HANDWASHING KNOWLEDGE AND PRACTICE AMONG PRIMARY SCHOOL PUPILS IN ASA LOCAL GOVERNMENT AREA, KWARA STATE

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Abstract
Inadequate knowledge about the importance of handwashing practices has led to the spread of germs and illnesses. Many of the children do not wash their hands before eating and after toilet practice, because of the lack of knowledge of importance of handwashing. Handwashing helps stop germs and illnesses. Children spread germs by touching their eyes and mouth, by shaking another person's hand, sharing toys and other articles. The objective of this study was to determine handwashing knowledge and practices among primary school pupils in Asa Local Government Area. Descriptive research design of survey type was adopted. Population comprised all pupils attending public primary schools in Asa LGA, Kwara State. Proportionate sampling technique was used to select 10 public primary schools from two political wards in Asa LGA while a total of 270 pupils participated in the study. Self-developed questionnaire was used to elicit information from the respondents; the questionnaire was subjected to validity and reliability which yielded r = 0.85 through split half method, questionnaire was administered and data collected were analyzed using frequency counts and percentages. The findings of the study revealed that 178 (66%) have knowledge of handwashing while 92(34%) do not have; 204.4(75.7%) practice handwashing while 65.6(24.3%) do not practice handwashing. Based on the findings, it was concluded that primary school pupils have knowledge of handwashing and practice handwashing. Therefore, it was recommended that knowledge of handwashing should be inculcated into the pupils right from their homes as patterns that are developed during childhood are likely to persist into adult life; handwashing education should be further intensified among primary school pupils to reduce the transmission of common childhood communicable diseases like cough, diarrhea, COVID-19 pandemic among others.

Keywords: Handwashing, Knowledge, Primary School, Pupils

Introduction
Handwashing is one of the basic personal hygiene behaviours that is not widely practised. It is an effective measure to bring a control on transmission of illnesses and diseases (Curtis, & Cairncross, 2003; Steiner-Asiedu, Van-Ess, Papoe, Setorglo, Asiedu & Anderson, 2011). Handwashing, especially before eating, is

believed to be one of the first techniques to protect children, teens, and adults from many communicable diseases (Curtis & Cairncross, 2003). Alcohol-based hand rub requires less time, is microbiologically more effective and is less irritating to skin than traditional handwashing with soap and water. In a nutshell, the simple action of handwashing can reduce the rate of mortality from deadly diseases by almost 50 per cent. Bearing in mind that school children have been consistently implicated in the spread of communicable diseases and that the school has been recognized as a vital setting for health promotion.

According to Curtis and Cairncross (2003), many of the children do not wash their hands before eating and after toilet practice, because they do not have adequate knowledge of the importance of handwashing. Handwashing helps stop the spread of germs and illnesses. Once the bacteria and germs are on a child's hands, they can travel to other parts of the body easily. Children spread germs by touching their eyes and mouth. They can also spread germs by shaking another person's hand, sharing toys and other articles. Thus, the children need to learn when and how to wash their hands and its techniques. Handwashing helps to minimize the spread of influenza, diarrhoea, respiratory infections and it is also a preventive measure for child deaths. Handwashing is important at every age especially in children. Handwashing is something everyone learns at a very early age and yet many people just do not practice it. The problem is that most and in particular young children do not see it as a priority (Aiello, Larson & Levy, 2007; Anuradha, Yasoda & Prakash, 1999). Keeping hands clean through improved handwashing is one of the most important steps one can take to avoid getting sick and spreading germs to others. Many diseases and conditions are spread by not washing hands with soap and clean running water. The use of soap and water is the best way to keep hands clean and free of microorganisms.

Washing hands after coughing, sneezing or blowing one's nose, feeding or playing with animals, playing outside, after using toilets and bathrooms and before eating or touching food or drinks is inevitable to prevent infection (Boyce and Pittet, 2002; Curtis, Scott & Cardosi, 2005; Curtis, Garbrah-Aidoo and Scott, 2007; Huttly, Morris & Pisani, 2017). Children become infected with respiratory illnesses such as influenza or the common cold, diarrhoea. For example, if they do not wash their hands before touching their eyes, nose, or mouth. Indeed, the Centre for Disease Control and Prevention (CDC) as quoted by WHO (2008) stated that one of the most important measures for preventing the spread of pathogens is effective handwashing. It protects best against diseases transmitted through faecal-oral routes (such as many forms of gastroenteritis) and direct physical contact such as impetigo, which may increase the child mortality and morbidity (Tulchinsky & Varavikova, 2000).

Generally, there is a progressive increase in risks associated with a wide range of diseases directly related with handwashing, for example, water- and foodborne diseases, contagious diseases, severe acute respiratory syndrome

(SARS), influenza A, norovirus, cholera, malaria, dysentery, meningitis, shigellosis, and multi resistant Staphylococcus aureus Lee, Hong and Kim, 2015). It was reported by Soboksa, Gari, Hailu and Alemu (2020) that childhood diarrhea was found to be significantly correlated with handwashing without soap. Contaminated hands can be a source of infectious diseases, and this happens after picking one's nose or coughing, using the bathroom, and dealing with garbage (Majorin, Freeman, Barnard, Routray, Boisson and Clasen, 2014). Furthermore, handwashing is an essential cause for healthy growth and development in the community (Steiner-Asiedu *et al.*, 2011; WHO, 2008; Garbutt, Simmons, Patrick and Miller, 2007).

Unfortunately, handwashing after visiting the restroom is ill-practised in many societies, notwithstanding its significant effect on human health (Freeman, Stocks & Cumming, 2014). Likewise, non-routine handwashing is recorded as a major risk factor associated with head, foot, and mouth diseases (HFMD) among children in Nigeria and other African countries Haruna, Gobir & Sambo (2016). Generally, hospital-acquired infections can be decreased by the very simple but crucial intervention of handwashing (Tyagi & Barwal, 2020). Similarly, handwashing is considered an efficient preventive measure for children, with a subsequent reduction in child antibiotic use (Dean, 2017). On the other hand, schools are one of the most important places for promoting health education and programs (Lopez-Quintero, Freeman & Neumark, 2009; ALBashtawy, 2015; Sarkar, 2013).

The pupils can gain some knowledge, skills, and positive behaviours in terms of handwashing and many other hygiene practices (ALBashtawy, (2015), Lopez-Quintero, Freeman & Neumark, 2009). According to Al-Bashtawy (2015), many pupils in developing countries have shown a lack of handwashing skills. With handwashing, a simple and largely cost-effective handwashing technique, many schools encourage their pupils to practice handwashing behaviours (ALBashtawy, 2015; Lopez-Quintero, Freeman & Neumark, 2009). Besides teachers, parents, and classmates' attitudes significantly influence handwashing and hygiene behaviours and habits among pupils (Dajaan, Addo & Ojo, 2018; Sun, Wang & Adhikari, 2019; Tidwell, Gopalakrishnan & Unni, 2020).

Nevertheless, pupils' hygiene knowledge, attitudes, and practices have shown significant discrepancies between genders (Gebreeyessus & Adem, 2018). It has been found that the interventions of handwashing and personal hygiene in school children have led to a significant reduction in diarrhoea cases and absence rates among pupils (Joshi and Amadi, 2013). Moreover, the intervention of handwashing has significantly improved school children's knowledge and practices, helping them to communicate the latter with their parents' efficiently (Garg, Taneja, Badhan and Ingle, 2013). Several studies have been conducted to investigate the issues regarding handwashing and general hygiene in school pupils. Handwashing, especially after visiting bathrooms, has a significant effect on the

spread of parasitic infections, with increased cases of the latter present among school pupils in many countries (Hailegebriel, 2018; Hussein, 2011).

In Nigeria, several studies have been conducted to explore pupils' knowledge and attitudes towards handwashing practices in many cities like Owerri, Ilorin, Zaria and Ado – Ekiti, (Oduntan 2012, Aremu, 2012; Haruna, Gobir & Sambo, 2016). To the best knowledge of the researchers, no study has been conducted to assess handwashing knowledge, attitude and practices among primary school pupils in Asa Local Government Area of Kwara State. However, many researchers have studied general hygiene practices and food hygiene at a school level. This study was conducted to fill the gap on handwashing knowledge and practices among primary school pupils in Asa Local Government Area of Kwara State, it also aims to determine the knowledge of primary school pupils' on handwashing and practices in two different political wards (Otte Ballah and Afon wards) in Asa LGA, Kwara State.

Research Questions

1. Do primary school pupils have some knowledge of handwashing in Asa LGA, Kwara State?
2. Do primary school pupils practice handwashing in Asa LGA, Kwara State?

Methodology

Descriptive research design was adopted for the study; the population consists of all primary school pupils in Asa LGA, Kwara State. Proportionate sampling technique was used to select 5 schools each from the two political wards (Otte Ballah and Afon wards) in Asa LGA, Kwara State. 27 pupils were randomly selected from the register of each school. The number of pupils spread proportionally across the schools and 270 pupils were selected from 10 schools. Self-developed questionnaire was used to elicit information from the respondents; there were 16 questions assessing their knowledge on handwashing practices, with a clear response to handwashing acquisition and performance. The hygiene practices consists of 16 questions also. The questionnaire was subjected to validity and reliability which yielded r = 0.85 through split half method after which it was administered with the help of two research assistants who were their teachers. The questionnaires were collected on the spot which resulted in 100% return rate.

Results and **Discussion**

Table 1: Demographic Data of the Respondents

Pupils characteristics	**N**	
	270	**Percentage**
Gender		
Boy	218	81
Girl	52	19
Total	**270**	**100**
Age	58	22
6 – 8 years	20	7
9 - 11	192	71
Above 12 years		
Total	**270**	**100**
Class Level		
Basic 1 -2	58	22
Basic 3 – 4	20	7
Basic 5 - 6	192	71
Total	**270**	**100**
Maternal Educational Level		
No formal education	21	7
Primary school	23	9
Secondary school	69	26
NCE	95	35
First Degree	36	13
Postgraduate	26	10
Total	**270**	**100**
Paternal Education Level		
No formal education	15	6
Primary school	14	5
Secondary school	60	22
NCE	31	12
First Degree	76	28
Postgraduate	74	27
Total	**270**	**100**

Table 1 reveals that among the 270 pupils who participated in the study, 218 (81%) were boys and 192 (71%) were above 12 years old, that is, mostly from

Basic 5 - 6. There was great variation in terms of parental education, with half of the mothers holding secondary school 69 (26%) and NCE certificates 95 (35%) respectively, while two thirds of the fathers had gained first degree 76 (28%) and postgraduate degrees 74 (27%) respectively.

Table 2: Knowledge of Handwashing among Primary School Pupils in Asa LGA, Kwara State

s/n	Item I know it is good to:	Yes		No	
		N	%	N	%
1.	Wash my hands with soap	236	87.4	34	12.6
2.	Wash my hands with water to prevent diseases	141	52.2	129	47.8
3.	Wash my hands with soap and water to prevent diseases	124	46.0	146	54.0
4.	Wash my hands to remove germs	74	27.4	196	72.6
5.	Wash my hands to remove dirt	108	40.0	162	60.0
6.	wash my hands for personal hygiene	224	83.0	46	17.0
7.	I have been educated on how to wash my hands	247	91.5	23	8.5
8.	Wash my hands before and after eating	210	77.8	60	22.2
9.	Wash my hands after handling rubbish/garbage	174	64.4	96	35.6
10.	Wash my hands before preparing food	226	83.7	44	16.3
11.	Wash my hands after using the toilet	141	52.2	129	47.8
12.	Wash my hands after playing with friends	185	68.5	85	31.5
13.	Wash my hands after coughing or blowing my nose	185	68.5	85	31.5
14.	Wash my hands in school	230	84.2	40	14.8
15.	Wash my hands in school with soap.	143	53.0	127	47.0
16.	Necessary to dry my hands after washing	207	76.7	63	23.3
	Average	**178**	**66%**	**92**	**34%**

Table 2 indicate that majority of the participants have knowledge of handwashing. The table shows that 178 (66%) have knowledge of handwashing while 92 (34%) do not have knowledge of handwashing.

Table 3: Handwashing Practices among Primary School Pupils in Asa LGA, Kwara State

s/n	Item I always:	Yes		No	
		N	%	N	%
1.	Wash my hands with soap	204	75.6	66	24.4
2.	Wash my hands with water to prevent diseases	179	66.3	91	33.7
3.	Wash my hands with soap to prevent diseases	159	58.9	111	41.1
4.	Wash my hands to remove germs	257	95.2	13	4.8
5.	Wash my hands to remove dirt	169	62.6	101	37.4
6.	Wash my hands for personal hygiene	188	69.6	82	30.4
7.	Wash my hands with soap and water	205	75.9	65	24.1
8.	wash my hands before and after eating	216	80.0	54	200
9.	Wash my hands after handling rubbish/garbage	233	86.3	37	13.7
10.	Wash my hands before preparing food	219	81.1	51	18.9
11.	Wash my hands after using the toilet	248	91.9	22	8.1
12.	Wash my hands after playing with friends	221	81.9	49	18.1
13.	Wash my hands after coughing	247	91.5	23	8.5
14.	Wash my hands after blowing my nose	184	68.1	86	31.9
15.	Wash my hands in school with soap.	192	71.1	78	28.9
16.	Dry my hands after washing	149	55.2	121	44.8
	Average	**204**	**76%**	**66**	**24%**

Table 3 indicates that majority of the pupils practice handwashing. The table shows that 204 (76%) practice handwashing while 66 (24%) do not practice handwashing.

Discussion

Findings of research question one revealed that majority of the pupils, 66% have knowledge of handwashing, 236(87.4%) recognized that washing hands with water and soap at schools is significant. Interestingly, 247(91.1%) of pupils had been educated on how to wash their hands. Unfortunately, only 124(46%) thought that handwashing prevents diseases, and approximately 108(40%) thought it removes dirt, whereas 74(27.4%) did not have the knowledge that handwashing could remove germs. This finding is in concordance with the study of Saleh, 2013 in Abha who revealed that 86.6% of the pupils have the knowledge that respiratory tract infections can be reduced if the proper handwashing practices are maintained. This finding of this study is in agreement with Hazazi, Chandramohan, Khan and AL-Mohaithef, (2018) who found that approximately 95% of the pupils had the knowledge of importance of handwashing, especially in disease spreading through person-to-person contact. On the contrary, Dajaan, et al., (2018) revealed that only 37.67% of primary school pupils in Ghana realized the importance of handwashing in disease prevention. Compared to the studies carried out in other African cities, like Ghana and Kenya, primary school pupils in Asa LGA, Kwara State recorded a better awareness towards hand-hygiene-related knowledge and practices (O'Reilly, Freeman and Ravani, 2008; Haruna *et al.*, 2016).

Moreover, a study in Imo State, explicit that sociodemographic factors and personal hygiene habits are associated with the prevalence of infectious diseases (Aremu, 2012). Most of the pupils (97%) agreed that soap and water is the best method for washing their hands; this result was consistent with some other previous studies Oduntan, (2012) who found that only 46% of the pupils thought that handwashing prevents diseases, and 34% of them thought that it removes dirt.

Findings of research question two revealed that majority of the pupils practice handwashing; 188 (69.6%) of the pupils recognized the significant impact of handwashing on personal hygiene. Regarding the use of soap in handwashing, 204 (87.4%) of the pupils washed their hands with soap, 216 (80%) of the pupils washed their hands before and after eating, whereas 248 (91.9%) washed their hands after using the toilet and 219 (81.1%) washed their hands before preparing food, 205 (75.9%) used water and soap to wash their hands and 247 (95.1%) washed their hands after coughing and 184 (68.1%) wash their hands after blowing their nose. The pupils were asked about their handwashing practices, with the majority of their answers showing evidence of positive practices and with more than 80% agreeing on the best forms of handwashing practice.

Concurrently, Dajaan *et al.* (2018) reported that 100% of Kintampo Municipality of Ghana school pupils recognize the importance of soap and water

in handwashing, with their results also showing that 37.67% of the respondents in the study washed their hands to prevent disease, and 21.33% washed their hands to remove germs and dirt. Moreover, 86% and 87% of the pupils washed their hands before eating and after using the toilet, respectively. Also, Siddiqui, Alshammary and Amin (2020) revealed that 84% of the population realizes and practices handwashing.

Hazazi et al., (2018) revealed that more than 90% of primary year school pupils use soap in handwashing especially before and after eating; also after using the toilet. Unfortunately, only 39.88% of primary school pupils in Ghana use soap in handwashing after visiting the toilet. Remarkably, UNICEF (2020) declares that the two most vital moments of handwashing happen before eating and after using the toilet, supporting the findings of the current study. Also, the results remarkably revealed that approximately 86% and 87% of the pupils washed their hands before eating and after using the toilet. The role of handwashing as an efficient preventative technique against many infectious diseases, for example, impetigo, diarrhoea, hand, foot and mouth disease (HFMD) and the novel COVID-19 has been reported by many scientists (Sheren, 2012; Sarkar, 2013; Zhang, Li & Zhan, 2016).

Conclusion and recommendations

From the findings of this study, it was concluded that primary school pupils in Asa Local Government Area of Kwara State have knowledge of handwashing and practice handwashing.It was recommended that knowledge of handwashing should be inculcated into the pupils right from their homes as patterns that are developed in childhood are likely to persist into adult life. Handwashing education should be further intensified among primary school pupils to reduce the transmission of common childhood communicable diseases like cough, diarrhea, COVID-19 pandemic among others.

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