

PRACTICES AND KNOWLEDGE ABOUT ENVIRONMENTAL SANITATION AND HYGIENE AMONG URBAN DWELLERS IN GOMOA EAST DISTRICT, GHANA

Godfred Safo-Adu

Department of Integrated Science
Education, Faculty of Science
Education, University of Education
Winneba, GHANA
gsafoadu@gmail.com

Ruby Hanson

Department of Chemistry Education
Faculty of Science Education
University of Education, Winneba
GHANA
maameruby@yahoo.com

ABSTRACT

This study assessed the practices and knowledge about environmental sanitation and hygiene among urban dwellers in Gomoa East District in the Central Region of Ghana. A cross sectional survey research design was adopted for the study. Random sampling technique was used in selecting 360 inhabitants in three urban communities. A structured questionnaire was used for data collection. Descriptive and inferential statistics were used to analyse the data. The study showed that a significant number of respondents (80.8%) had high knowledge about environmental sanitation and hygiene than respondents (2.5 %) with low knowledge. Respondents who had good standard practices regarding environmental sanitation and hygiene were 43 % greater than respondents with poor standard practices. Chi-square test results showed that no association exist between sex and knowledge ($\chi^2 = 2.32, p = 0.31$) and age and knowledge ($\chi^2 = 2.03, p = 0.36$). However, there was significant association between occupation and knowledge ($\chi^2 = 42.10, p = 0.00$). A Pearson product-moment correlation result showed that there was no relationship between standard practices and knowledge about environmental sanitation and hygiene ($r = 0.058, p = 0.274$). Major findings of the study leads to a conclusion that even though inhabitants knowledge about environmental sanitation and hygiene was high there was a clear gap between knowledge and actual practices hence the District Environmental Health and sanitation Department in collaboration with Environmental Protection Agency should implement effective behavioral change communication strategy among the urban dwellers to translate knowledge into actual practice.

Keywords: Environmental sanitation, Practices, Knowledge, Hygiene, Urban Dwellers.

INTRODUCTION

Environmental sanitation is aimed at developing and maintaining a clean, safe and pleasant physical and natural environment in all human settlements, to promote the socio-cultural, economic and physical well-being of all sections of the population. It comprises of a number of complementary activities, including the provision and maintenance of sanitary facilities, public education, community and individual actions, regulation and legislation support by clearly defined mandated institutions, adequate funding and research and development (Ghana's, Environmental Sanitation Policy, 2010).

Globally, 2.3 billion people still do not have basic sanitary facilities such as toilet or latrines. Of these 892 million still defecate in the open, in street gutters, behind bushes, or into open water bodies (UNICEF & WHO, 2017). Poor sanitation is linked to transmission of diseases

such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and poliomyelitis. UNICEF and WHO (2017) reiterated that inadequate sanitation is estimated to cause 280 000 diarrhoeal deaths annually and is a major factor in several neglected tropical diseases including intestinal worms, schistosomiasis, and trachoma.

The current status of sanitation in Ghana leaves much to be desired as a result of the numerous hygienic related health problems it poses (Nsiah-Gyaaba, 2004). A baseline environmental sanitation data gathered in 2007 and 2008 by District Environmental Health Directorates country-wide in Ghana revealed that 76 % of households still rely on improper waste collection and disposal methods, with only less than 5 % relying on house – house collection. Also pan (bucket) latrines although banned is still used by 7% of the population (Ghana's, Environmental Sanitation Policy, 2010). Analytical report on sanitation in Gomoa East District in Central Region by Ghana Statistical Service (2005) revealed that only 2.8 % of refuse was collected by local authorities and that about 20 % of the population still had no toilet facilities as at 2003. The poor sanitation and unhygienic problems in the Gomoa East District in the Central Region of Ghana could be solved if inhabitants put the knowledge they have about environmental sanitation and hygiene into practice.

To effectively achieve sustainable behaviour change it is necessary to understand how the people value and perceive environmental change. It is for this reason that practices and knowledge assessment is particularly useful for this research. Knowledge and practice research approaches are used to understand what people know, believe and do in relation to specific topics (WHO, 2008). A study conducted by Aswathy (2015) in Nellanadu Panchayath in Trivandrum district regarding environmental sanitation and hygiene among the general populace, showed that majority of the people (57 %) had average knowledge and 49 % had both fair and good standard of practice regarding sanitation and hygiene. Also, a study carried out by Mohd and Malik (2017) on sanitation and hygiene knowledge, attitude and practices in urban setting of Bangalore in India revealed that sanitation and hygiene practices are heavily influenced by people's knowledge towards it.

Baseline data on current practices and knowledge about environmental sanitation and hygiene in Gomoa East District in the Central Region of Ghana is scarce. As important as practices and knowledge about sanitation and hygiene are to healthcare planning, a search of the available literature revealed that not much researches have been conducted to examine the practices and knowledge of people on these two critical determinants of health in most communities in Ghana. The lack of appropriate information on practices and knowledge about environmental sanitation and hygiene is an impediment to identify priority needs. This study assessed the practices and knowledge about environmental sanitation and hygiene among urban dwellers in Gomoa East District in the Central Region of Ghana. Specifically, the study sought to determine the knowledge level about environmental sanitation and hygiene among urban dwellers in Gomoa East District. It also sought to identify the environmental sanitation and hygiene practices among urban dwellers in Gomoa East District and examine the association between knowledge of urban dwellers about environmental sanitation and hygiene and their demographic characteristics.

The following questions were posed to guide the study:

1. What is the knowledge level of urban dwellers within Gomoa East District in environmental sanitation and hygiene?
2. What kind of sanitation and hygiene practices do urban dwellers in Gomoa East District demonstrate?

3. What is the association between knowledge of urban dwellers about environmental sanitation and hygiene their demographic characteristics?

A null hypothesis that guided the study was:

Ho: There is no relationship between practices and knowledge about environmental sanitation and hygiene among urban dwellers in Gomoa East District.

METHODOLOGY

The study was conducted in three urban communities, Potsin, Asebu and Afransi, all in the Gomoa East District of the Central Region of Ghana. The district occupies 539.69 square kilometers located in the south-eastern part of the Central Region and has a population of 207, 071 inhabitants comprising of 47.3 % males and 52.7 % females (Ghana Statistical Service, 2010). A cross sectional survey was adopted in the study. A sample of 360 was estimated for the study using StatCalc in Epi Info Version 7 developed by the American Center for Disease Control and Prevention, Atlantic Georgia (2010). A random sampling technique was employed to obtain 120 households from the three urban communities. Three people (adults male and female and one youth) who understand basic communication were randomly selected from each selected household to answer a structured questionnaire.

The questionnaire contained 18 items divided into four sections (Sections A to C). Section A solicited the demographic characteristics of the respondents. Section B comprised of questions to assess the knowledge level of respondents about environmental sanitation and hygiene such as their understanding in refuse disposal, waste segregation, refuse/sewage recycling, drinking water storage options, and proper hygienic conditions (washing hands with soap after toilets, clearing bushes and stagnant water around households covering bins containing refuse). Section C comprised of questions to assess self-reported practices regarding sanitation and hygiene like community sanitation exercise participation, water purification, hand washing, water storage, toilet cleaning and household cleaning practices.

The instrument was reviewed by experts in the Department of Integrated Science Education of University of Education, Winneba to ensure their face and content validity after which they were pre-tested in urban communities in Gomoa West District with similar characteristics of people in the urban communities of the study area to estimate their reliabilities. The items were subjected to item analysis in order to identify those whose removal or modification would enhance the internal consistency of the instruments (Onwoioduokit, 2000). The Statistical Package for Services and Solution (SPSS) was used to determine the Cronbach alpha coefficient value for the instrument. An alpha value of 0.87 was obtained for the questionnaire. The responses of participants indicated that they understood the questions and that the wordings of the items were appropriate.

The consent of the Gomoa East District Assembly and chiefs in the area were sought before collecting the data. Respondents gave out the information voluntarily and were assured that whatever information they gave out would be treated confidentially. Five teaching assistants in the Department of Integrated Science at University of Education (UEW) were trained and engaged as research assistants. A day's training was held for the research assistants before data collection commenced.

Respondents' knowledge about environmental sanitation and hygiene was scored as follows: the correct answer gets a score of 2, the 'not sure' answer gets 1 score and the wrong answer gets 0 score. The possible scores for people in households ranged from 20 to 0. The

respondent knowledge was classified into three levels which were: high knowledge, moderate knowledge and low knowledge. The cut-off points for 'high knowledge' was 70 % of 20 score and above, 'moderate knowledge' ranged from 50 % of 20 score to 70 % of 20 score and 'low knowledge' was 50 % of 20 score and below. The responses of respondents' practices regarding environmental sanitation and hygiene were categorized into four levels which were: All the times, Most of the times, Sometimes and Never. The levels were scored as follows: 'All the times' gets a score of 3, 'Most of the times' gets a score of 2, 'Sometimes' gets a score of 1 and 'Never' gets a score of zero (0). The reverse is true for negative items. The total possible scores for respondents ranged from 45 to 0. Respondents' practices were put into three categories - good practice, moderate practice and poor practice. The cut-off points for 'good practice' was 70% of 45 score and above, 'moderate practice' ranged from 50% of 45 score to 70% of 45 score and 'poor practice' was 50% of 45 scores and below.

The SPSS software (version 20) was used to organize the data into frequency, counts and percentages. Also mean scores and standard deviation of the sample responses were determined. Univariate associations between categorical variables were examined using Chi – square.

RESULTS

The demographic distribution of respondents is presented in Table 1.

Table 1: Demographic Information of Respondents (N = 360)

Variables		Number of Respondents	Percentages (%)
Sex	Male	173	48.0
	Female	187	52.0
Age	10 – 17	86	24.0
	18 and above	274	76.0
Occupation	Student	133	37.0
	Farming	50	13.8
	Civil Servant	29	8.1
	Clergy	0	0
	Politician	3	0.8
	Trading	112	31.1
	No Occupation	33	9.2
Educational Status (Highest)	Primary	123	34.2
	Secondary	179	49.2
	Tertiary	32	8.9
	None	26	7.7

Out of the 360 respondents who filled the questionnaire, 164 respondents (48.0%) were males and 178 respondents (52.0%) were females. Table 1 shows that 24.0 % of respondents were between 10 to 17 years, whilst 76.0 % were 18 years and above. Majority of the respondents were students (37.0%) and traders (31.1 %) whilst few were civil servants (8.1 %) and politicians (0.8 %). About half of the respondents (49.7 %) had secondary education as the highest level of education whilst (34.2 %) had primary education as their highest level of education. Only 8.9 % and 7.2 % had tertiary education and non-formal education respectively.

Table 2 presents the results of the knowledge level of respondents about sanitation and hygiene in the study area.

Table 2: Results on knowledge of respondents about sanitation and hygiene (N=360)

Statement	No	Not Sure	Yes	Mean	Standard Deviation
The unwanted items such as papers, plastic bags, pieces of metal, scrap can, old and abandoned cloth, wood scraps are wastes	17(4.7%)	11(3.1%)	332(92.2%)	1.98	0.28
Throwing garbage into gutters, on the street and around your surroundings cause flooding	20(5.6%)	18(5.0%)	322(89.4%)	1.99	0.33
Burning of garbage/refuse is not the best way to dispose of waste and has environmental effects	109(30.2%)	43(12.0%)	208(57.8)	1.82	0.63
Burying of garbage/refuse at your backyard is not the most appropriate way to dispose of refuse	69(19.2%)	80(22.2%)	211(58.6%)	1.61	0.79
Washing hands with water without soap after visiting the toilet is not a good practice	87(24.2%)	29(8.0%)	244(67.8%)	1.57	0.86
Food waste can decompose naturally	20(5.6%)	73(20.2%)	267(74.2%)	1.31	0.57
Defecating in bushes/field and backyards has negative effect on people living in the area	19(5.2%)	28(7.8%)	313(86.9)	2.82	0.51
The best way to store drinking water is to store it in a container which can be covered	14(3.9%)	19(5.3)	327(90.8)	2.89	0.43
Storing refuse in dustbin which has no cover is a bad practice	26(7.2%)	53(14.7)	281(78.1%)	1.29	0.59
It is the responsibility of people in households to clear bushes and weeds around their houses.	29(8.1%)	17(4.7%)	314(87.2%)	1.95	0.33
Sorting out plastic waste from garbage contribute to waste segregation	21(5.8%)	124(34.5%)	215(59.7%)	1.46	0.60
Covering waste containers is a good sanitation and hygiene practice	14(3.9%)	15(4.2%)	330(91.9%)	1.12	0.43
Sewage (human excreta) could be recycled	75(20.8%)	117(32.5%)	168(46.7%)	1.74	0.78
Allowing stagnant water in the surroundings of your house is a good sanitation and hygiene practice	43(11.9%)	38(10.6%)	279(77.5%)	1.34	0.68
Refuse can be converted into manure by scientist/experts	48(13.3%)	108(30.0%)	204(56.7%)	1.56	0.71

From Table 2, the number of respondents (92 %) who responded "Yes" to the question "unwanted items such as papers, plastic bags, pieces of metal, scrap cans, old and abandoned cloths, wood scrap are wastes" were significantly higher than respondents (4.7 %) who responded "No". A lot of the respondents (56.8%) were aware that refuse could be converted to manure by scientists or experts whilst few respondents did not. Respondents who said "No" and "Not sure" to the fact that refuse could be converted to manure were 13.1 and 30.1 % respectively. Again, the number of respondents (47 %) who indicated "Yes" to the question "sewage can be recycled" were more than respondents (20.8 %) who answered "No". Many respondents (89.4%) were aware that "throwing of garbage into gutters and streets can cause flooding". The number of respondents (58 %) who responded "Yes" to the fact that "burning of garbage is not the best way to dispose of waste" was greater than respondents (30 %) who said "No" to this unwholesome practice. A great proportion of the respondents (67.5 %) knew that "washing of hands with water without soap after visiting the toilet is not a good practice".

The summary of the results on knowledge level of respondents about environmental sanitation and hygiene is shown in Table 3.

Table 3: Summary of results on knowledge about sanitation and hygiene

Knowledge level	Frequency	Percent
High (> 21)	291	80.8
Moderate ($15 \leq v \leq 21$)	60	16.7
Low (< 15)	9	2.5
Mean	2.78	
Standard Deviation	0.47	

A significant number of respondents (80.8%) had high knowledge about environmental sanitation and hygiene as compared to respondents (2.5 %) who had low knowledge in environmental sanitation and hygiene. About 17 % demonstrated moderate knowledge about environmental sanitation and hygiene.

Table 4 presents the results of respondent's practices about environmental sanitation and hygiene. Fifteen (15) questions were asked to solicit information on respondent's practices regarding environmental sanitation and hygiene.

Table 4: Results of respondents' practices of sanitation and hygiene (N=360)

Statement	Never	Sometimes	Most of the times	All the times	Mean	Standard Deviation
I dispose of waste into garbage bags and throw them into gutters and on the street	286 (79.4%)	60 (16.7%)	8 (2.2%)	6 (1.7%)	1.26	0.58
I wash my hands with water and soap after visiting the toilet	14 (3.9%)	97 (26.9%)	60 (16.7%)	189 (52.5%)	3.19	0.96
I cover my waste bin/container after putting in refuse	57 (15.8%)	107 (29.7%)	76 (21.1%)	120 (33.4)	2.72	1.10
I pile up refuse in my household for a day or two before putting it into the household dustbin	187 (51.9%)	125 (34.7%)	35 (9.8%)	13 (3.6%)	1.63	0.79
I weed and clean my surroundings	8 (2.3%)	105 (29.1%)	110 (30.5)	137 (38.1%)	3.05	0.87
I clean my toilet facility	48 (13.3%)	150 (41.7%)	75 (20.8%)	87 (24.2%)	2.57	0.99
I throw faecal matter into the environment	260 (72.2%)	64 (17.8%)	21 (5.8%)	15 (4.2)	1.39	0.74
I allow stagnant water around my household	245 (68.1%)	87 (24.2%)	17 (4.7%)	8 (3.0%)	1.41	0.69
I add my refuse to the garbage pile in the area	104 (28.9%)	104 (28.9%)	25 (6.9%)	127 (35.4%)	2.48	1.24
I participate in community sanitation exercise	53 (14.7%)	118 (32.8%)	69 (19.2%)	120 (33.3%)	2.72	1.08
I cover my storage drinking water at home	8 (2.2%)	71 (19.7%)	85 (23.7%)	196 (54.4%)	3.30	0.86
I advise people in my neighbourhood to stop throwing refuse into their backyard	60 (16.7%)	140 (38.9%)	70 (19.4%)	90 (25.0%)	2.53	1.04
I leave my cooking utensils for a day or more before washing them	201 (55.8%)	107 (29.7%)	19 (5.3%)	33 (9.2%)	1.66	0.93
I wash my hands anytime I eat	13 (3.6%)	41 (11.4%)	52 (14.4%)	254 (70.6%)	3.55	0.80
I leave the garbage there whenever I sweep	243 (67.5%)	76 (21.1%)	18 (5.0%)	23 (6.4%)	1.49	0.85

From Table 4, respondents (53 %) who reported to wash their hands all the time with soap after visiting the toilet were significantly greater than respondents (4 %) who never did. Again, respondents who all the time cover their waste bins with lid after putting in garbage were 3.7 % greater than respondents who sometimes cover their waste bins with lid after putting in garbage. Majority of the respondents (79.4 %) reported of never disposing waste into gutters and streets as compared to 1.7 % of respondents who all the time practice this unwholesome act. A great proportion of respondents (72.2 %) reported of never throwing faecal matter into the surroundings. Comparatively, respondents who reported to add refuse to garbage pile in their area all the time were more than respondents who did that sometimes by 7 %.

Respondents (33.5 %) who participated in community sanitation exercise were significantly higher than respondents (14.8 %) who never got involved. Notwithstanding 32 % of respondents sometimes got involved in community sanitation exercise. Again, most respondents sometimes advised people within their neighbourhood to stop throwing refuse into their backyards. Comparatively, respondents who weed and clean their surroundings all the time and those who did that most times differ by 7 %. Few respondents (9.3 %) reported of leaving their cooking utensils unwashed for a day or two before washing.

The summary of the results of respondents' practices regarding environmental sanitation and hygiene is shown in Table 5.

Table 5: Summary of results on respondents' practice of sanitation and hygiene

Sanitation Practices	Frequency	Percent
Good (> 31.5)	54	58.3
Moderate ($22.5 \leq v \leq 31.5$)	96	26.7
Poor (< 22.5)	210	15.0
Mean	1.57	
Standard Deviation	0.74	

From Table 5, many respondents (58 %) had good practices regarding environmental sanitation and hygiene as compared to respondents (15 %) who had poor practices in environmental sanitation and hygiene. Also, about 27 % of respondents had moderate standard practices regarding environmental sanitation and hygiene

The result of the Chi square test performed to examine the association between knowledge about environmental sanitation and hygiene and their demographic characteristics is presented in Table 6.

Table 6: Univariate association between respondents' knowledge level about sanitation and their demographic characteristics

Demographic characteristics	Knowledge level			Total f(%)	χ^2 f(%)	p-value f(%)
	Low f(%)	Moderate f(%)	High f(%)			
Sex						
Male	8(2.2)	29(8.1)	136(37.8)	173(48.0)	2.321	0.313
Female	5(1.3)	38(10.6)	42(40.0)	187(52.0)		
Total	3(3.5)	67(18.7)	276(77.8)	360(100.0)		
Age Group						
10 – 17	8(2.2)	17(4.7)	61(17.0)	86(24.0)	2.025	0.363
18 and above	12(3.3)	45(12.5)	217(60.2)	274(76.0)		
Total	20(5.5)	62(17.2)	278(77.2)	360(100.0)		
Occupation						
Student	7(1.9)	26(7.2)	100(27.7)	133(37.0)	2.096	0.000*
Farming	2(0.6)	8(2.2)	40(11.1)	50(13.9)		
Civil servant	2(0.5)	2(0.5)	25(7.1)	29(8.1)		
Politician	1(0.3)	2(0.5)	0(0.0)	3(0.8)		
Trading	5(1.4)	19(5.3)	88(24.4)	112(31.1)		
No occupation	0(0.0)	7(2.0)	26(7.3)	33(9.3)		
Total	18(4.7)	62(17.2)	280(77.7)	360(100.0)		
Educational status						
(Highest)						
Primary	2(0.6)	22(6.1)	99(27.5)	123(34.2)		
Secondary	7(1.9)	30(8.3)	142(39.4)	179(49.7)		
Tertiary	1(0.3)	4(1.1)	27(7.5)	32(8.9)		
None	1(0.3)	4(1.3)	21(5.8)	26(7.2)		
Total	11(3.1)	60(16.7)	289(80.2)	316(100.0)		

***significant association**

The results revealed that there was no relationship between sex and knowledge ($\chi^2 = 2.32$, $p = 0.31$; $p > 0.05$), between age and knowledge ($\chi^2 = 2.03$, $p = 0.36$; $p > 0.05$), and between educational status and knowledge ($\chi^2 = 0.92$, $p = 0.99$; $p > 0.05$) about environmental sanitation and hygiene. However, there was significant association between occupation and knowledge regarding sanitation and hygiene ($\chi^2 = 42.10$, $p = 0.00$, $p < 0.05$).

The Pearson product moment correlation conducted to determine the relationship between knowledge and practices' regarding environmental sanitation and hygiene of respondents is depicted in Table 7.

Table 7: Relationship between knowledge and practices regarding sanitation and hygiene

Relationship	Correlation value	P – Value
Knowledge and practices	0.058	0.274

There was a weak positive correlation between knowledge and practice regarding environmental sanitation and hygiene, which was not statistically significant ($r = 0.058$, $p = 0.274$).

DISCUSSION

The study assessed the practices and knowledge about environmental sanitation and hygiene among urban dwellers in the Gomoa East District. The results on the demographic information of respondents revealed that the number of respondent females were more than the number of respondents males by 2 %. Also a great proportion of respondents (76 %) were females.

were 18 years and above whilst few respondents (24 %) were between 10 – 17 years. About half of the respondents (49.7 %) had secondary education as the highest level of education.

Respondents indicated that they have a in depth knowledge in the concepts of waste and waste recycling. This is due to the fact that a great proportion of respondents (92.2 %) knew that unwanted items such as papers, plastic bags, pieces of metal, scrap cans, old and abandoned cloths, wood scrap are wastes. Moreover, more than half of the respondents (56 %) were aware that refuse can be converted manure by scientist/experts whilst 60 % of the respondents revealed that sorting out plastic waste from garbage contributes to waste segregation. Respondents also showed that their knowledge level on the effects of unwholesome environmental practices was relatively high. For instance, majority of the respondents (89 %) knew that throwing of garbage into gutters and on streets can cause flooding whilst relatively high number of respondents also had in mind that burning of garbage/refuse is not the best way to dispose of waste and has environmental effects. Respondents also exhibited high level of knowledge in households and personal hygiene.

A greater proportion of respondents (91.1 %) agreed that covering waste containers is a good sanitation and hygiene practice. In addition, majority of the respondents also attested to the fact that it is the responsibility of people in households to clear bushes and weeds around their houses. Unfortunately about 78 % never knew that allowing stagnant water in their surroundings was a bad sanitation and hygiene practice. Notwithstanding, majority (86.9 %) were aware that defecating in bushes/field and backyards has negative effects on people living in the area. A greater percentage of respondents (92.3) agreed that the best way to store drinking water was to store it in a container which can be covered whilst relatively high respondents (78.3 %) were aware that storing refuse in dustbin which has no cover was a bad practice. Comparatively, a significant number of respondents had (80.8%) had high knowledge about environmental sanitation and hygiene than respondents (2.5 %) who had low knowledge. The findings of this study is in contrast with the study conducted by Aswathy (2015), who report that majority of respondents (57 %) had average knowledge about sanitation and hygiene and 11 % of respondents had poor knowledge about sanitation and hygiene. A chi-square results showed that no association exist between sex and knowledge ($\chi^2 = 2.32, p = 0.31$); age and knowledge ($\chi^2 = 2.03, p = 0.36$) and educational status and knowledge ($\chi^2 = 0.92, p = 0.99$). However, there was significant association between occupation and knowledge regarding sanitation and hygiene ($\chi^2 = 42.10, p < 0.05$).

The study revealed that respondents adopted good practices regarding environmental sanitation and hygiene. This is due to the fact about 79 and 73 % of respondents reported of not disposing refuse and faecal matter respectively into their surroundings. Again majority of respondents reported of putting garbage into bins and not leaving it in their households for a day or more before doing that. In addition most respondents (69 %) reported to wipe of stagnant water in their households that might serve as breeding grounds for mosquitoes. About 67 % of respondents reported to wash their utensils after cooking and not leaving them there for a day or more before washing them. Few respondents (24.3 %) reported of cleaning their toilets facilities all times whilst majority practiced that sometimes. Respondents practice of weeding surroundings and covering bins after putting in refuse was low. This is dues to that fact that only 38.3 % and 33.8 % respondents reported to weed their surroundings and cover bins all times respectively.

The participation of respondents in community sanitation exercise was low. This was because only 33.5 % reported to participate in community sanitation exercise all times. About one –

fourth of respondents reported to advice people in their neighbourhood from throwing refuse into their backyards. Majority of the respondents who reported to wash their hands before eating and also cover drinking water in their homes were 52.9 and 54.7 % respectively. Respondents who had good standard practices regarding environmental sanitation and hygiene were 43 % greater than respondents with poor standard practices. The findings of this study is in contrast with the study conducted by Aswathy (2015) where 49 % of respondents had both fair and good standard of practice related to environmental sanitation and hygiene.

There was no relationship between knowledge and practices regarding environmental sanitation and hygiene. This means that the high level of knowledge about environmental sanitation and hygiene was not translated into actual practice. The findings of the study is in par with the study conducted by Aswathy (2015) and Mohd and Malik (2017), who reported that there was no relationship between respondent's practices and knowledge about environmental sanitation and hygiene.

CONCLUSION AND RECOMMENDATIONS

The study revealed that about half of the respondents had secondary education as the highest level of education and were mostly 18 years and above. Respondents who had good standard practices regarding environmental sanitation and hygiene were 43 % greater than respondents with poor standard practices. Many respondents had (80.8%) had high knowledge about environmental sanitation and hygiene than respondents (2.5 %) who had low knowledge. The percentage level of respondents with high knowledge about sanitation and hygiene was higher than the percentage level of respondents (58 %) with good standard practices regarding sanitation and hygiene. Respondents practices of cleaning toilet facilities, weeding surroundings, covering waste bins after putting in waste and participation in community sanitation exercise was low. There was no relationship between respondent's practices and knowledge about environmental sanitation and hygiene; hence there was a gap between respondent's knowledge and actual practices.

It is therefore recommended that:

1. The District Environmental Health and sanitation Department in collaboration with Environmental Protection Agency should embark on effective behavioral change communication strategy among the urban dwellers since there was a clear gap between knowledge and actual practices even though their knowledge level regarding environment sanitation and hygiene was high.
2. The District Environmental Health Sanitation Department should liaise with the District Works Department (DWD) to educate inhabitants in the Gomoa East District on the need to clean their toilet facilities regularly, weed their surroundings and participate in community sanitation exercises as this might help reduce filth in the area and outbreak of communicable diseases in the area.

ACKNOWLEDGEMENTS

We would like to thank the 2017 National Service personnel in the Department of Integrated Science Education of University of Education, Winneba who helped in the data collection during the study.

REFERENCES

- Aswathy, S. K. (2015). Knowledge and practice regarding environmental sanitation and hygiene among general population. A cross sectional survey. *Global Journal for Research Analysis*. 4(11), 2277 – 8160.
- Ghana's Environmental Sanitation Policy (2010). Retrieved from <http://www.ircwash.org/resources/environmental-sanitation-policy-ghana-2010>
- Ghana Statistics Service (2012). *Population and Housing Census Report*.
- Ghana Statistics Service (2014). *District analytical report on Population and Housing Census*.
- Mohd, G., & Malik, I. (2017). Sanitation and hygiene knowledge, attitude and practices in urban setting of Bangalore: Across sectional study. *Journal of Community Medicine and Health Education*. 7(4), 540 – 545.
- Nsiah-Gyaaba, K. (2004). *Urbanization process –environmental and health effects in Africa*. Sunyani, Ghana.
- Onwoioduokit, F. A. (2000). *Educational Research Methodology and statistics*. Uyo, Forand.
- United Nations Children's Fund & and World Health Organization (2017). *Progress on Drinking Water, Sanitation and Hygiene Report*, Geneva, Switzerland: WHO Press.
- World Health Organization, (2008). *World Health Statistics Report*. Geneva, Switzerland: WHO Press .