

Assessing sanitation conditions and its impacts on the health status of urban dwellers in Abuakwa, Ghana. A Cross sectional survey

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Abstract

In recent times, issues on sanitation and urban health have attracted numerous attentions worldwide because of the effect it imposes on human health. The situation is worsened mostly in West African countries especially Ghana where sanitation problems have become a serious problem especially in urban areas. As such, this paper explored the effects of sanitations on health of urban residents of Abuakwa in the Atwima Nwabiagya District, Ghana. A sample of 120 was selected randomly from the total population of the community. Questionnaires as data collection instrument were employed for the data collection to collect primary data. Sanitation conditions in Abuakwa, as urban community was found to be poor. Findings from the study revealed that improper disposal of wastes and inadequate toilet facilities were responsible for poor sanitations and sanitation related diseases-cholera, malaria, diarrhoea in Abuakwa. Public toilet facilities which most Abuakwa residents use were found to be poorly managed and inadequate causing people to engage in poor sanitation practices such as open defecation. The study also found that lack of comfortability and privacy, expensiveness of using public toilet facilities, poor management, dirtiness and smelliness of the toilet facilities were the reasons for people's refusal to pay for accessing public toilet facilities. The study recommends that the people in urban communities should be educated on good sanitation practices and individuals should make an attempt to build toilet facilities in their homes to reduce pressure and congestion on the existing public toilet facilities.

Key words: Health, Diseases, Sanitation, Open defecation, Ghana

1.0 Introduction

Halving the proportion of people who are in dire need of improved sanitation has always been the major concern of the UN Millennium Development Goals (MDG). In effect, segment of the nations in the globe have put active plans in place with the sole aim of meeting the sanitation needs of their denizens (Moe and Rheingas, 2006). This is an immediate attempt to help meet the MDG.

In contemporary world, almost 2.2 billion population need access to improve sanitation (Moe and Rheingas, 2006). The World Health Organization argues that 88 per cent of the problems on sanitation severely affect people in developing countries. Global statistics on sanitation revealed that in developing countries, with an average of 50 per cent of the people, one out of two people have access to improved sanitation facilities. And with that, the lowest coverage was in sub Saharan Africa: only 37 per cent of the people have access to improved sanitation facilities (Lubaale and Musyoki, 2011). In Dares Salaam City, sanitation facilities are not evenly distributed across space. Disproportionately, while 8 in 10 of the people in the region use pit latrines, 7 per cent has access to flush toilets. About 4 per cent of the people do not have access to toilet facilities (*ibid*).

Meanwhile, adequate sanitation is a prerequisite condition for improved health. It is argued that good sanitation practices serve as an important criterion to cut down diseases. Moreover, it helps to reduce the gravity of different kinds of ailments, thus, promoting the welfare of the denizens (Maria et al. 2010). Good sanitation practices are equated to day to day activities because of the health issues attached to it. However, Twumwine et al. (2002) contended that sanitation conditions among developing countries have a key outcome on the health of people. The principal cause of most of the diseases in sampled urban African countries such as Kenya, Uganda and Tanzania result from poor sanitation practices. Evidence from different researches have shown outcomes of poor sanitations on the health of people and the environment.

Abuakwa, an urban residential community in Ghana continues to experience several environmental challenges resulting from poor sanitation practices. Most of the drainage and sewage system in the area have been choked with waste causing seasonal flooding in most houses closer to the drainage areas and this ends up depositing waste materials in the various houses, which could result in the spread of diseases in the area. Also, the most significant among them is the heap of refuse dump, which are not distant from the market and public residential

facilities. Indiscriminate dumping of waste in the area serves as multiple breeding grounds for mosquitoes, flies, and other parasites which result in the spread of malaria and other unhygienic related diseases like cholera.

With the above, food vendors also operate close to the dumpsite regardless of the stench and its resulting health implications. Also, during heavy winds, some of the waste materials from the dumpsite are blown into the nearby houses which make the compound very dirty and uncomfortable for human living. The location of the dump site can potentially impact on the health of the people living around these areas. Based on this problem, the study seeks to explore the sanitation conditions in Ghana and its implication on the health status of the people taking empirical evidence from Abuakwa in the Ashanti Region of Ghana as the study region.

2.0 Review of related literature

2.1 Sanitation condition in urban areas

Evans et al (2010) estimated that in urban areas, 2.5 billion people do not have access to basic sanitation. In Africa, as of 2006, it was projected that sanitation facilities such as refuse sites, toilet facilities, communal containers and dustbins do not reach about 31 in 50 people. Lubaale and Musyoki (2011) stressed that Kenya, Uganda and Tanzania have adopted the participatory approach towards sanitation projects to help improve the condition in their urban communities. About 52 million US dollars in Ghana is spent on sanitation annually. And with this, 52 million per year is provided by foreign donors such as World Bank, UNICEF, EU, and other international agencies (Thrift, 2007) to help curb the sanitation problems in the country.

Ghana Water Forum (2011) outlined that the communal toilets in Ghana are not in a good state in terms of the way they are managed. Shared sanitation facilities such as toilet and urinal are very common in urban areas in Ghana. About 70 per cent of the urban population use shared sanitation facilities and these facilities are very unsatisfactory to be used by people. Ghana Water Forum (2011) argued that 71 per cent of communal latrine users in Kumasi were not satisfied with the way they are managed and kept clean.

The effects of poor sanitation conditions cut across all dimensions. In urban communities for example, there is lack of toilet facilities in public school and due to that girls who have reached their puberty do not feel comfortable since there is no toilet facility that exists to use or give them privacy. This may sometimes compel girls to stop schooling (Norstrom, 2007). According to Norstrom (2007), there is lack of personal safety for women and girls in the urban areas since most toilet facilities are located at long distance, which therefore makes it difficult for them to access the toilet facilities in the night. This condition therefore forces them to simply defecate in polythene bags and throw them on dirty and poorly drained streets outside their homes leading to poor sanitation conditions. Sanitation condition disproportionately affects the poor. While the poor resides in poor sanitation areas, the rich have better sanitation condition (Boadi and Kuitunen, 2005). The reason may be that the rich can afford better containers for waste collection. Hence, sanitation problem is gradually becoming a challenge to the poor.

Jacobsen et al (2012) in their studies expressed that access to sanitation service in urban areas is unequal, since sanitation in urban centers is dependent on income levels. The upper income residents are able to access good sanitation services more than the poor. The rich and middle class usually have toilet, dustbins and can also access improved sanitation facilities more than the poor people. Because of that, the poor usually resort to the traditional latrines or open defecation (*ibid*).

2.2 Factors accounting for poor sanitation condition in urban areas.

Natural increase and rural-urban migration has been a major factor that contributes to the rapid population growth in the urban communities in developing countries. The rapid population growth puts pressure on the available sanitation facilities and services when there is no correspondence increase in the sanitation facilities and services. The inadequate sanitation facilities and services therefore cause people living in such communities to resort to poor sanitation practices such as open defecation, indiscriminate refuse disposal and many other practices that contribute to poor sanitation especially in the urban communities (Norstrom, 2007). According to Ghana Water Forum (2011), the Municipal Assemblies in Ghana are not able to perform up to expectation because of inadequate funds, logistics and technical support to help implement and evaluate sanitation strategies and to also provide sanitation facilities. The Environmental Health Inspectors who embark on regular inspection of communities on the part of the District Assembly resort to corrupt practices such as receiving money from people who refuse to adhere to the sanitation policies and bye-laws, due to poor training.

The inadequate participation among the authorities and the local people affects the sustainability of the facilities. The authorities refuse to consult the community members when providing sanitation facilities for the communities. This makes the people to abandon the facilities when it does not meet their needs and conditions, and therefore resort to other poor sanitation practices (Manase *et al.* 2001). Fobil *et al.* (2010) also expressed that people, who cannot afford the cost for using sanitation facilities resort to poor sanitation practices due to the high cost involved in using the facilities. Others also refuse to pay for using the sanitation facilities and this negatively affects the sustainability of these facilities. This is because the money collected is used to ensure the maintenance of the sanitation facilities for future use. Manase *et al.* (2001) also raised similar issue that the money paid for the use of sanitary facilities makes it difficult for mostly the urban poor to afford such facilities, thereby causing them to resort to all forms of poor sanitary practices. According to Thrift (2007), the high cost of dumpsites, inaccessibility of septic tanks and people's refusal to adhere to sanitation bye-laws contribute to the illegal dumping of fecal sludge in urban communities in most African countries.

2.3 Health Problems Associated with the Sanitation Conditions in Urban Areas

It is on record that poor sanitation is the second leading cause of poor health. Pathogens that affect individuals as a result of poor sanitation occur in so many ways, those occurred through water includes water-borne diseases, water dispersed infection and many others, which result in diseases such as cholera, and other water related diseases. Access to improved sanitation is a challenging issue among developing countries. This is because the governments are not able to meet the sanitation needs of urban centres which experience rapid increase in their population (Jacobsen, et al. 2012). Lubaale and Musyoki (2011) indicated that in Kenya, about eight in ten of hospital attendances have diseases that sanitation problems account for 50 per cent of them. Thousands of children suffer from nutritional and educational problems which come as a result of diarrhoea disease. The most frequently cited or referenced diseases as a result of poor sanitation in most urban communities of Uganda, Kenya and Rwanda are cholera, dysentery, scabies, skin diseases, eye problems, typhoid, and intestinal parasite (*ibid*).

The health related problem associated with poor sanitation disproportionately affects developing countries due to the issue of poverty which makes it difficult for most people to afford decent meals, a prerequisite condition for human welfare. According to Scott (2006), Tanzania is one of the countries that experiences high rates of diseases, malnutrition and death.

According to Thrift (2007), sanitation problems result from poor sanitation practices such as indiscriminate disposal, containment of faeces and other poor practices result in more than half of the reported diseases in Ghana. In Ghana, diarrhoea is a serious disease which results from poor sanitation conditions (Obiri- Danso, 2005; Fobil *et al.*, 2010). National Environmental and Sanitation Directorate (2010) also indicated that, malaria disease comes from poor sanitation conditions such as stagnant waters, refuse and others, which is very common in urban communities in Ghana.

Malaria control methods such as insecticides treated net, the use of repellents, indoor spraying and others are all safety measures provided by the government to help reduce the spread of malaria in Ghana, but yet still, the spread of malaria keeps on increasing in the country (*ibid*). Fobil *et al.*, (2010) revealed that poor environmental sanitation promotes breeding of insect vectors that transmit infectious diarrhoea and other diseases such as malaria. Scott (2006) revealed that poor management of toilet facilities especially among people in urban communities increase the prevalence of diseases such as candidiasis, skin rashes and other diseases. They further explained that health effects from poor sanitation go beyond the spread of diseases but rather promotes psychological and social problems. Improved sanitation practices seek to promote dignity and status, women security, and ensure children's safety and comfort.

From the arguments above, it can be seen that scholars usually concentrate more on the spread of diseases, when it comes to the effects of sanitation on health. But rather health goes beyond diseases to include certain aspects like physical, mental, and social wellbeing. These aspects form an important part of human's live and wellbeing. Much attention needs to be paid to the physical, social and mental outcomes of sanitation, or as good or poor. Good sanitation practices help to keep people safe from all diseases amounting from poor sanitation practices. The ability to follow good practices in both our homes and the communities helps to ensure the safety and good health of people living in such environment. Sanitation practices have a direct bearing on the health of people depending on how it is being practised in our homes and communities.

3.0 Data and Methods

3.1 Profile of Abuakwa

Abuakwa is located along the Kumasi –Sunyani and Bibiani truck roads, about 12km from Adum the Central Business District of Kumasi. Abuakwa can be found in the Atwima Nwabiagya District. It covers an estimated area of 294.84sq.km. Abuakwa lies within the wet semi-equatorial zone, which is marked by double maximum with annual rainfall ranging between 170cm and 185cm, during heavy rainfall, the water overflows the gutters and ends up depositing the waste materials in the gutters around the compound. Also, due to the large size, the area is inhabited by large number of people result in numerous problems including sanitation. This is because a lot of waste is generated in the community and the inability of the people to dispose them adequately leads to numerous sanitation problems in the area which results into health problems. Based on the profile of Abuakwa, it is thus justifiable to conduct this study in the area and bring out the various health implications associated with sanitation condition in the area.

3.2 Setting, Research Design and Variables

The study employed a cross sectional quantitative survey covering Abuakwa in the Ashanti Region of Ghana and was conducted in January, 2013 to June, 2014. It is a cross sectional because it researched into sanitation conditions in an area at a point in time other than on long term duration. The independent variables used in the study were age, sex, marital status, education level, occupation, duration of stayed in the community and monthly income. The dependent variable was health effects of sanitation condition. The study variables were measured by way of assigning values to each one of them. Then, they were further coded so as to ensure accuracy in measurements.

3.3 Sampling and Study Participants

The study was mainly focused on residents in Abuakwa and thus they constituted the study participants. Individuals, who fell within the age cohort of 18 years and above, were recruited for the study. The criterion for the selection was based on the fact that this age group was mature enough to demonstrate in-depth knowledge regarding sanitation condition in the area and how it impacts on their health either positively or otherwise. Simple random sampling technique was used to select 120 study participants. First, the houses in the community were given numbers and further written on sheets of papers, folded and shuffled. A blind folded person was then probed to select the required number of papers from the shuffle which was used to represent the sample size in the community.

3.4 Data Collection

Face- to-face-interviewer administered questionnaires were used to collect the primary data. This data collection instrument was used in order to improve the response rate, completion rate and to avoid call backs. Also, researched assistants were recruited and further trained for three days in the data collection process. The administration of each questionnaire lasted for about 30 minutes on the average. In taking into consideration ethical issues, the objective of the study was explained to the respondents and their permission was sought before the data collection. They were assured of strict confidentiality of the responses. However, participation in the study was voluntarily and respondents were free to opt out of the survey at any time they deem fit.

3.5 Data Analysis

Data were edited and cross-checked with the original questionnaires so as to effect any changes. Data were then entered into electronic database and analysed statistically through the Predictive Analytics Software (PASW) for Window application programme (Version 17.0) and Microsoft Excel. Descriptive statistics were used to describe background characteristics of respondents. Data were analysed and presented descriptively by the use of tables and charts to give a comprehensive understanding of the effects of sanitation conditions on the health of the people in Abuakwa.

4.0 Results and Discussion

4.1 Characteristics of the study participants

The study found that majority (34%) of the respondents was within the age cohort of 20-39. However, most (56%) of the respondents were males. With regard to education, most (33%) of the respondents had attained secondary education status whereas 30% had attained tertiary education status. About 29% of the respondents were engaged in trading as their source of livelihood. Majority (61%) of the respondents received average monthly income below GH¢500. This shows that most of the residents of Abuakwa are low income earners. The low income earners of respondents have effect on their ability to afford expensive sanitation facilities. Low income of urban residents has a lower likelihood to use expensive sanitation facilities than high income earners. The study found that low income distribution of urban residents in Abuakwa was responsible for people's decision to resort to less expensive facilities such as public toilets.

Table 1: Background of respondents

| Variable | Frequency | Percent (%) |
|-----------------------|-----------|-------------|
| AGE | | |
| less than 20 | 17 | 14 |
| 20-29 | 41 | 34 |
| 30-39 | 25 | 21 |
| 40-49 | 16 | 13 |
| 50 and above | 21 | 18 |
| SEX | | |
| Male | 67 | 56 |
| Female | 53 | 44 |
| EDUCATION | | |
| No education | 13 | 11 |
| Basic | 23 | 19 |
| Secondary | 39 | 33 |
| Tertiary | 36 | 30 |
| Dropout | 9 | 8 |
| OCCUPATION | | |
| Civil servants | 23 | 19 |
| Service sector | 21 | 17 |
| Trading | 35 | 29 |
| Student | 1 | 1 |
| Unemployed | 31 | 26 |
| Farming | 9 | 8 |
| MONTHLY INCOME | | |
| Less than GHc300 | 48 | 40 |
| GH¢300- 499 | 25 | 21 |
| GH¢500-799 | 22 | 18 |
| GH¢800-999 | 14 | 12 |
| GH¢1000 and above | 11 | 9 |
| Total | 120 | 100 |

4.2 Assessment of Sanitation conditions in Abuakwa

The study discovered that sanitation condition in the area was poor. This was confirmed by majority (38%) of the respondents who reported that sanitation conditions in Abuakwa were poor. This illustrates that people were not satisfied with the sanitation conditions in the community. The sanitation conditions in the Abuakwa were attributed to residents' habit of engaging in improper and unhealthy sanitation practices such as improper disposal of both liquid and solid waste. There are few people in urban areas in developing who has access to improve sanitation (Thrift, 2007).

The poor sanitation conditions in the area can be blamed on the government as well as the residents in the area. The government because, it is her role to provide adequate sanitary facilities such as dustbins and toilet facilities so that residents can get a decent place to keep their refuse before they send them to various refuse dump site. The residents, on the other hand, have to seek to it that they do not litter around the community. Some people are careless and have a bad attitude towards refuse disposal. With any waste that they generate from their households they carelessly throw them into gutters which go contrary to good sanitary practices.

Table 2: Ranking of Sanitation conditions by respondents in Abuakwa

| Response | Frequency | Percent (%) |
|--------------|------------|-------------|
| Good | 23 | 19 |
| Very good | 10 | 8 |
| Poor | 45 | 38 |
| Very poor | 42 | 35 |
| Total | 120 | 100 |

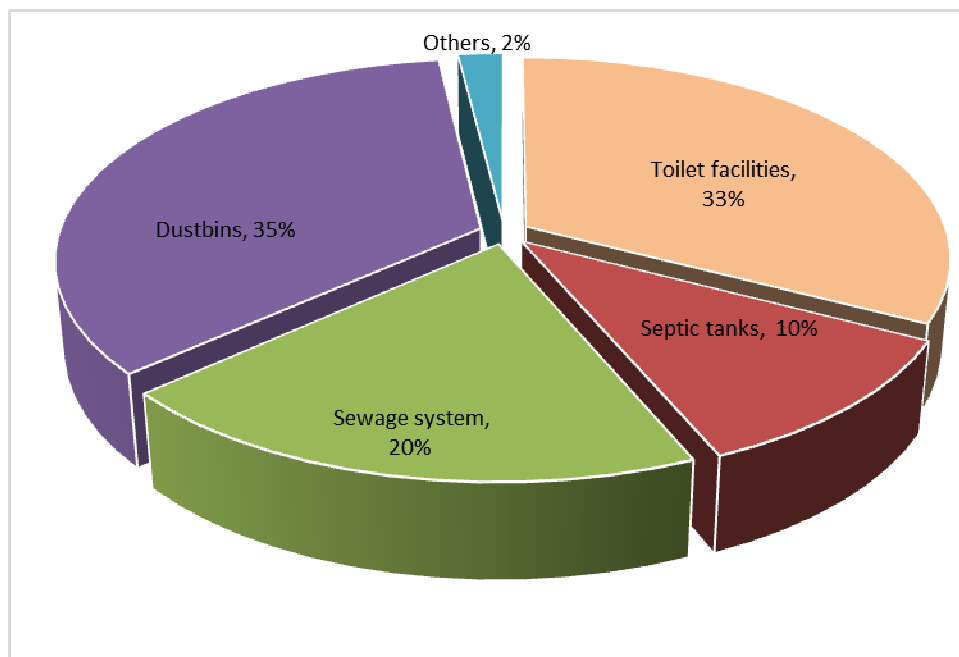
4.3 Availability of sanitation facilities in Abuakwa

Our study found that sanitation facilities such as dustbins, toilets, sewage system and septic tanks were lacking in Abuakwa as displayed in (Figure 1).

Our study revealed that dustbins and toilet facilities were the major facilities lacking in Abuakwa community. These were reported by 35% and 33% of the respondents respectively. These according to the respondents denied them equal opportunity of maintaining proper sanitation in the community. Jacobsen et al (2012) noted that access to sanitation service in urban areas is unequal, since sanitation in urban centres is dependent on income levels. The upper income residents are able to access good sanitation services more than the poor. According to Jacobsen et al (2012), the rich and middle class usually have toilet, dustbins and can also access improved sanitation facilities as compared to poor people. Lack of dustbins in the community would compel residents to throw their waste in gutters which would serve as a hindrance to the government's attempt to achieve good sanitation conditions in the urban areas and the country at large. It would, therefore, be good if the government can provide adequate dustbins for the people in the urban communities. The dustbins should be place at vantage points. This will at least help to ensure proper sanitary condition in the urban areas. At times too, the sanitation facilities such as dustbins would be provided but due to poor management, they might not last for long. It is therefore necessary for the users to maintain and manage them well. Urban resident should not use the idea of the tragedy of the common to spoil or mismanage state properties which are meant for them.

Furthermore, the toilet facilities lacking in the community put more pressure on available public toilets. This situation was found to have compelled most people to defecate into polythene bags and dump them at unauthorized places especially in open or public spaces and nearby areas.

Figure 1: Sanitation facilities lacking in the community



4.4 Conditions of Public toilet at Abuakwa

It is not only about the availability of the sanitation facilities that are important in looking at the issues of the sanitation conditions at Abuakwa but also the state of the facilities. This is because such facilities (public toilets) could be poorly managed and the state of the facilities could cause people to avoid their use and resort to bad practices such as open defecation.

Almost 47% (39), of the respondents who have problem with the public toilet attributed it to the fact that the facilities were dirty, while over 25% expressed that the public toilets were smelly. However, 22% of the respondents believed that the toilet facilities were located closer to their houses and causing enough stenches in the area which lead to health implications. The people felt uncomfortable and lacked privacy anytime they visit public toilet (see table 3). Public sanitation facilities especially urinal and toilet facilities in urban areas usually lack privacy which makes their users feel uncomfortable.

Furthermore, communal toilets in Ghana are not in a good state in terms of the way they are managed. Shared sanitation facilities such as toilet and urinal are very common in urban areas in Ghana, and with that, majority of the urban population use shared toilet facilities against their will (Ghana Water Forum, 2011). Location of public toilet facilities in the communities was also a condition that residents consider or influence their usage. Proper location of the facilities increases its usage.

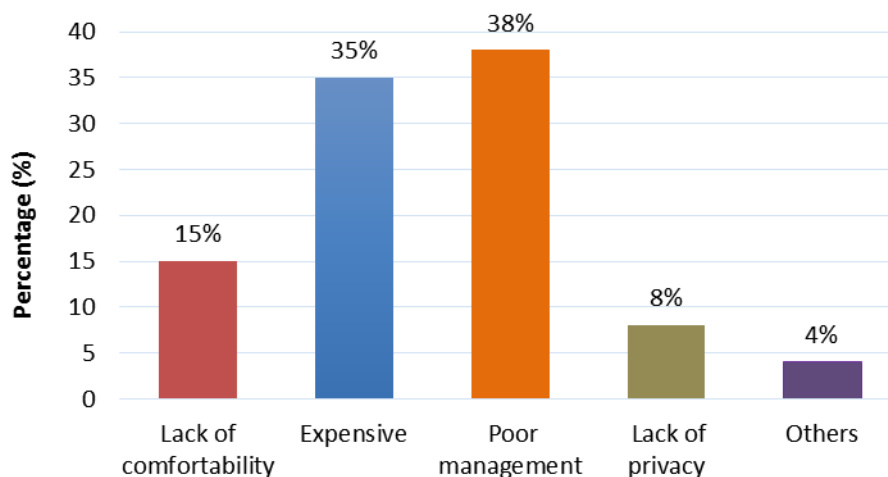
Table 3: Condition of public toilets in Abuakwa

| Category | Frequency | Percent (%) |
|-----------------------------|------------|-------------|
| Smelly | 30 | 25 |
| Dirty | 47 | 39 |
| Location | 26 | 22 |
| Lack of comfort and privacy | 13 | 11 |
| others | 4 | 3 |
| Total | 120 | 100 |

4.5 Payment challenges for accessing public toilets in Abuakwa

It is established that there is a relationship between an individuals' access to and use of public toilet facilities. The tendency for a person to pay for public toilet facilities in urban areas depends on his or her income level and other factors. Thus income becomes critical when assessing one's ability to pay for a public toilet. Paying for the use of public toilets is an important component of the factors accounting for the sanitation conditions in a community.

Figure 2: Reasons for refusing payment for accessing the public toilet



The study unearthed varying reasons that cause people not to pay to access public toilet facilities. Poor management of the toilet facilities in Abuakwa influenced the residents to refuse to pay to access them. This was reported by the majority (38%) of the respondents. The cost of accessing public toilet was found to be expensive serving as a reason for people's refusal to access toilet facilities in the area (see figure 2). Since most of the urban residents were low-income earners and did not engage in any better jobs, they found it reluctant to pay for the high fees charged by the caretakers. According to some residents, they sometimes did not have money to enable them to use the facilities. The findings therefore made support of Manase *et al's.* (2001) indication that money charged for the usage of sanitary facilities such as toilet makes it difficult or problematic especially for the urban poor to afford such facilities. The study therefore calls upon the government and other institutions to reduce the cost of accessing public toilet facilities in urban areas particularly Abuakwa. This has the tendency of making it easy for the populace to access public toilet facilities. Also, lack of comfortability and privacy serve as a reason for some people to refuse payment for accessing public toilet facilities.

4.6 Factors affecting access to toilet facilities

Table 4 provides a list of factors affecting access to toilet facilities in Abuakwa community. These included inadequate toilet facilities, poor management of toilet facilities and others. Our study discovered that inadequate toilet facilities were a major factor affecting household's access to toilet facilities. This was reported by 37% of the respondents. The inadequate sanitation facilities and services therefore cause people living in such communities to resort to poor sanitation practices such as open defecation, indiscriminate disposal of excreta and other practices that contribute to poor sanitation and sanitation problems (Norstrom, 2007).

Table 4: Factors affecting access to toilet facilities

| Category | Frequency | Percent (%) |
|--|------------|-------------|
| Inadequate toilet facilities | 45 | 37 |
| Poor management of toilet facilities | 32 | 27 |
| Sanitary officials and incompetent assembly officials to keep the facilities clean | 43 | 36 |
| Total | 120 | 100 |

However, many residents engaged in open-defecation because toilet facilities in the community were not enough to meet the growing demands of the growing population in the urban areas. The consequences are that people will tend to engage in poor sanitary practices. This may downplay the government campaign for improved sanitation in the country. Manase *et al* (2001) indicated that despite the huge investment on sanitation, over 2.4 billion people mostly in urban areas in developing countries still lack adequate toilet facilities. According to Thrift (2007), the high cost of dumpsites, inaccessibility of septic tanks contributes to the illegal dumping of fecal sludge in urban communities in most African countries.

Nations aspiring to achieve proper sanitation condition cannot be able to do so, without taking into consideration management issue. Our study discovered that poor management of toilet facilities affect residents' access to toilet facilities and was indicated by 27% of the respondents. The way toilet facilities were managed in Abuakwa tends to push people away from accessing them instead of pulling them towards accessing the facilities. The reason is that the few toilet facilities that exist in the area are kept unclean and as a result they are made unattractive to the people. Approximately, 36% of the respondents reported that sanitary officials and incompetent assembly officials to keep the facilities cleans, build more toilet facilities and also put up pragmatic measures to maintain the old ones also affect the usage of toilet facilities.

4.7 Reasons why residents blame the Assembly for the sanitation conditions

The Assembly or the sanitation department is one of the key stakeholders in ensuring good sanitation and health in the community. However, for one reason or the other, people associate poor sanitation conditions to the Assembly and the sanitation department. Drawing from Table 5, about 33% of the respondents believed that poor management of public toilet facilities by the Assembly was the main reason for the poor sanitation conditions at Abuakwa. However, 25% attributed the poor sanitation condition in Abuakwa to lack of monitoring by sanitary inspectors whose responsibility is to ensure proper sanitation in the area. The residents of Abuakwa blamed the Assembly for the poor sanitation conditions in the area. This was attributed to the poor management of the toilet facilities and the sanitary personnel's ineffectiveness of discharging their duties.

Table 5: Reasons why residents blame the Assembly for the sanitation conditions

| Category | Frequency | Percent (%) |
|--|------------|-------------|
| Poor management of toilet facilities | 39 | 33 |
| Inadequate toilet facilities | 28 | 23 |
| Poor monitoring by sanitary inspectors | 30 | 25 |
| Others | 23 | 19 |
| Total | 120 | 100 |

Ghana Water Forum (2011) stressed that, environmental Health Inspectors who embarks on regular inspection of communities on behalf of the Assembly in Ghana have not received training for the past ten years. This shows that some sanitary officials particularly in the Ghanaian communities are seen to be ineffective and the situation in Abuakwa gives a good indication of their ineffectiveness in Ghana.

4.8 Health problems/effects associated with the sanitation conditions

Health goes beyond the traditional of notion of health as the absence of diseases. Of late, the issue of psychological wellbeing and social wellbeing also constitutes an integral part of what constitute a healthy being. Hence, the effects of sanitation on health were found to include diseases, psychological wellbeing, and social discomfort. The majority (76%) of the respondents reported the occurrence of sanitation related diseases as effects of poor sanitation on human health. The respondents further expressed that they, one way or the other contract diseases from poor sanitation conditions in Abuakwa (see Table 6). The results are consistent with Scott (2006), who indicated that numerous diseases result from poor sanitation conditions and affects the health of people in urban areas.

Table 6: showing how sanitation affects health

| Categories | Frequency | Percent (%) |
|-----------------------------|------------|-------------|
| Sanitation related diseases | 91 | 76 |
| Psychological problems | 10 | 8 |
| Social discomfort | 19 | 16 |
| Total | 120 | 100 |

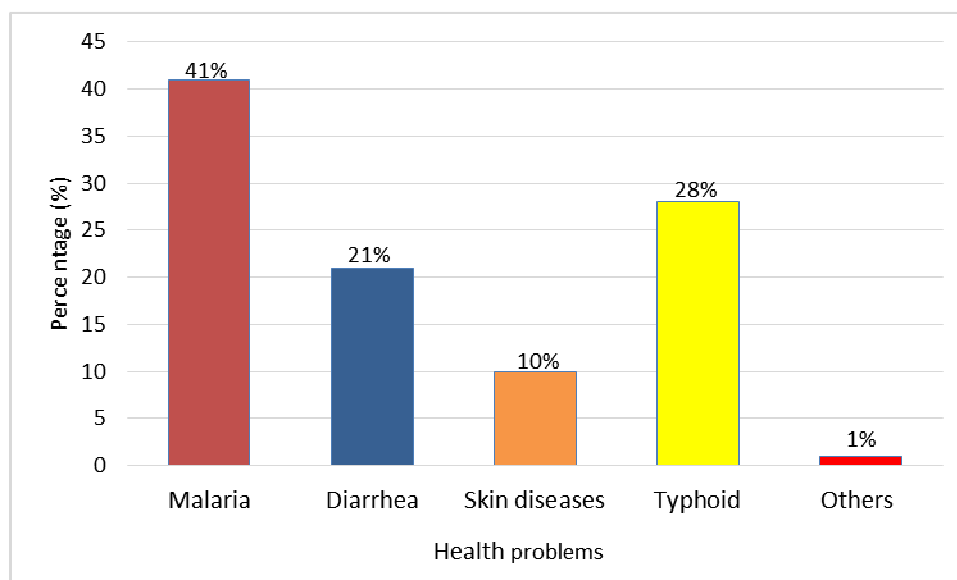
The study found that psychological problems and social discomfort were also the ways in which sanitation affect the health of people in urban centres particularly Abuakwa. This implies that psychologically and socially, people become discomfort when their surroundings are dirty and smelly. This research output has come to validate Scott (2006), who revealed that the health effects of poor sanitation goes beyond the spread of diseases and include psychological and social problems.

4.9 Diseases associated with sanitation related problems

There exists relationship between poor sanitation and diseases in the environment. Poor sanitary condition provides a comfort zone for the spread and diffusion of diseases. Numerous diseases associated with poor sanitation practices include malaria, diarrhoea; skin disease as well as typhoid (see Figure 3).

Our study found that malaria constituted the most common form of environmentally related diseases and it constituted 41% of the total responses from the respondents. Malaria was attributed to the stagnant dirty waters that have been collected in the various gutters in the areas. Furthermore, it was linked to the bushy and dirty surroundings in the area. The result obtained from Abuakwa is in agreement with Fobil *et al*, (2010) who stressed that poor sanitation promotes malaria through breeding of mosquitoes.

Figure 3: Sanitation related health problems



From the respondents, diarrhoea, skin rashes, cholera and typhoid were other diseases that people contract from the sanitation conditions in the community. In Ghana, diarrhoea is a serious disease which results from poor sanitation conditions (Obiri- Danso, 2005; Fobil et al, 2010). National Environmental and Sanitation Directorate (2010) revealed that about 70 to 80 per cent of Out-Patient Department (OPD) cases in most urban communities are caused by sanitation related diseases, which is as a result of contaminated water and poor disposal of waste and excreta. The skin rashes disease was attributed to the polluted water which is mainly used for bathing among residents in the community. According to Scott (2006), poor management of toilet facilities especially among people in urban communities increase the prevalence of diseases such as candidiasis, skin rashes and other diseases. Those who are inflicted with these diseases consult health care providers and traditional medical practitioners to seek health care.

5.0 Conclusion

The study assessed the sanitation condition in Ghana and its effects on the health status of the people in Abuakwa. Sanitation conditions of urban centres in Ghana are poor. The sanitation conditions of urban centres promote spread of sanitation related diseases such as malaria, diarrhoea, cholera among others. Most prevalence of diseases in urban centres of Ghana is as a result of poor sanitation conditions and practices. The study provides evidence that poor management, lack of comfortability and privacy, expensiveness and uncleanness of toilet facilities affect utilization of public toilet facilities and also serve as the reasons for people's refusal to access public toilets. Inadequacy of toilet facilities in Ghanaian urban cities is responsible for open defecation practices and defecating in polythene bags. Our study therefore recommends the following points to assist policy makers to improve and solve sanitation conditions and problems in urban centres particularly, Abuakwa. Firstly, the sanitation institutions through the sanitary inspectors should schedule specific period within the year to educate the general public and students on how to ensure good sanitation practices. Secondly, health institutions/centres should help educate their patients on good sanitation practices and its consequences on health. Moreover, the government through the district assemblies and sanitation institutions should provide additional toilet facilities in all urban communities to help reduce the inadequacy of toilet facilities and for people to stop open defecation practices. Also, district assemblies in collaboration with sanitation agencies and toilet caretakers should ensure that toilet facilities in urban cities are properly managed and kept clean to enhance their sustainability and utilization. The sanitation institutions and/or personnel should re-enforce the sanitation bye-laws to help check against poor sanitation practices and should also improve the sanitation conditions in urban areas of Ghana for which Abuakwa is no exception.

References

- Boadi, O.B., and Kuitunen, M. (2005). Environmental health impacts of household solid waste handling and disposal practices in third world cities: The case of the Accra Metropolitan Area, Ghana. *Journal of Environmental Health*. Vol.68, no.4, pp.6-32.
- Evans, B. E, Bjerre, J, Calopietro, M, Peal, A and Konradsen, F (2010). Hooked on Sanitation Subsidies. In: Reaching the MDG Targets for Sanitation in Africa- A Call for Realism. Danish Ministry of Foreign Affairs.
- Environmental Health and Sanitation Directorate (2010). National environmental sanitation strategy and action plan (NESSAP),2010- 2015. Available: http://www.wcghana.com/reports/national_environmental_sanitation_strategy_and_action_plan.pdf,
- Fobil, J., May, J., Kramer, A. (2010). Assessing the relationship between socioeconomic conditions and urban environmental quality in Accra, Ghana. *International Journal of Environmental Research and Public Health* Vol.7, pp. 125- 145.
- Ghana Water Forum. (2011). Water and sanitation service delivery in a rapidly changing urban environment. *Ghana Water Forum Journal*, Vol.1, pp. 12- 31.
- Jacobsen, M., Webster, M, and Vairavamoorthy, K. (2012). The Future of Water in African cities: Why waste water?. Washington D.C. - The World bank.
- Lubaale, G.N., and Musyoki, S.M. (2011), Pro-poor sanitation and hygiene in East Africa: turning challenges to opportunities, Conference Paper. The Hague, the Netherlands: IRC International Water and Sanitation Centre.

- Manase, G., Mulanga, M., Fawcett, B. (2001). Linking Urban Sanitation Agencies with Poor Community needs: A Study of Zambia, Zimbabwe and South Africa. Africa: draft guidelines. Miscellaneous. Institute of Irrigation and Development Studies (IIDS) University of Southampton. Southampton, UK.
- Maria, D., Lane, J., Scott, B., Trouba, D. (2010). Sanitation and health. PLoS Med. journal. pmed. 1000363. Vol. 7, no.11: e1000363. Doi: 10.1371.
- Moe, C. L. and Rheingans, R. D., (2006). Global challenges in water, sanitation and health. *Journal of Water and Health*. Vol. 4, pp. 41- 57.
- Nadkarni, M. (2004). The Meaning of Sanitation: An Ecosystem Approach. France: Paris Codex publications.
- Norstrom, A. (2007). Swedish and Water House Report: Planning for drinking water and sanitation in peri-urban areas- Sweden: Swedish Water House.
- Obiri- Danso, K., Weobong, C.A.A., Jones, K. (2005). Aspect of health- related microbiology of the subin, an urban river in Kumasi, Ghana. *Journal of Water and Health*. Vol. 3, no.1.
- Scott, B., (2006). Health Impacts of improved household sanitation. *Journal on Review of Anaerobic Treatment Process*. Available: <http://www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-htm/Household%20Sanitation.htm>
- Thrift, C. (2007). Sanitation Policy in Ghana: Key Factor and the Potential for Ecological Sanitation Solutions. Stockholm Environment Institute (SEI), Stockholm, Sweden.
- Twumwine, J.K., Katua- Katua, M., Mujwajuzi, M., Johnstone, N., Wood, E., Parros, I., (2002). Diarrhea and effects of different water sources, sanitation and hygiene behavior in East Africa. *Journal of Medicine and International Health*. Vol.7, no.9.

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