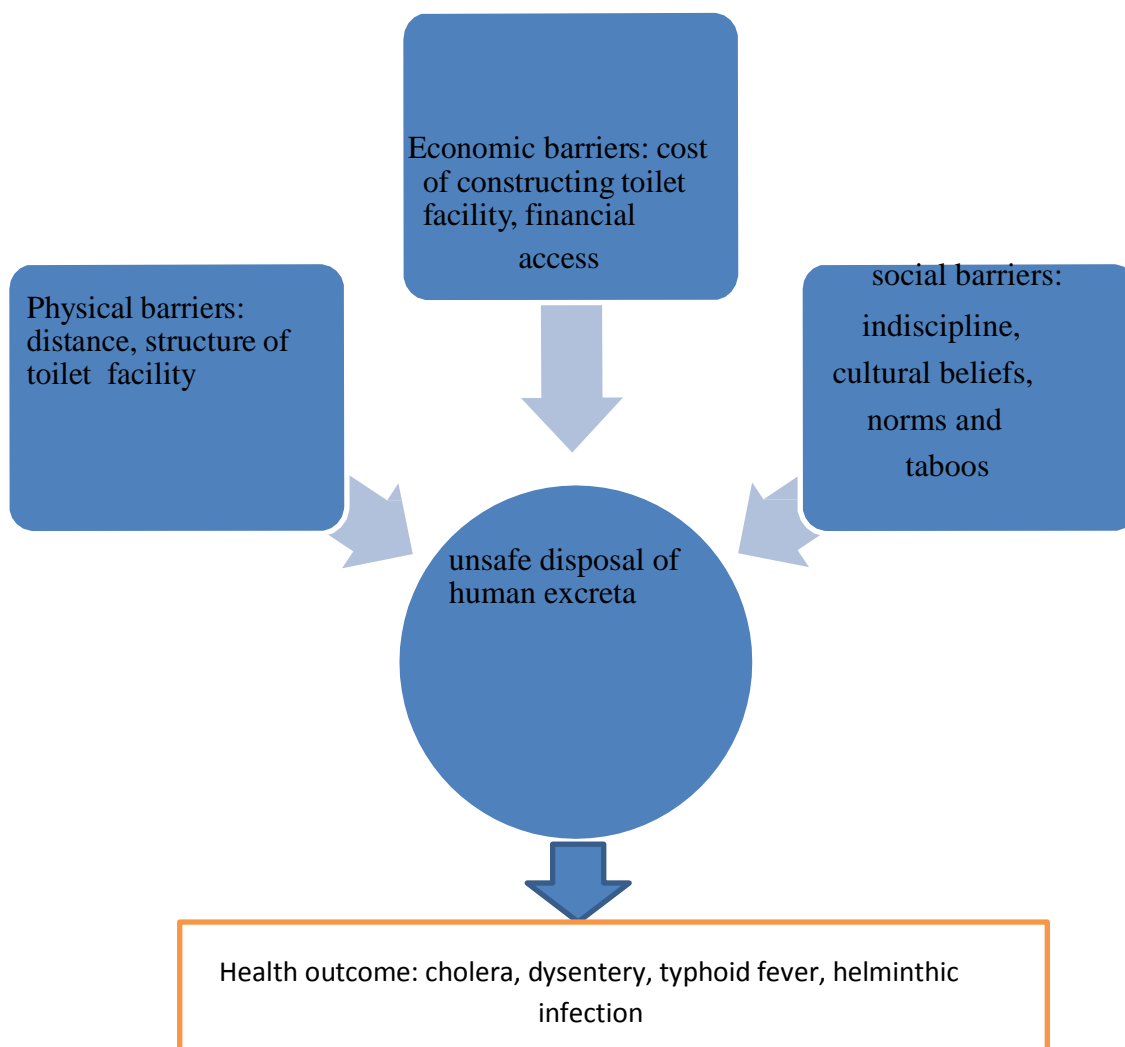


Figure 1.1: Conceptual Framework

1.5 Justification

Prampram, a peri-urban community is being challenged with effective management of human excreta due to the rapidly growing population. Though toilet facilities are available for use by majority of the population, most of the residents prefer open defaecation practices. A review of hospital records in Prampram, indicated that diarrhea in children is the third leading health event among the top ten diseases for the year 2011(Prampram Hospital Report). This may partly be associated with poor sanitation as reported in most studies (Mara, Lane, Scott & Trouba, 2010). In order to propose suitable interventions to reduce excreta- related morbidity, there is the need to assess the factors that contribute to unsafe human excreta disposal, which this study seeks to do. Conducting this study will help reduce the burden of diseases associated with unsafe disposal of human excreta.

1.6 General Objective

The main aim of the study is to determine the barriers to safe disposal of human excreta in Prampram

1.7 Specific Objectives

1. To determine the social barriers to safe disposal of human excreta in Prampram
2. To determine the economic barriers to safe disposal of human excreta in Prampram
3. To determine the physical barriers to safe disposal of human excreta in Prampram

CHAPTER TWO

2.0 LITERATURE REVIEW

This section provides a review of existing literature that relates to sanitation. For the purpose of this dissertation, the term sanitation has been replaced with human excreta (faeces and urine) disposal as seen in some of the literature reviewed.

2.1 Barriers to Safe Disposal of Human Excreta

In most developing countries, people engage in unsafe disposal of human excreta. Factors contributing to these negative practices can be broadly classified as social, physical and economic.

2.1.1 Social Barriers

These are barriers that involve cultural norms, taboos or values as well as some human attitudes that make people resort to unsafe human excreta disposal methods. Zombo (2010), reported on some beliefs and taboos obtained from a community leader in Bakeh curve, Koya chiefdom, Port Loko district of Sierra Leone during a Community-Led Total Sanitation programme. According to the community leader “*Shit gathered in the same place kills and brings bad luck to the village*”. Also, in the north and southern part of Sierra Leone, the communities believe that one should not sit over someone else’s shit because it will lead to bad luck.

Again in the southern and eastern part of Sierra Leone, it is believed that anyone who falls into a latrine will either die or go mad or never again be sober. As a result of this, weak people (sick and the elderly) and children not allowed to use the latrine. Other beliefs and taboos include: children’s faeces are not harmful; loss of respect should in- laws ease themselves in the same place; pregnant

women losing their unborn children if they use the latrine as well as death from the heat of the latrines. These beliefs and taboos prevented them from building toilet facilities.

A study conducted by Water Aid (2008) on consumer's attitude and practices in regard to use of sanitation facilities which employed a qualitative approach and using nine focus-group discussions in Kampala revealed cultural norms, for instance, "*the traditional people fear the use of modern toilet*", was one of the factors that contributed to poor sanitation in the community.

As reported by some communities in Sierra Leone, the people of Kampala also believe that pregnant women should not use the toilet because of fear of the death of the foetus. In Ghana a study conducted by Water and Sanitation Sector Monitoring Platform (WSMP, 2008), on factors that contribute to the high incidence of unsafe human excreta disposal include absence of clean household or public latrines and ignorance of the harmful effects of unsafe human excreta disposal such as, open defecation. In addition, some people simply prefer the bush, the beach, or any open field for the simple reason that those places are more airy and convenient. There are others who do not want to add their faeces to those of others in one pit for several superstitious and cultural reasons. Non enforcement of environmental laws is also a major factor.

A study conducted on open defecation in rural communities and the cultural values that reinforce its practice in four West African countries — Burkina Faso, Ghana, Mali, and Nigeria revealed that the practice of open defecation was surrounded by cultural taboos and beliefs particular to many of the ethno-linguistic groups who live there (Water Aid, 2008).

While total sanitation techniques such as Community-Led Total Sanitation (CLTS), have been generally successful in some parts of West Africa, some communities engaged by Water Aid are particularly resistant to abandoning open defecation. They stick to unsafe means of human excreta disposal due to some of the cultural taboos and beliefs including embarrassment when one is seen walking in the direction of a toilet facility, unpleasant smell, ownership of a toilet

facility is for the rich, fear of demon possession associated with the use of a public toilet facility, a means to continue tradition and indiscipline on the part of traditional authorities.

A study by Arku (2010) shows that about 92% of the respondents believed that clean water is more important than toilet facilities. Again, some of the respondents reported that they do not think they should pay upon every use and also it is not part of their culture to pay money to use toilet facilities.

Yanore (1995) revealed that in Bolgatanga, people have less priority for safe disposal of human excreta compared to safe drinking water.

The impact of social norms on safe disposal has also been identified by Devine (2010). The author discovered that people imitate others (defecating indiscriminately) thinking that it is good practice. In addition to this belief, is the role of social support in safe disposal of human excreta. The old, weak and or sick people who do not get support from relatives or others end up disposing their excreta badly.

Again, Mafuya (2010) also realized from the study some social challenges to safe disposal of human excreta. The study revealed that most of the people in the rural community believe that the toilet facility is of Western origin and therefore prefer using the bush.

2.1.2 Physical Barriers

In Kampala, Water Aid (2008) identified some physical barriers inhibiting safe disposal of human excreta. These barriers include lack of toilet facilities, lack of space, and condition of the toilet facilities: durability and neatness, topography of the community, proximity of the toilet facility to their homes, availability of water especially for users of water closet, physical ability of the people who use the toilet, ventilation and limited number of toilet facilities.

Songsore and Stephens (2008) reported that insufficient communal toilets often lead to open

defecation along beaches, drains, and open spaces. Furthermore, open defecation is often due to long queues at communal toilet facilities as well as poor maintenance of these facilities. According to Dittmer (2009), Smell, heat and maintenance, safety of the structure and environmental constraints were the physical barriers to safe disposal of human excreta in selected countries in West Africa.

Devine (2010), documented that factors such as limited resources (toilet facilities) together with quality of structures as the main physical barriers to safe disposal of human excreta in East Java. The people of East Java practice “flying toilet”, that is, open defecation due to limited number of toilet facilities. The few toilet facilities available are also of poor quality according to the people of East Java. Quality of toilet has to do with durability, proper ventilation, clean environment and pleasant odour. Mafuya (2010) investigated the perceived sanitation challenges among rural communities in Eastern Cape to determine the perceived structural, economic, educational, social and technological sanitation challenges in the rural communities of the Eastern Cape. The study involved 122 participants. Perceived structural challenges identified in the study were inadequate facilities that are mostly weak. This makes the community members to prefer open defecation. In addition to limited and poor facilities, is the lack of water supply.

2.1.3 Economic Barriers

Economic barriers to safe disposal of human excreta have also been reported by researchers in some communities around the world.

In some countries in West Africa, farmers who could not afford chemical fertilizers encourage defecation in their fields, as it is a ready and cheap source of fertilizer. Building latrines in these

communities is perceived as depriving growers of a useful—although hazardous—resource (Dittmer, 2009).

In some selected communities in Ghana, poverty was also mentioned as a typical barrier to safe disposal of human excreta in a study by (Water Aid, 2008).

Songsore and Stephens (2008) also reported on the economic barriers to safe disposal of human excreta. According to them, one of their respondents said “We are poor people and so have to think about daily survival. We pay 80 pesewas per visit to the public toilet. My six children and I pay 1.680 cedis a day on toilet alone”. It therefore explains why residents in Jamestown engage in in open defecation at the beach.

The role of economic issues in determining improved sanitation was also captured by Devine (2010). The results demonstrated the influence of finance on sanitation. Households with strong financial pressures usually place less value on sanitation or are motivated to acquire a toilet facility. Mafuya (2010) reported that lack of funding was the major economic factor contributing to safe sanitation. There were inadequate funds to build new and to sustain existing structures.

2.2 Health Implications

Diarrhoeal diseases are the most important of the faeco-oral diseases globally, causing around 1.6–2.5 million deaths annually, many of them among children under 5 years old living in developing countries. (Bartram & Cairncross, 2010; Mara, Lane, Scott & Trouba, 2010). Helminthes infection also results from poor sanitation. Ascariasis and other Neglected Tropical Diseases are some examples of diseases due to poor sanitation. It is estimated that there are 1000 hookworm and whipworm in human excreta. The helminthic infections usually cause anaemia and debilitating conditions. Diarrhoeal and helminth infections inhibit digestion and

absorption of food nutrients in children retarding their growth and total development (UNICEF, 2000).

Other health issues related to poor sanitation includes: malnutrition leading to both childhood and maternal underweight and acute respiratory infections. Poor sanitation together with hygiene and water are responsible for about 50% of the consequences of childhood and maternal underweight, primarily through the synergy between diarrhoeal diseases and under nutrition, whereby exposure to one increases vulnerability to the other. A recent study reported that 26% of acute lower respiratory infections among malnourished children in rural Ghana may have been due to recent episodes of diarrhoea. Thus, sanitation could be a powerful intervention against acute respiratory infections (Mara, Lane, Scott & Trouba, 2010).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Type of Study

The study is a descriptive cross-sectional study. A combination of both quantitative and qualitative data collection techniques was used. Structured questionnaires were used for the quantitative data while in-depth interview guides and observational checklists were used for the qualitative. Data was collected on the economic, social and physical reasons for which people practice unsafe excreta disposal methods in Prampram

3.2 Study Site

The study was conducted in four communities in Prampram. Prampram is one of the four major sub districts under the Dangme West District. The others include, Dodowa, Osuwem and Old Ningo. The district is the largest in Greater Accra Region, occupying about 41.5% of the land area (1442sq km).The district is predominantly rural. About 65% of the labour force is engaged in crop farming, fishing, livestock, and forestry.

Prampram is a fishing community on the South Atlantic Ocean, about an hour's drive east of Accra. It is located on Latitude 5.7° and Longitude 0.1166667°. It has a total population of 7,203 and the main communities include Kley, Olowe, Lower East and Lower West with average population of 1,446, 1,507, 2,837, and 1,413 respectively. (Dodowa Health Research, 2011).Lower East and Lower West are along the coast.

3.3 Sanitary facilities at the Study Site

Olowe community has 2 public KVIPs (1 not in use currently), one privately operated public KVIP, Public garbage disposable site (near the public KVIP), two schools with toilet facilities, one 3-wheeled garbage collection van (for domestic waste collection) and some domestic toilet facilities (both KVIPs and flash toilets) (Dodowa Health Research, 2011; WP4 baseline report, 2012).

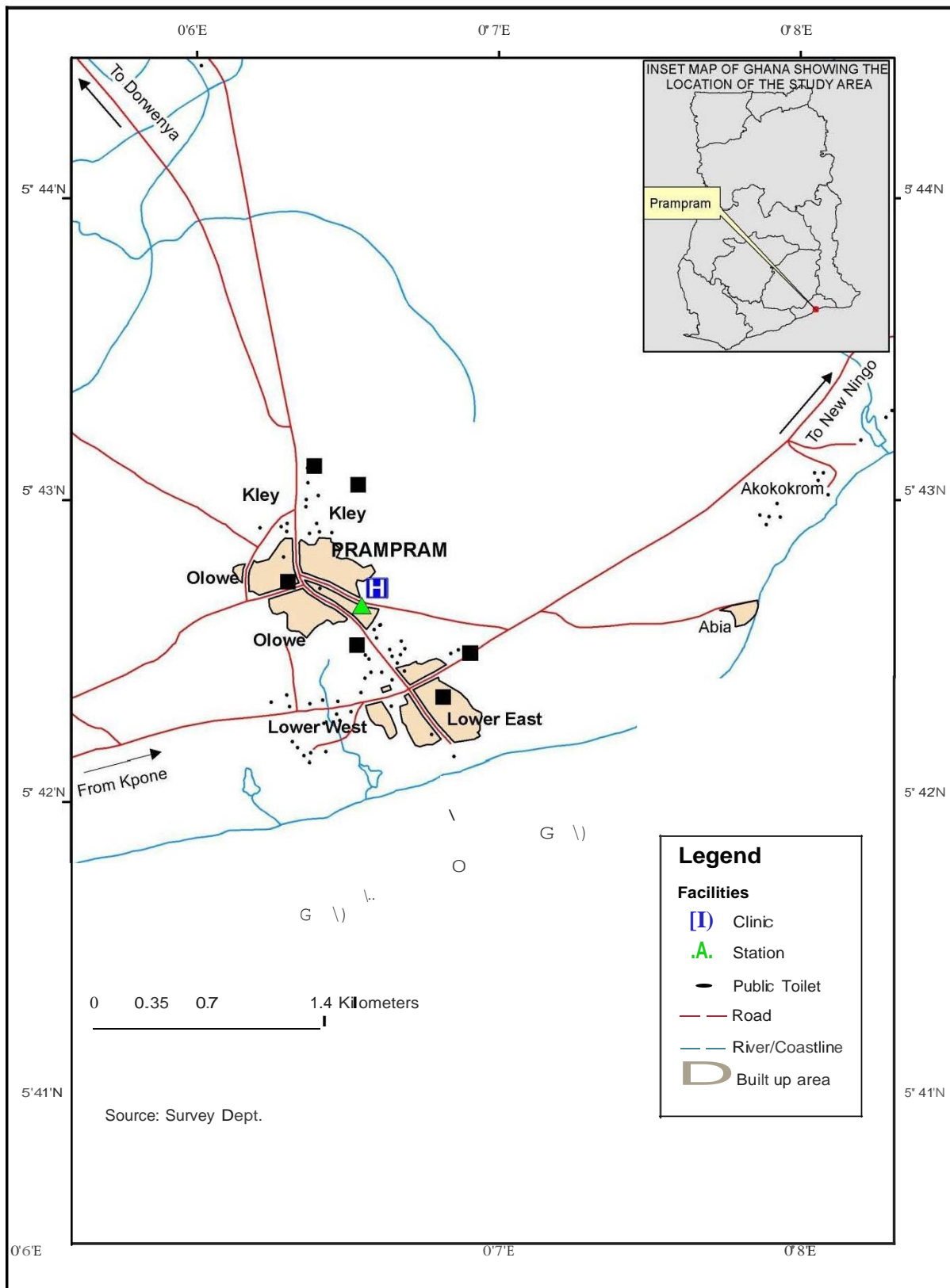
Kley has two public KVIPs (one privately operated) and two school KVIPs now open to the public (at D/A Basic school – A). In spite of these, residents usually use an old cemetery and nearby bushes for open defecation. Even though there is a 3-wheeled van (for domestic waste collection) indiscriminate disposal of household waste continues. Some domestic toilet facilities (both KVIPs and flash toilets) are also available (Dodowa Health Research, 2011; WP4 Baseline report, 2012).

Lower East on the other hand is endowed with three public KVIPs (one under construction), a school with a toilet facility, a dumping site at the beach, 3-wheeled van (for domestic waste collection) and some domestic toilet facilities (both KVIPs and flash toilets). However, the people practice unsafe methods of excreta disposal such as open defecation along beach and bush and also randomly dispose of in the sea, household waste collection receptacles and polythene bags (Dodowa Health Research; WP4 Baseline report, 2012).

In Lower West, as in the case of the other three communities, residents in this community also practice open defecation at nearby bushes and the beach. They also indiscriminately dispose of household waste into the sea and bushes around even though they have more toilet facilities both private and public. The community is endowed with two functioning public

toilets, two school toilet facilities, a dumping site at the beach, 3-wheeled van (for domestic waste collection) and some domestic toilet facilities (both KVIPs and flash toilets) (Dodowa Health Research, 2011; WP4 Baseline report, 2012).

FIGURE 3.1: MAP OF THE STUDY AREA- PRAMPARAM



3.4 VARIABLES

3.4.1 Background

The background variables include Age, sex, marital status, level of education, and place of residence.

3.4.2 Dependent

The dependent variable is safe disposal of human excreta.

3.4.3 Independent

The independent variables include the barriers to safe disposal of human excreta which for this study includes physical, economic and social.

3.5 Study Design

The study design was a cross-sectional study, conducted between May and June, 2010 using both quantitative and qualitative methods of data collection.

3.6 Study Population

The study population for this study comprised of residents living in the four communities of Prampram. It has a total population of 7,203 people and the main communities include Kley, Olowe, Lower East and Lower West with average population of 1,446, 1,507, 2,837, and 1,413 respectively (Dodowa Health Research, 2011).

3.7 Sample Size

A sample size of 200 was used for the quantitative data while twelve key members of the community were selected for in-depth interviews.

3.8 Determination of Sample Size

Since the proportion of those who use KVIP in all the communities is not known, the conventional 50% population proportion was estimated. Also a confidence level of 95% and 0.07 margin of error was used for the sample estimate. Below is the detail computation.

The formulae for calculating the sample size by the proportions approach is given by:

$$n = \frac{Z^2 * (p * q)}{\epsilon^2}$$

Where

n is the overall sample size

Z is the critical value of the 100(1- α) % under the normal distribution curve

P is the population proportion of users of the KVIP in all the communities

q is the population proportion of non-users of the KVIP in all the communities (i.e. 1-p)

ϵ is the margin of error.

Now,

Z= 1.96, p = 0.5, q = 0.5 and ϵ = 0.07(7%)

$$n = \frac{1.96^2 * (0.5 * 0.5)}{0.07^2}$$

$$n = \frac{1.96^2 * (0.25)}{0.07^2}$$

$$n = \frac{0.9604}{0.0049}$$

$$n = 196 \approx 200$$

Therefore a sample size of 200 was obtained for the study.

The proportion of the sample size to population size $\frac{n}{N} = \frac{200}{7203}$

$$= 0.0278$$

Since the proportion of the sample size to the population size is less than 0.05, there was no need for the finite population correct factor. Hence, the sample size of 200 was maintained.

3.9 Allocation of the Sample size across Strata

The allocation of the sample size across the strata was done using the proportional allocation method which assumes that there is equal variability within each strata and the cost of sampling in each strata is equal. Below is a detail computation for the allocation of the sample size across the strata (h) - various communities.

The formulae for the h^{th} sample size is given by

$$n(h) = n \left(\frac{N_h}{\sum N_h} \right)$$

where $n(h)$ = number of each strata, n = sample size = 200, N_h = total number of each strata, were 1446, 1507, 2837 and 1413 represent population of Kley, Olowe, Lower east and Lower west respectively and $\sum N_h$ = total number of strata (communities) = 7203

Therefore,

$$n(\text{Kley}) = 200(1446/7203) = 40.14 \approx 40$$

$$n(\text{Olowe}) = 200(1507/7203) = 41.84 \approx 42$$

$$n(\text{Lower east}) = 200(2837/7203) = 78.77 \approx 79$$

$$n(\text{Lower west}) = 200(1413/7203) = 39.23 \approx 39$$

Hence out of the overall sample size of 200, 40 respondents were selected from Kley, 42 from Olowe whilst 79 were taken from Lower East and 39 from Lower West.

3.10 Sampling Method

A proportional stratified sampling technique was used to sample participants for the study. Convenience sampling method was then used to select from each stratum to get the required sample size ($n=200$).

3.11 Data Collection Techniques/Methods and Tools

Both qualitative and quantitative methods were used for the study. For the quantitative study, both close and open-ended questionnaires were designed and administered to selected respondents. Qualitative data was collected using in-depth interviews. For respondents who were illiterates, questionnaires were explained to them in their native language and their responses recorded and

transcribed.

Statistical data from hospital records and Dodowa Health Research centre were also collected and analyzed for assessment of morbidity.

3.12 Quality Control

Proper supervision was carried out while research assistants were carrying out field work. Completed questionnaires were checked for correctness. Two independent people were employed to enter data and the output was compared to ensure accuracy. A thorough review was done after each day's work and problems that need to be addressed were done immediately.

3.13 Data Processing and Analysis

The data was checked for distribution and outliers. The questionnaire was coded in Statistical Package for Social Sciences (SPSS) version 17; descriptive statistics was done to derive numerical and non-numerical data presentation models including, graphs, tables and frequencies among others for the quantitative data. For the qualitative, data was coded according to the objectives. Grouping of the coded data was done according to themes after reading through. Also, data was checked for consistency. A neutral person analyzed a third of the data and found a confidence rate of 80%. The recorded interviews were transcribed for the qualitative study and used in write-up under specific themes.

3.14 Ethical Consideration

Approval for this study was obtained from the Institutional Review Board (IRB) of the Ghana Health Service. Also, permission to conduct the study was obtained from the Chiefs, Elders,

Opinion leaders, Assemblymen and key informants within the community.

The participants were assured of confidentiality and privacy. They were not required to indicate their names on the questionnaires to ensure anonymity.

3.15 Pretesting

The questionnaires used for the study were tested among residents in Chorkor, a suburb of Accra which has similar characteristics as the study area. The questionnaires were found to be reliable.

3.16 Limitation of the Study

- Due to the sensitivity of the topic some people shield away from participating in the research hence more time was spent in the field.
- Conclusions might have been more robust if water accessibility data was collected and analyzed alongside but this was not possible due to limited time.
- Due to time constraints, convenience sampling method was used even though simple random sampling was proposed for the study.

CHAPTER FOUR

4.0 RESULTS

4.1 OVERVIEW

This chapter presents the findings of the study in relation to the study objective. The socio-demographic characteristics of the study participants interviewed, physical, economic and social barriers are presented.

4.2 Socio- demographic characteristics of participants at Prampram

Table 1 shows the demographic data of the study participants. Out of the 200 participants 61% were females and 39% were males. In terms of marital status 71% were married, 14% were single and 7% divorced. The data revealed that while 36 % of them had no formal education, 33% had primary education. Although only 4% had tertiary education, 27 % had secondary education. Most of the respondents (34%) were engaged in trading. Whereas only 2% of the respondents were farmers, 26.5 % of them are into fishing and fish mongering. Larger percentages (95%) of the respondents were Christian while 2% were Muslim. The findings also showed that 87% of the respondents were of the Ga- adangbe ethnic group while 5% of them were Gas and the rest of them belonged to other ethnic groups. Also, 47% of respondents lived on more than 200 Ghana cedis and 12% earned less than 50 Ghana cedis a month. Refer to Table 4.1 for details.

Table 4.1: Background characteristics of study participants in Prampram (N=200)

Characteristics	Frequency	Percentage
Sex		
Male	78	39.0
Female	122	61.0
Marital status		
Single	28	14
Married	142	71
Widowed	16	8
Divorced	14	7
Education		
Informal	73	36.5
Primary	66	33.0
Secondary	54	27.0
Tertiary	7	3.5
Occupation		
Fisherman	36	18
Farmer	4	2
Fishmonger	19	9.5
Trader	68	34.0
Artisan	22	11.0
Other	51	25.5
Religion		
Christian	190	95.0
Muslim	2	1.0
Traditional	8	4.0
Ethnicity		
Ga-adangbe	173	86.5
Ga	10	5.0
Other	17	8.5
Income level (n=185)		
<50	23	12.4
50-100	50	27.0
101-200	26	14.1
>200	86	46.5

Table 4.2: Education and toilet usage

Educational level	Toilet usage					χ^2 value	p value
	Public toilet	free range	at beach	wrap and throw	Others		
No formal education	16	10	32	0	7	47.36	<0.01
Primary	18	6	21	0	6		
Secondary	15	3	16	0	8		
Tertiary	1	1	0	1	1		
Total	50	20	69	1	22		

The results also demonstrated there was a statistically significant relationship between level of education and the type of toilet facility ($\chi^2 = 47.36$, $p < 0.01$). This has been presented in Table 4.2.

This implies that respondents with no formal education tend to use the beach more.

4.3 Physical barriers to safe disposal of human excreta

The distance through which an individual travels before reaching a place of convenience was a barrier to safe disposal of human excreta. This study established that almost half (49%) of the respondents walked about five to 10 minutes before reaching their places of convenience. Also, about a fifth (20%) of the participants had their places of convenience within the house in which they reside (Figure 4.1).

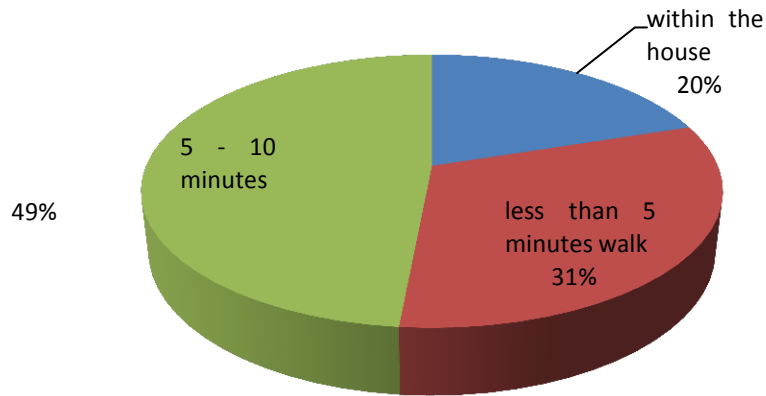


Figure 4.1: Distance travelled by respondents

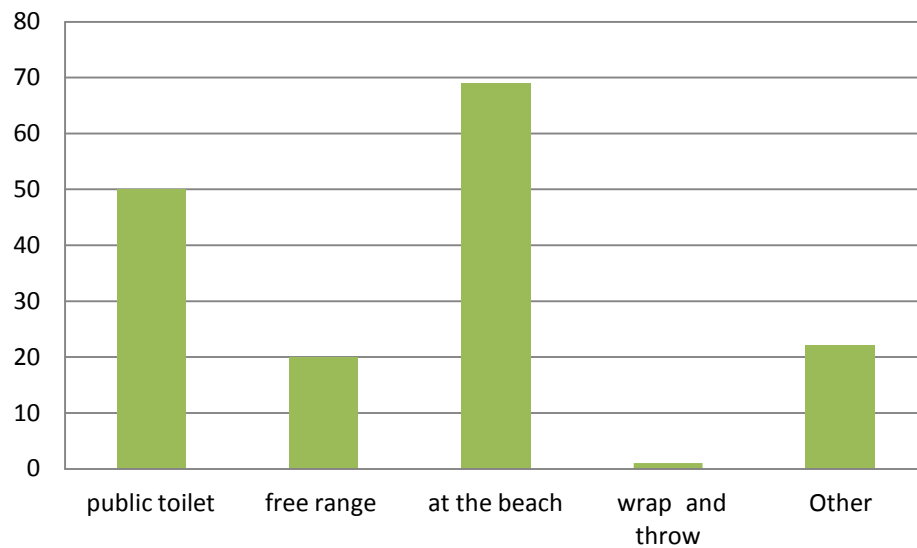


Figure 4.2: Human excreta disposal sites used by respondents

About 34.5% of respondents used the beach as a place of excreta disposal while 25% used public toilet and 10% used free range.

Table 4.3: Physical barriers to safe disposal of human excreta in Prampram

Barriers	Frequency	Percentage
Cleaners (n=116)		
Adults	83	71.6
Children	8	6.9
Youth	25	21.6
Lightening system	68	36.6
Ventilation	125	66.8
AMA's toilet policy	24	12
Presence of insects and other	42	21

In terms of cleaning the facilities, adults were the majority, followed by the youth and finally children. For lighting, 63% of the respondents reported that their toilet facilities had no light. In-Depth interview revealed that most of the toilet facilities are strong and are made of cement block.

“The facilities are very strong and they are going to last for so many years.”(Assembly Man)

Again, 21% said insects and other organisms such as ants, snakes, cockroaches, houseflies, lizards and scorpions were present in their facilities. The findings also showed that 12% of the respondents have heard of the Accra Metropolitan Assembly's policy on sanitation (a toilet per household). However, personal communication with some members of the community revealed that, it will be very difficult for that policy to be implemented at the area because of the presence of beach and some excreta disposal attitude of residents.

4.4 Economic barriers to safe disposal of human excreta

Table 4.4 shows how much money is paid for using a toilet facility in the study area. It can be seen that most of the people (59%) pays 10 pesewas before they can use a toilet facility. Only 4% of them pay 50 pesewas for usage.

Table 4.4: Amount of money paid for using a toilet facility

Amount paid	Frequency	Percentage (%)
10	40	58.82
20	11	16.18
30	4	5.88
40	10	14.71
50	3	4.41
Total	68	100.00

The In- depth interview also confirms the above and can be seen in the following lines:

“That is what I said 20 pesewas for children and adult.”

“At some places they take 20 pesewas and some 10 pesewas.”

These amounts of money were expensive for them, so they prefer open defecation since that is free. This is supported by the following people in the comments below:

“When you look at the public toilet there are little funds that come from the place which is used for other developments in the community and is not everyone that can get the money to pay for the toilet. Others don’t even have 10 pesewas to pay for the toilet so such people only have the option to defecate in polythene bags after which they throw them anywhere or in the bush.”- The

Chief fisherman.

“When you look at the amount paid at the public toilet, I have four kids and cannot afford to pay for all of them any time they want to defecate whiles I can save that money to buy kenkey for them”-

A fishmonger.

The cost of construction of toilet facilities as well as the dislodgement of the toilet was revealed by the

respondents as part of the problem. A community member said:

“I think of late, the price is going high and if they could be given a fixed rate they will prefer safer means of excreta disposal”

Table 4.5: Proximity of place of convenience to households

		Facility type				χ^2	P value
		public toilet	Free range	at the beach	Wrap and throw		
Proximity	within the	1	2	1	0	16.11	0.001
	less than 5	28	6	22	1		
	minutes' walk						
	5 - 10 minutes	21	12	46	0		
	Total	50	20	69	1		

There was a statistically significant relationship between distance of household and the choice of facility used ($X^2 = 16.11$, $p < 0.01$). This implies the closer the facility type the higher the patronage.

Table 4.6: Dependency and toilet usage

		Facility usage					χ^2	P value
		Public toilet	Free range	At the beach	Wrap and throw	Other		
Dependency	1-3	15	2	32	1	14	40.56	<0.01
	4-6	25	5	15	0	5		
	7-10	4	1	9	0	0		
	10+	6	12	13	0	3		
		50	20	69	1	22		

There is a statistical significant relationship between household size and choice of place of excreta disposal ($X^2 = 40.56$, $p < 0.01$). The result however shows that household size has no influence on the cost of the facility used. Other factors other than finance may influence indiscriminate human excreta disposal.

4.5 Social Barriers

Some of the social factors that influenced unsafe human excreta disposal include lack of social support, ignorance, and discomfort associated with the use of available means of human excreta disposal.

The following lines captured from the in depth interview support the above findings:

*“Actually they don’t even regard the toilet as anything bad to their health that is why they drop it anywhere ”*Head teacher -Prampram

“We prefer going to the shore because it is the same like the flush toilet. The sea waves come to take them (faeces) away after we have finished” - The chief fisherman

“As for children, their faeces are nothing, so I pour water in them and throw them away on the

compound”- A fishmonger

“For the old children sick and weak that cannot sit or squat they resort to wrapping faeces in the rubber and throwing it away”. (Government appointee Lower Prampram)

“We prefer the beach to the public toilet because it is more convenient and airy (Taxi Driver)

HEALTH IMPLICATIONS

Eighty percent of respondents mentioned that diseases such as diarrhoea, helminth infection and malaria are common health problems that commonly affect them

CHAPTER FIVE

5.0 DISCUSSION

This cross sectional study was designed to determine the physical social and economic barriers to safe disposal of human excreta in Prampram. Findings from this study have practical implications for policy formulation and improvement of sanitation as a whole.

5.1 Physical Barriers

Despite the AMA's policy on a toilet facility per household, yet inadequate excreta disposal facilities is a growing burden and an environmental threat. Findings from this study showed that 80% do not have toilet facilities in their homes. This compares with the national figure of 91% of the population without access to improved sanitation.

Even though almost 50% of the respondents claim they took about 5 minutes' walk to their places of convenience, an assemblyman of one of the communities disclosed that there was only one toilet in their community and that residents walk about 2-5Km to their facilities. These factors may contribute to the people's unwillingness to use available toilet facilities. In addition to these factors were bad odour and the presence of insects. The respondents also complained of limited facilities as being one of the barriers to safe disposal (WaterAid, 2008; Dittmer, 2009).

The study confirmed that, the closer the toilet facilities were to residents the higher the patronage.

5.2 Economic Barriers

Economic factors can also hinder safe disposal of human excreta in most communities in developing countries. In this study economic factors included: income level of the respondent,

amount paid for using a toilet facility, cost involved in the construction of toilet facilities and cost involved in the dislodgement of human excreta. The results of this study indicated that most of the people pay between 10 and 20 pesewas for using toilet facilities. Even though the amount of money seems small; the residents could not afford due to inadequate finance, hence the use of unsafe human excreta disposal methods. One fishmonger indicated that:

“When you look at the amount paid at the public toilet, I have four kids and cannot afford to pay for all of them any time they want to defecate whiles I can save that money to buy kenkey for them”.

The above statement is similar to what was discovered by Songsore and Stephens (2008). According to the authors, the respondents pay 80 pesewas per visit to the public toilet.

A community member said: *“our occupation is seasonal, so we find it difficult to pay at all times”* (Personal communication).

In terms of the role of income in the construction of toilet facility as well as the cost involved in the dislodgement of human excreta, the respondents revealed that their income was not enough to construct toilet facilities and also to pay for the dislodgement of their excreta. This was confirmed in the following:

“I think of late, the price is going high and if they could be given a fixed rate they will prefer safer means of excreta disposal”(community member).

“the others do the work of the gaga boys: they only go and take and then throw them into some gutters or some open places you see which is not encouraging”(community member).

The first statement is not different from what was reported by the Mafuya (2010).

It is therefore clear that poverty is a major factor to safe disposal of human excreta in this area Wateraid (2008).

Mafuya and Shukla (2005) also documented that low income is a de-motivating factors towards the adoption of

safe hygienic practices.

5.3 Social Barriers

The barriers that were considered social that could prevent people from disposing human excreta safely in this study were believe in taboos, norms or values concerning human excreta and social support. In-depth Interview with a key informant (Chief fisherman) in the study area revealed that residents in the study areas prefer defecation at the shore because they see it as equivalent to the Flush toilet.

“We prefer going to the shore because it is the same like the flush toilet. The sea waves come to take them (faeces) away after we have finished”.

This is in line with what was found by Mufuya (2010) in which most of the study participants believe that toilet facility is of Western origin and therefore prefers to use unsafe means of excreta disposal.

From the study, women in this area believe that children’s faeces are not harmful. A fishmonger said *“As for children, their faeces are nothing, so I pour water in them and throw them away on the compound”*

This supports the findings from Zombo (2010) which revealed that children faeces are not harmful.

5.4 Health Implications

Similar to a report from the Prampram Hospital, which shows that diarrhoea, malaria and helminth infections are among the top ten diseases for 2011, eighty percent of respondents confirmed to have been affected by such infections. . This was in line with the study that revealed that diarrhoeal diseases are the most important of the faeco-oral diseases globally, causing

around 1.6–2.5 million deaths annually, many of them among children under 5 years old living in developing countries. (Bartram & Cairncross, 2010; Mara, Lane, Scott & Trouba, 2010). Helminthes infection also results from poor sanitation. Ascariasis and other Neglected Tropical Diseases are some examples of diseases due to poor sanitation. It is estimated that there are 1000 hookworm and whipworm in human excreta. The helminthic infections usually cause anaemia and debilitating conditions. Diarrhoeal and helminth infections inhibit digestion and absorption of food nutrients in children retarding their growth and total development (UNICEF, 2000).

Other health issues related to poor sanitation includes: malnutrition leading to both childhood and maternal underweight and acute respiratory infections. Poor sanitation together with hygiene and water are responsible for about 50% of the consequences of childhood and maternal underweight, primarily through the synergy between diarrhoeal diseases and under nutrition, whereby exposure to one increases vulnerability to the other. A recent study reported that 26% of acute lower respiratory infections among malnourished children in rural Ghana may have been due to recent episodes of diarrhoea. Thus, sanitation could be a powerful intervention against acute respiratory infections (Mara, Lane, Scott & Trouba, 2010).

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

In summary, the findings of this study show that 80% of respondents did not have access to toilet facilities in their homes. Sixty nine (69%) of respondents defecated at the beach and about 49% walked for about 5 to 10 minutes before accessing toilet facilities. Some believes as well poverty or insufficient fund to construct and maintain existing toilet facilities contribute to poor unsafe disposal of human excreta. Furthermore, Community members did not relate frequent diarrhea and helminth infection to poor sanitary practices.

6.1 RECOMMENDATIONS

- Authorities such as district assembly, local government, waste management agencies and water and sanitation department should consider intensifying educating the people on the importance of improved excreta disposal facilities.
- Sound Behavioural change communication messages should be done in the community to effect changes in their attitudes towards their activities.
- Policy makers and planners should plan with the local people or allow them to plan the best disposal facility as done in community Led Sanitation programme (CLTS).
- Environmental health department should intensify health programmes related to sanitation.

- Stakeholders should provide financial support to help them construct toilet facilities of their choice.
- The local authorities must enforce environmental laws on sanitation in the area.

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APPENDICES

Informed Consent form

Barriers to Safe Disposal of Human Excreta in Prampram

Institutional Affiliation

Department of Biological, Environmental, Occupational Health Sciences: School of Public Health College of Health Sciences, University of Ghana, Legon.

Background

Dear participant, my Name is Ruth Allotey. I am a student from the school of Public Health, University of Ghana. I am conducting a study on Barriers to Safe Disposal of Human Excreta in Prampram. The purpose of the study is to determine the barriers to safe disposal of human excreta in Prampram, and to establish a better way of improving human excreta disposal in Prampram.

Procedures

This study will involve answering questionnaire on the state of sanitation in Prampram as far as human excreta are concerned. There will be no invasive procedures to obtain samples from participants. I will therefore be very grateful if you could participate in this study. This is purely an academic research which forms part of my work for the award of a masters degree.

Risks and Benefits

The procedure will be non-invasive and will not cause any discomfort to the participant. The result of the study will be used by policy makers to make policies that will help improve the state of sanitation in Prampram.

Right to refuse

Participation in this study is voluntary and you can choose not to answer any individual question or all the questions. You are at liberty to withdraw from the study at any time. However, I encourage you to fully participate since your opinion is important in determining Barriers to Safe Disposal of Human Excreta in Prampram.

Anonymity and confidentiality

I would like to assure you that whatever information you provide will be handled with strict confidentiality and will be used purely for research purposes. Your responses will not be shared with anybody who is not part of the study team. Data analyses will be done at the aggregate level to ensure anonymity.

Dissemination of results

The results of this study will be mailed to you if you provide your address below.

Before taking consent

Do you have any questions you wish to ask about this study? Yes [] No []

If yes, questions to be noted below.

If you have questions later, you may contact Ruth Allotey on (0244829089)

Consent

I, declare that the purpose, procedure as well as benefit of the study has been thoroughly explained to me in the language I understand. I hereby agree to answer the questionnaire.

Signature of participant

Date:

.....

Interviewer's statement

I, the undersigned have explained this consent form to the subject in the language he/ she understands and the purpose of the study, procedures to be followed as well as risk has been well understood. The subject has freely agreed to participate in the study.

Signature of interviewer

Date

.....

Address:

COLLEGE OF HEALTH**SCIENCE UNIVERSITY****OF GHANA**

INFORMATION IS HEREBY SOLICITED THROUGH THIS QUESTIONNAIRE FOR ACADEMIC RESEARCH PURPOSES. ANY INFORMATION PROVIDED FOR THE PURPOSE OF THIS RESEARCH WILL BE KEPT CONFIDENTIAL.

RESEARCH QUESTIONNAIRE

TOPIC: BARRIERS TO SAFE DISPOSAL OF HUMAN EXCRETA IN PRAMPARAM.

The main objective of the study is to determine the barriers to safe disposal of human excreta in

Pramparam.

My name is.....a student from School of Public Health, University of Ghana-Legon. As part of my academic fulfillment, I am conducting a research on the topic barriers to safe disposal of human excreta in Pramparam. I would be grateful if you could avail yourself to participate in this survey. The information gathered will be used to improve knowledge acquisition, improve the state of sanitation in Pramparam and also serve as a source of information for education and policy making. I wish to emphasize here that this is for academic purposes only and your identity will be kept strictly confidential. Only the researcher and the ethical committee that oversees the study will have access to the data. The interview will take about 30 minutes to complete.

Date of interview:

Questionnaire number:.....

Place of interview:

PLEASE TICK THE APPROPRIATE

ANSWER SECTION A:

Background information

No.	Questions	Responses
1	Age of respondent	
2	Sex of respondent	<input type="checkbox"/> Male <input type="checkbox"/> female
3	What is your marital status?	<input type="checkbox"/> single <input type="checkbox"/> Married <input type="checkbox"/> widowed <input type="checkbox"/> Divorced <input type="checkbox"/> other, please specify
4	What is your educational level?	<input type="checkbox"/> no formal education <input type="checkbox"/> primary <input type="checkbox"/> secondary <input type="checkbox"/> tertiary <input type="checkbox"/> other, please specify
5	What work do you do?	<input type="checkbox"/> fisherman <input type="checkbox"/> Farmer <input type="checkbox"/> fishmonger <input type="checkbox"/> trader <input type="checkbox"/> artisan <input type="checkbox"/> other, please specify
6	What is the size of your family/ number of dependants?	

7	Religion	<input type="checkbox"/> Christian <input type="checkbox"/> Muslim <input type="checkbox"/> Traditional <input type="checkbox"/> Other, please specify
8	Ethnicity	<input type="checkbox"/> Ga- adangbe <input type="checkbox"/> Ga <input type="checkbox"/> other, please specify
9	What is your level of income (GHC)?	<input type="checkbox"/> <50 <input type="checkbox"/> 50- 100 <input type="checkbox"/> 101-200 <input type="checkbox"/> >200 Other, please specify

SECTION B- SOCIAL BARRIERS

10	Do you have a toilet at home?	<input type="checkbox"/> yes ---- skip to 12 <input type="checkbox"/> no----- skip to 11
11	If no which facility do you use?	<input type="checkbox"/> public toilet <input type="checkbox"/> free range <input type="checkbox"/> at the beach <input type="checkbox"/> On the stones <input type="checkbox"/> wrap and throw Other, please specify
12	If yes which type do you have?	<input type="checkbox"/> Pit latrine <input type="checkbox"/> Water closet

		<input type="checkbox"/> Bucket or Can latrine <input type="checkbox"/> KVIP
13	Where do you dispose of human excreta?	<input type="checkbox"/> in the gutter <input type="checkbox"/> into a man hole <input type="checkbox"/> in the bush <input type="checkbox"/> Other, please specify.
14	Do you treat human excreta before disposal?	<input type="checkbox"/> yes <input type="checkbox"/> no If yes, how do you do it? _____
15	How do you feel about your means of human excreta disposal?	Please specify
16	Is your place of human excreta disposal convenient at any time? (day or night)	<input type="checkbox"/> yes <input type="checkbox"/> no If yes specify
17	Are there taboos, norms or values surrounding defecation and human excreta disposal in this community?	<input type="checkbox"/> yes <input type="checkbox"/> no If yes specify
18	What is your view about places of convenience available to you?	<input type="checkbox"/> very comfortable <input type="checkbox"/> have bad smell or odour <input type="checkbox"/> another person sees you when defecating/ no privacy <input type="checkbox"/> source of contracting diseases <input type="checkbox"/> unsafe structure <input type="checkbox"/> other, please specify

SECTION C- PHYSICAL BARRIERS

19	What is the distance from your room to the place of convenience?	<input type="checkbox"/> within the house <input type="checkbox"/> less than 5 minutes walk <input type="checkbox"/> 5- 10 minutes walk <input type="checkbox"/> 11-20 minutes walk <input type="checkbox"/> other please specify
20	Is the place of convenience clean?	<input type="checkbox"/> yes <input type="checkbox"/> no
21	How often is the place cleaned?	<input type="checkbox"/> daily <input type="checkbox"/> twice a day <input type="checkbox"/> weekly <input type="checkbox"/> every fortnight <input type="checkbox"/> other, please specify
22	Who cleans the toilet in your household	<input type="checkbox"/> Adult <input type="checkbox"/> Children <input type="checkbox"/> Youth
23	Is the place of convenience well lighted at night?	<input type="checkbox"/> yes <input type="checkbox"/> no
24	Is the place of convenience well ventilated?	<input type="checkbox"/> yes <input type="checkbox"/> no
25	Are the structures firms enough to prevent you from falling?	<input type="checkbox"/> yes <input type="checkbox"/> no
26	What is your view about access and distribution and places of convenience within the community	Explain:
27	Have you heard of AMA,s policy on	<input type="checkbox"/> yes

	toilet facilities in homes?	<input type="checkbox"/> no If yes what do you think about it?
28	Are there insects and other organisms that determine your choice of place of convenience?	<input type="checkbox"/> yes <input type="checkbox"/> no If yes specify

SECTION D- ECONOMIC

29	Do you pay for using toilet facilities?	<input type="checkbox"/> yes <input type="checkbox"/> no
30	How much do you pay? (Ghana pesewa)	<input type="checkbox"/> 10 <input type="checkbox"/> 20 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> Other please specify
31	Does the cost involved in building a toilet facility hinder you from getting one at home or within the community?	<input type="checkbox"/> yes <input type="checkbox"/> no If yes, how much
32	Does your income level affect your place of convenience?	<input type="checkbox"/> yes <input type="checkbox"/> no If yes how?.....
33	Do you pay for all your dependants to use a safe toilet facility?	<input type="checkbox"/> yes <input type="checkbox"/> no

		If no why:
34	Are there hand washing facilities at your place of convenience?	<input type="checkbox"/> yes <input type="checkbox"/> no
35	Why do you think human excreta should be disposed safely?	

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCE
UNIVERSITY OF GHANA**

**TOPIC: BARRIERS TO SAFE DISPOSAL OF HUMAN EXCRETA IN PRAMPAM
In-depth Interview Guide**

General instruction:

Let the interview be guided by the answers you get. Explore areas that the respondent raises which relate to the topics.

If the respondent is willing, you should come back and explore the remaining topics another time. You may need to return several times.

Interview Date |___|/|___|/|___| | Time Interview Started:-----

Interviewee Location:-----

Signature: -----

Community Code:-----

Interviewee Age:-----

Occupation/ Social Status: -----

Religion: -----Sex: -----

Years of Education-----

Marital Status:-----

No. of Children: -----

ID CODE: -----

Opening:

“My name is _____, and I am interviewing you to find out about the barriers to safe human excreta disposal in the Prampram community, and how to deal with them.

Opening Questions

Section A:

“I would like to learn from you about the conditions that hinder safe disposal of human excreta in this community.”

Let the person speak as freely as possible. Record statements mentioned by the respondent noting local terms used for human excreta, disposal, facilities used, economic, physical and social barriers associated with human excreta disposal.

Probe on the following topics as time allows and/or as topics arise during the interview:

Physical

1. Please tell me about the available toilet facilities in your community.
2. Where is the toilet facility located? (Probe for distance from the house).
3. What is the structure made of?
4. How strong is the structure? (probe for sustainability) Please describe how the place looks like. (In terms of surroundings)
5. How neat is the place? (probe further for cleanliness, odour, insects, rodents, provision of hand washing facilities)
6. Who cleans the place? (Adults or children)
7. What do they use in cleaning the toilet?
8. Who is permitted to use the facility?
9. Who is not permitted to use the facility?
10. For those not permitted what are the available options for them?

11. Tell me about how those who do not use the facility dispose of human excreta of children (Probe further for circumstances such as in sickness, example diarrhea).

12. How do adults who do not use the facility dispose of their excreta? (Probe for different circumstances such as in bedridden or sick adult)
13. What is your view about how children's toilets are disposed off as compared to that of adults?
14. What do you think can be done to improve access to the available toilet facility? (Probe for accessibility at all times).
15. If it were located at another place, what can be done to improve accessibility?

16. What method will you recommend as a safe way of disposing human excreta? (Probe for more than one facility).
17. Please suggest ways of improving the physical features of the toilet facilities in the community?

Economic

18. Please do you pay for the use of the toilet facilities in this community? (How much?)
19. What kind of facility is it?
20. Do you pay for children or young ones?
21. Can you tell me how much an adult pays /children? (Probe whether it includes toiletries- Toilet rolls, paper, etc.)
22. In your opinion, what does the act of paying to use toilet facility mean to you.
23. Those who have toilet in their homes, probe to find out what they think about how much they pay for it to be emptied. (How much do they think is reasonable for them to pay?)
24. Please tell me if there are other means of people in the community disposing human excreta apart from those that they pay for?
25. In respect to cost, please suggest ways the disposal of human excreta can be managed.

Social

26. Can you tell me about values, norms or cultural practices related to human excreta disposal? (Does any of the issues you have mentioned act as a barrier to safe disposal of human excreta, probe).
27. Can you tell me about any taboos that the community has that are related to human excreta disposal? (Does any of these taboos you have mentioned act as a barrier to safe disposal of human excreta, probe).
28. Generally what do you think about how excreta is disposed off? Would you say it is acceptable? What do you think can be done to improve it?