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Original Research Article

Hand washing knowledge and practices among public primary schools in the Kintampo Municipality of Ghana

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ABSTRACT

Background: Hand washing is very effective in preventing communicable diseases. Hand washing is particularly important for children, as they are more vulnerable to infections gained from unwashed hands and also due to their unhealthy behaviour. The study was conducted to determine the availability of hand washing facilities, hand washing knowledge and practices among public primary schools in Kintampo Municipality.
Methods: A cross sectional survey was carried out among 300 children and 10 headmasters in 10 selected schools. Data were collected using questionnaires and observation checklist regarding socio-demographic characteristics, knowledge of hand washing, hand washing practices and availability of hand washing facilities in the selected schools.
Results: All the children indicated that it was important to wash their hands with water and soap. About (37.67%) washed their hands in order to prevent diseases, 53.33% had never been educated on how to wash their hands. Only 23.33% of the children demonstrated correctly on how to wash hands, a little over 15% washed their hands under clean running water whiles 23.33% wipe their hands using handkerchiefs. Forty-three percent indicated after visiting toilet as necessary to wash hands whiles 42.33% cited lack of water as the barrier to hand washing. About 39.88% always washed their hands with soap after using the toilet; about 60% of the schools had hand washing points. Only 30% of the schools have clean running water.
Conclusions: There is the need for effective hand washing education in the schools to help improve hand washing knowledge and practices. Hand washing facilities in the schools were found to be inadequate.

Keywords: Hand washing, Facilities, Public schools, Children, Kintampo

INTRODUCTION

Hand washing is the act of cleaning hands for the purpose of removing soil, dirt, and microorganisms.[1]

Hand washing has been recognized to be a convenient, effective, and also cost-effective means of preventing communicable diseases in developing countries.[1] Hand washing is especially important for children, as they are

the most susceptible to infections gained from unwashed hands.[2]

Many infections start when hands are contaminated with disease causing organisms. This can happen after using the toilet, coughing or blowing your nose, playing, handling garbage and touching other contaminated surfaces.[3] Most diseases such as diarrhoea and pneumonia are transmitted mainly by contaminated hands, diarrhoea and pneumonia alone kills an estimated 1.7 million children every year. Many of these deaths can be prevented by hand washing with soap.[4] However, in many developing countries; there is low level of hand washing with soap. A study in 54 countries in 2015 found that on average, 38.7% of households' practised hand washing with soap.[5]

When children wash their hands with soap after going to toilet or before eating, they reduce their risk of getting diarrhoea by more than 40 percent.[6] Proper hands washing practice contributes to healthy development of children by keeping them in school. Hand washing actually improves school attendance by reducing the spread of preventable diseases, which means children are not staying home because of illness.[6]

Here in Ghana, over 10,000 Ghanaian children die each year from diarrhoea and pneumonia. If this continues, Ghana may not be able to achieve the sustainable development goal 3 and its targets on child mortality by 2030.[6] Hand washing with soap alone could reduce diarrhoea by up 50% and pneumonia by 25%, yet only 20% of Ghanaians wash their hands with soap.[6] The awareness about the importance of the practice remains low with hand washing rate growth of 8% over the last three years. Thousands of lives could be saved if hand washing with soap becomes a habit for everyone in Ghana.[6] Most school children are aware of the essence of hand washing, having sufficient knowledge about hand washing but poor in practice.[7] Improved knowledge and effective hand hygiene practices especially among children can effectively reduce gastrointestinal and respiratory tract infections by up to 50% the two leading causes of childhood morbidity and mortality around the world.[8,9] In addition, studies have also shown that school children with better knowledge and practices of hand hygiene have fewer sick days and absenteeism in school and achieve higher grades.[9-11] However, most school children in Ghana do not practice proper hand washing with soap, both in school and at home due to the unavailability and inaccessibility of hand washing facilities such as soap, towel and clean running water.[12] Lack of resources, namely soap and water, as well as inadequate sanitation facilities may be two of the main reasons why children do not wash their hands.[13-15]

Learning, hygiene and health are strongly inter-linked as children miss school or perform poorly when they are suffering from diseases related to poor hand washing. These illnesses spread fast where many children are together for many hours at school.[16] With this in mine, the School Health Education Program (SHEP) Unit of Ghana Education Service (GES) in collaboration with the Community Water and Sanitation Agency (CWSA) and other NGOs have undertaken a number of hand washing with soap promotional activities in Basic schools across Ghana. School children and their teachers have been taken through the need to observe hand washing with soap at critical times, the importance of hand washing, the steps in hand washing and practical demonstration of hand washing.[17]

In Kintampo Municipality, there is mass movement of school children from the surrounding villages to Kintampo Township to get perceived quality education as Kintampo Township schools are consistently ranked higher in terms of academic performance than their counterparts in the surrounding villages. This worsens the plight of the already overpopulated schools in Kintampo Township and can have several health implications on the school children as overcrowding can trigger the occurrence and easy spread of infectious diseases among school children. Hand washing has been shown to be effective and also cost-effective means of preventing communicable diseases.[2] It is against this backdrop that this study examines the availability of hand washing facilities, hand washing knowledge, and practices among public primary schools in Kintampo Municipality.

METHODS

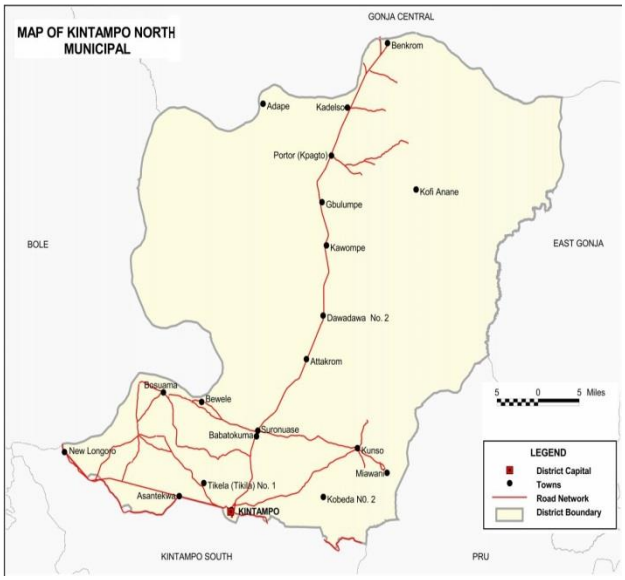

Figure 1: Map of Kintampo Municipality (Ghana statistical service, 2010).

Study area

Kintampo Municipality also known as "the District of Waterfalls" is located strategically at the centre of Ghana and between latitude 8°20W and 7°45N and longitudes 1°20W and 2°1'E and share boundaries with five districts

in the country, namely, central Gonja district to the North, Bole Districts to the west, East Gonja District to the North-East, Kintampo south district to the south and Pru district to the south –East. The Municipality has surface area of 5,108km^2. According to 2010 Ghana Population and Housing census, Kintampo municipality has a population of 95, 480 with about 47,000 in Kintampo township. The Municipality has 78 primary schools.[18]

Study design

A cross sectional survey was conducted from November-2017 to March-2018 to determine the availability of hand washing facilities for use by school children and the level of hand washing knowledge and practices among primary school children in Kintampo. All school children who were attending public primary schools at the time of the study were the source population. All school children who were randomly selected in the public primary schools were the study population. The study population consisted of students from classes 1-6 during 2017/2018 academic year. Head teachers of the ten selected schools were also part of the study population. All students attending primary school at Kintampo during the first and second term of 2017/2018 academic year were included in the study. School children who were absent and those who declined to answer the questions were excluded in the study.

Sampling technique

Simple random sampling was used to select the schools that took part in the study. The list of the public basic schools in Kintampo was obtained from the Municipal Education Directorate. With balloting system, 10 schools were selected to take part in the study. Random sampling was also applied to select 300 school children in the selected schools to participate in the study, that is, 30 children was selected from each school with at least 5 children participating from each class. Head teachers of the ten schools were purposively selected to answer questions on the availability of hand washing facilities in the schools. The final sample size was 300 children and 10 headmasters.

Data collection procedure and analysis

The data collection techniques used in collecting the research data were questionnaires and observation checklist. Questionnaires were administered for collection of socio-demographic characteristics, level of hand washing knowledge and hand washing practices among school children. Questionnaires and observation checklist were used to determine the availability of hand washing facilities in the schools. The questionnaires for the children were administered by the researchers as most Ghanaian primary children find it difficult to read and understand on their own. Children were made to answer the questionnaires during break periods in order not to interrupt instructional time. Almost every child in the Kintampo Municipality speaks Twi, the questionnaires were therefore translated into Twi language for the lower primary children and others who found it difficult to understand English.

The quantitative data were coded and analyzed using the Statistical Package for Social Sciences (SPSS) software, version 20.0. Percentages in tables were computed for variables.

Ethical consideration

Permission was obtained from Kintampo North Municipal Education Directorate before data collection. The headmasters/ mistresses of the schools were verbally informed with a permission letter obtained from the Municipal Education Directorate. Informed consent was obtained from parents or guardians of the school children, stating clearly the objectives of the study. Verbal consent was obtained from the school children and they were assured of confidentiality.

RESULTS

In Table 1, a total of 300 school children from classes 1-6 were selected from 10 schools to participate in the current study. The mean age of the population under study were 10.9 years with standard deviation of 2.60. Majority (50.67%) were girls and 39.33% of the children were within the ages of 12-14 years. With respect to religion, majority (60.67%) of the children were Christians, 35% were Moslems whiles 4.33% were traditionalists. Forty-three percent of mothers of these children constituting the majority had no basic education whiles 9% of their fathers had tertiary education. Most parents of these children belonged to the unskilled worker category.

Regarding knowledge on hand washing as presented in Table 2, it was recorded that all (100%) of the children accepted the fact that it was important to wash their hands with water and soap when in school. About (37.67%) explained that they wash their hands in order to prevent diseases whiles 21.33% washed their hands to remove germs and dirt. Majority (53.33%) of these children had never been educated on how to wash their hands whilst most (65.71%) of those who had ever been educated on hand washing had it in school, 51.43% of these children had their hand washing education from their teachers. It was observed that, majority (76.67%) of these children demonstrated wrongly when they were asked to demonstrate how they wash their hands. A little over (15%) of these children washed their hands under clean running water with soap whiles 45.67% washed their hands in a bowl of water with soap. A significant number of the children emphasized that it is necessary to wash hands after visiting toilet (43%) and before and after eating (32.33%). Majority (71.67%) claim one cannot use water with ash to wash hands whiles 21.67% were of the view that one can wash hands using water and mud. Most (54.67%) asserted that, bar soap was the best to use in hand washing compared to liquid soap (32.33%), majority (73.67%) of the children get their soap from school food vendors/sellers when they buy food from

them. Most (96.33%) of these children believed that it was necessary for them to dry their hands after hand washing. About (23.33%) wiped their hands using handkerchiefs, 19% wiped their hands using their school uniform, 18.67% uses common towel/napkin whiles 17.67% used their own towel/napkin to wipe their hands.

Table 1: Socio-demographic characteristics.

Variables	Frequency (N=300)	Percentage (%)
Gender		
Boy	148	49.33
Girl	152	50.67
Age (years)		
6-8	63	21.00
9-11	101	33.67
12-14	118	39.33
15-17	18	6.00
Class		
Class 1	52	17.33
Class 2	50	16.67
Class 3	47	15.67
Class 4	50	16.67
Class 5	51	17.00
Class 6	50	16.67
Mother tongue		
Twi	53	17.67
Mo	67	22.33
Hausa	29	9.67
Konkomba	43	14.33
Dagaaba	39	13.00
Others	69	23.00
Religion		
Christianity	182	60.67
Islam	105	35.00
African traditional religion	13	4.33
Mother's education		
No formal education	113	37.67
Basic education	129	43.00
Secondary education	38	12.67
Tertiary education	11	3.67
Don't know	9	3.00
Mother's occupation		
Housewife	51	17.00
Skilled worker	64	21.33
Unskilled worker	178	59.33
Retired	6	2.00
Don't know	1	0.33
Father's education		
No formal education	100	33.33
Basic education	104	34.67
Secondary education	51	17.00
Tertiary education	27	9.00
Don't know	18	6.00
Father's occupation		
Skilled worker	106	35.33
Unskilled worker	175	58.33
Stays at home	6	2.00
Retired	13	4.33

Table 2: Knowledge about hand washing and its importance.

Characteristics	Freq. (N=300)	Percentage (%)
Is it important to wash your hands with soap when in school?		
Yes	300	100.00
Why is it important to wash your hands?		
To prevent diseases	113	37.67
To remove germs	64	21.33
To remove dirt	64	21.33
Personal hygiene	59	19.67
Have you ever been educated on how to wash your hands?		
Yes	140	46.67
No	160	53.33
If yes, at where?		
School	92	65.71
Home	34	24.29
Community durbar	14	10.00
Who educated you on hand washing?		
Teacher	72	51.43
Health officer	44	31.43
Parent	23	16.43
Other	1	0.71
Demonstrate how you wash your hands?		
Demonstrated correctly	70	23.33
Demonstrated wrongly	230	76.67
How do you wash your hands?		
Washes hands in a bowl of water with soap	137	45.67
washes hands with soap with someone pouring little clean water from a cup	118	39.33
Under running water with soap	45	15.00
When is it necessary to wash hands?		
Before and after eating	97	32.33
Before preparing food	47	15.67
After playing with friends	7	2.33
After visiting the toilet	129	43.00
After handling rubbish/garbage	16	5.33
After coughing or blowing your nose	4	1.33
Can one use water with ash to wash his/her hands?		
Yes	85	28.33
No	215	71.67
Can one use water with mud to wash his/her hands?		
Yes	65	21.67
No	235	78.33
What is the best to use when washing your hands?		
Water only	3	1.00
Water and soap	284	94.67
Water and mud	4	1.33
Water and ash	9	3.00
Which soap type is best to use in hand washing?		
Liquid soap	97	32.33
Bar soap	164	54.67
Powder detergent	38	12.67
Don’t know	1	0.33
From where do you get soap to wash your hands in school?		
School always provide	79	26.33
From school food vendors/sellers	221	73.67

Continued.

Characteristics	Freq. (N=300)	Percentage (%)
Is it necessary to dry your hands after washing?		
Yes	289	96.33
No	11	3.67
How do you wipe your hands after hand washing?		
Use common towel/napkin	56	18.67
Use my own towel/napkin	53	17.67
Allow hands to dry naturally	64	21.33
Wipe hands against clothes	57	19.00
Use handkerchief to wipe hands	70	23.33

Table 3: Hand washing practices among school children.

Characteristics	Freq. (n)	Percentage (%)
Why will you not wash your hands when in school?		
Not necessary	1	0.33
No time	35	11.67
No water available	127	42.33
No soap available	29	9.67
Always forget	69	23.00
Laziness	39	13.00
I always wash my hands before and after eating		
Yes	300	100.00
I always wash my hands with soap before and after eating		
Yes	96	32.00
No	204	68.00
I always wash my hands after visiting toilet		
Yes	168	56.00
No	132	44.00
I always wash my hands with soap after visiting toilet		
Yes	67	39.88
No	101	60.12
I always wash my hands after handling garbage		
Yes	98	32.67
No	202	67.33
I always wash my hands with soap after handling garbage		
Yes	40	40.82
No	58	59.18
I always wash my hands after playing with friends		
Yes	45	15.00
No	255	85.00
I always wash my hands with soap after playing with friends		
Yes	16	35.56
No	29	64.44
I always wash my hands after blowing nose or coughing		
Yes	46	15.33
No	254	84.67
I always wash my hands with soap after blowing nose or coughing		
Yes	20	43.48
No	26	56.52
I always wash my hands when they are visibly dirty		
Yes	144	48.00
No	156	52.00
I always wash my hands with soap when they are visibly dirty		
Yes	62	43.06
No	82	56.94

Table 4: Availability of hand washing facilities (observed).

Characteristics	Freq. (N)	Percentage (%)
Presence of hand washing point in the school		
Present	6	60.00
Absent	4	40.00
Location of hand washing point		
Close to toilet	2	33.33
Far away from toilet	4	66.67
Presence of soap or ash at hand washing point		
Yes	2	33.33
No	4	66.67
Presence of water supply within hand washing point		
Yes	2	33.33
No	4	66.67
Presence of towels/paper tissues at hand washing point		
Yes	1	16.67
No	5	83.33

Table 5: Availability of hand washing facilities for use by school children (answered by headmasters).

Characteristics	Freq. (N=10)	Percentage (%)
What is the source of water in your school?		
Public tap	1	10.00
School tap	3	30.00
Public well	5	50.00
School well	1	10.00
My school always has clean running water		
Yes	3	30.00
No	7	70.00
My school always has soap or ash for hand washing		
Yes	5	50.00
No	5	50.00
My school always has one or more veronica buckets for hand washing		
Yes	5	50.00
No	5	50.00
My school always has one or more tippy taps		
Yes	2	20.00
No	8	80.00
My school always has one or more communal bowls for hand washing		
Yes	2	20.00
No	8	80.00
My school always has towels or paper tissues for wiping of hands		
Yes	2	20.00
No	8	80.00

On hand washing practices as in Table 3, 42.33% of the children cited lack of water as the main reason why they will not wash their hands when in school, followed by the fact that, they always forget (23%). Thirty-two percent of the children always washed their hands with soap before and after eating whiles (N= 168) 56% of the children asserted that, they always washed their hands after visiting toilet, 39.88% of this number washed their hands with soap after visiting toilet. Forty-eight percent of these children always washed their hands when they are visibly dirty and only 43.06% always do it with soap. Only (N=98) 32%) of the children always washed their hands after handling garbage and out of this number, 40.82% always washed their hands with soap.

On the availability of hand washing facilities at hand washing points as presented in Table 4, it was observed that, 6 (60%) out of 10 schools had hand washing points

available, 4 (66.67%) of which were far away from the schools' toilet. It was also observed that, only 2 (33.33%) out of the 6 schools had soap and water supply at the hand washing points at the time researchers visited the schools.

Table 6: Association of socio-demographic characteristics and knowledge about hand washing.

	Demonstrated correctly	(%)	Demonstrated wrongly	(%)	Total	(%)	P value
Gender							
Boy	25	35.71	123	53.48	148	49.33	0.009
Girl	45	64.27	107	46.52	152	50.67	
Age							
6-8 years	16	22.86	47	20.43	63	21.00	0.782
9-11 years	26	37.14	75	32.61	101	33.67	
12-14 years	24	34.29	94	40.87	118	39.33	
Above 14 years	4	5.71	14	6.09	18	6.00	
Class							
Class 1	16	22.86	36	15.65	52	17.33	0.162
Class 2	7	10.00	43	18.70	50	16.67	
Class 3	15	21.43	32	13.91	47	15.67	
Class 4	11	15.71	39	16.96	50	16.67	
Class 5	8	11.43	43	18.70	51	17.00	
Class 6	13	18.57	37	16.09	50	16.67	
Mother tongue							
Twi	8	11.43	45	19.57	53	17.67	0.036
Mo	8	11.43	59	25.65	67	22.33	
Hausa	9	12.86	20	8.70	29	9.67	
Konkomba	13	18.57	30	13.04	43	14.33	
Dagaaba	10	14.29	29	12.61	39	13.00	
Others	22	31.43	47	20.43	69	23.00	
Religion							
Christianity	40	57.14	142	61.74	182	60.67	0.523
Islam	28	40.00	77	33.48	105	35.00	
Traditional (ATR)	2	2.86	11	4.78	13	4.33	
Mother's education							
No formal education	33	47.14	80	34.78	113	37.67	0.298
Basic education	24	34.29	105	45.65	129	43.00	
Secondary education	7	10.00	31	13.48	38	12.67	
Tertiary education	3	4.29	8	3.48	11	3.67	
Don't know	3	4.29	6	2.61	9	3.00	
Mother's occupation							
Housewife	13	18.57	38	16.52	51	17.00	0.893
Skilled worker	13	18.57	51	22.17	64	21.33	
Unskilled worker	42	60.00	136	59.13	178	59.33	
Retired	2	2.86	4	1.74	6	2.00	
Don't know	0	0.00	1	0.43	1	0.33	
Father's education							
No formal education	21	30.00	79	34.35	100	33.33	0.844
Basic education	27	38.57	77	33.48	104	34.67	
Secondary education	10	14.29	41	17.83	51	17.00	
Tertiary education	7	10.00	20	8.70	27	9.00	
Don't know	5	7.14	13	5.65	18	6.00	
Father's occupation							
Skilled worker	22	31.43	84	36.52	106	35.33	0.382
Unskilled worker	45	64.29	130	56.52	175	58.33	
Stays at home	2	2.86	4	1.74	6	2.00	
Retired	1	1.43	12	5.22	13	4.33	

As seen in Table 5, most (83.33%) of the headmasters indicated their schools had no towels/paper tissues for wiping of hands by children. Half (50%) of headmasters indicated public well as the source of water in their schools, only 3 (30%) of the schools had school tap as source of their water whiles 30% of the headmasters indicated that, their schools always had clean running water. Only 2 (20%) of the schools visited had one or more tippy taps, communal bowls and towels or paper tissues for hand washing.

In Table 6, A chi-square test at a significant level of 0.05 was performed to ascertain the relationship between respondent's socio-demographic characteristics and knowledge about hand washing. The test revealed an association between respondent's gender $\chi 2$ (1, N=300) =6.78, p=0.0009, mother tongue $\chi 2$ (5, N=300) =11.91, p=0.036 and knowledge on hand washing.

DISCUSSION

The current study looked at the availability of hand washing facilities, hand washing knowledge and practices among 300 randomly selected public school children and headmasters (10) of the selected schools in the Kintampo Municipality of Ghana. The mean age of the current study was 10.9 years with standard deviation of 2.60. Majority (50.67%) of the children were girls and most (39.33%) of the children were within the age of 12-14 years. Majority (43%) of the mothers of these children constituting the majority had no formal education. This was not surprising as most females (45.8%) in Kintampo North Municipality have no formal education.[18] Most parents of these children belonged to the unskilled worker category. This was expected as majority (60.2%) of households in Kintampo Municipality are engaged in agricultural activities specifically farming.[18] There was an association between respondent's gender $\chi 2$ (1, N=300) =6.78, p=.0009, mother tongue $\chi 2$ (5, N=300) =11.91, p=.036 and knowledge on hand washing. This means that gender can have an influence on washing hands correctly and hand washing behaviour, majority of the girls demonstrated correctly on how to wash hands than the boys. Girls are therefore more likely to wash their hands correctly than boys. This is almost similar to a study by Mariwah et al which asserts that higher proportion of female students than male students washed their hands and were more likely to wash both hands correctly.[19]

Most school children are aware of the essence of hand washing, having sufficient knowledge about hand washing but poor in practice.[7] All the children (100%) accepted the fact that it is important to wash hands with water and soap when in school. This universal acceptance of the importance of hand washing by the school children can influence their hand washing practices both in school and at home positively. This agrees with a study by Chittleboroughgh et al. which found out that knowledge of the importance of washing hands to reduce the spread of germs was high among pupils.[20] Therefore a significant number (37.67%) of the school children in the present study wash their hands to prevent disease whiles 21.33% washed their hands to remove germs and dirt. Hand washing is effective and affordable means of stopping the spread of infections and germs as asserted by the school children in the present study.[7] Effective hand washing education has the potential of improving the school children's knowledge on hand washing thereby impacting on their hand washing practice either in school or at home. However, a good number (53.33%) of the school children claimed they had never been educated on how to wash their hands. This can have negative impact on washing hands correctly as a significant number (76.67%) of the children demonstrated wrongly when they were ask to demonstrate how they wash their hands. It is generally accepted that hand washing with soap should be preferred over mud, soil or ash, which in turns is preferable to using water only.[21] Most of the school children on the contrary had it that one cannot use water and ash ((71.67%), mud (78.33%) to wash hands. In the absence of soap, children may resort to the use of water alone in washing their hands which is less effective as compared to washing hands with ash or mud. However, if the mud or ash is contaminated with microorganisms it may increase the spread of diseases rather than decrease.[21] This poor knowledge about the use of ash and mud in hand washing may be due to lack of hand washing education in the schools as most of the children have never been educated on hand washing. This therefore calls for effective hand washing education in the schools to enlighten the children on available options to use in the absence of soap. UNICEF assert that hands washing before eating and after toilet use are the two most critical moments of handwashing.[22,23] Most of the children were of the view that it was necessary to wash hands after visiting toilet (43%) and before and after eating (32.33%). Even though, the children identified hand washing after toilet use and before eating as necessary to wash hands, only few of them always washed their hands with soap before and after eating (32%). Therefore, there is a gap between knowledge and practice which needs to be addressed. The current findings partly agree to a study by Gawai PP et al. which found that 75.5 % of children considered hand washing before eating food as crucial whiles a very few consider after toilet use 18.1% as important time to wash hands.[22] The transmission of bacteria is more likely to occur from wet skin than from dry skin; therefore, proper drying of hands after washing is very important in the hand washing process.[24] Findings on what the children used in drying their hands after hand washing revealed that most of the children used handkerchief (23.33%) to wipe hands whiles 18.7% used common towel/napkin to wipe their hands, this practice can lead to cross contamination of the hands immediately after hand washing.

The study also explored hand washing practices among the school children, the study revealed 42.33% of the

children citing lack of water as the main reason why they will not wash their hands when in school. This finding is not surprising as Steiner-Asiedu et al emphasized that most school children in Ghana do not practice proper hand washing with soap, both in school and at home due to the unavailability and inaccessibility of hand washing facilities such as clean running water.[12] This however disagrees with a study by Gawai PP et al in Mumbai which cited forgetfulness as the main reason for missing hand washing in school.[22] Hand washing with soap is effective in preventing transmission of faecal oral diseases and other infectious diseases in school-age children.[25] Therefore, School children should always wash their hands with soap after visiting toilet, before and after eating, after handling garbage and when hands are visibility dirty. All the children interviewed always washed their hands before and after eating; however, only 32% of these children always washed their hands with soap before and after eating. On the contrary, a study by Steiner-Asiedu et al in Ghana found out that majority (81.5%) of the children wash their hands with soap before eating and after toilet use (88.3%). This current study suggests that about (N=168, 56%) always washed their hands after visiting the toilet and out of this number, only 39.88% of the school children indicated they always washed their hands with soap after visiting the toilet. This action of the children is not encouraging as this may not produce the desired effect of hand washing; hence, there is the need for hand washing behaviour change among the school children.

For the school children to be able to translate the knowledge they have acquired in the classroom relating to hand washing into practice, some hand washing facilities must be available in school.[12] The researchers therefore looked at the availability of hand washing facilities in the selected schools by using observation checklist and structure questionnaires which was answered by the headmasters. Adequate availability and usage of hand washing facilities can effectively influence hand washing among school children thereby improving school health.[16] The researchers observed that about 6 (60%) out of the 10 schools had hand washing points available. This finding is supported by Behailu et al in Ethiopia which also find out that about 62.5% of the schools visited has hand washing station.[7] Schools that did not have hand washing points has most of the children resorting to the use of communal bowls in hand washing as CDC emphasized that hand washing on communal basins where the same water is used by many people, does not constitute an adequate hand washing facility.[26] Our observation further revealed that only 2 (33.3%) of the 6 schools having hand washing point had soap and water supply at the hand washing point. This can be a major barrier to proper hand washing in the schools as hand washing without soap is inadequate hand washing. However, this confirms the assertion by the school children that they normally got soap from the school food vendor/sellers (73.67%) and majority of them citing lack of water (42.33%) in the school as barrier to hand washing in the school. This is in consonance with a study by Pati et al. in India which has 85% of the children citing unavailability of soap to wash hands in the school.[27] Half (50%) of the headmasters indicated public well as the source of water in their school, for these schools there is no clean running water in the school. The absence of readily available water in about half of the schools can influence the children's hand washing practices and can also have impact on instructional time as children are sent into the communities to fetch water for use in the school. In areas where water is scarce or there is no running water, tippy taps can be used as a source of clean running water to promote hand washing.[28] However, Only 2 (20%) of the headmasters indicated that they have one or more tippy taps in their school. Tippy taps have the potential to motivate school-aged children to always wash their hands as students enjoy using tippy-taps because they are fun to use compared with other methods.[29]

CONCLUSION

The hand washing knowledge of the school children was found to be inadequate although they universally accepted the importance of hand washing in preventing diseases. There was minimal hand washing practice with soap before and after eating, after visiting toilet, after handling garbage and when hands are visibly dirty. Hand washing facilities were also found to be inadequate as most of the schools lacked clean running water, soap and towels/paper tissues/napkin for hand washing.

There is the need for effective hand washing education in the schools. School Health Education Programme (SHEP) unit of Ghana Education Service should liaise with appropriate bodies like Ghana Health Service and other NGOs that are into water and sanitation to organize hand washing promotion activities in the schools. This will help address the knowledge gap and change hand washing behaviour of the school children. Ghana Education service should also consider including hand washing education in the school curriculum which will use teachers as agents in delivering the knowledge to the school children. Hand washing facilities should be made available in all the schools to enable the school children translate knowledge into practice. This can be done by using economic options like tippy taps.

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