



Assessment of practice of personal hygiene among primary school pupils in Calabar South L.G.A, Cross River State, Nigeria.

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Abstract

Context: The foundations of lifelong responsibility for the maintenance of personal hygiene are laid down in childhood, for healthy adulthood, and for the development of positive values about health and the use of health services. Children of school age are vulnerable to communicable diseases in the school environment due to lack of adequate knowledge, the practice of and attitudes to personal hygiene. For example, lack of hand washing and not bathing regularly, play important roles in the high incidence of communicable diseases and therefore have deleterious effects on a child's long-term overall development. Few studies on this topic have been conducted among primary school pupils in Nigeria, and there is a paucity of data in Calabar South LGA on a similar topic.

Objective: This study aimed to assess the practice of personal hygiene among primary school pupils in Calabar South, Cross River State, Nigeria.

Materials and Methods: A descriptive cross-sectional study design was adopted. Multistage sampling was used to select participants for the study. Semi-structured self-administered pretested questionnaire were used for data collection.

Results: The mean age of the respondents was 9.7 ± 1.9 years. Majority 189(58.4%) of the respondents were 9-11 years and the highest proportion 127(39.2%) of the respondents being pupils of primary class level 4. The overall practice of personal hygiene revealed that 69.4% of the pupils had good personal hygiene practices while 30.6% had poor personal hygiene practices.

Conclusion: This study revealed an overall fair practice of personal hygiene among primary school pupils. Parents, teachers, school management and governments should ensure that pupils sustain and improve this practice of personal hygiene.

Keywords: Personal hygiene, Practices, Primary school, Pupils, Calabar South, Nigeria.

Introduction

Communicable diseases are increasingly becoming a burden among school children as a result of poor personal hygiene practices and sanitary conditions that are below standard and this remains a public health concern in developing countries.¹ The foundations on lifelong responsibility for the maintenance of personal hygiene are laid down in childhood, for a healthy adulthood, and for the development of

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positive values about health and the use of health services.² Children of school age are particularly vulnerable to communicable diseases due to lack of adequate knowledge, the practice of and attitudes to personal hygiene such as hand washing and taking a bath regularly. All these play important roles in the high incidence of communicable diseases and

therefore have deleterious effects on a child's long-term overall development.¹ The WHO reports that every year, 3.8 million children aged less than five die from acute diarrheal diseases and acute respiratory tract infections (ARTI). Globally, 88% of diarrheal deaths are associated with the use of unsafe water, inadequate sanitation, and poor hygiene practices.³ Infectious diseases cause 31% of all deaths in Southeast Asia and this trend is especially notable in developing countries where acute respiratory and intestinal infections are the primary causes of morbidity and mortality among young children.⁴ Personal hygiene is the basic concept of cleaning, grooming and it is the first step to good health.¹ It comprise different habits which keep bacteria, viruses, and fungi away from our bodies and protect our mental health and activity. It involves all the applications for being protected from environmental conditions and potentially hazardous environments for human health and the cleaning measures are defined as hygiene.⁵

Poor personal hygiene such as dirty clothes, body odour, and bad breath often leads to discrimination, and this could lead to psychological issues and practice of personal hygiene mainly depends on each person's culture, society, and family norms.¹

Caring for children is one of the primary functions of parents, especially mothers. However, they seldom arrange for alternative care when they are absent or busy.⁶ School is the place where health education regarding important aspects of personal hygiene (including hand hygiene), environmental sanitation, as well as acceptable social customs and norms are being imparted. Also, health is a key factor in school entry, continued participation, and attainment. 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.⁷

This study was therefore conducted to assess the practices of personal hygiene among primary school pupils in Calabar South, Cross River State, Nigeria. In keeping with the sustainable development goal (SDG) 3, which is largely to ensure healthy lives and promote well-being for all at all ages,⁸ this study was apt to ensure that the health of these school pupils was maintained at the highest optimal level. Primary school is the foundation and background of an individual's education, and hence the practice of

personal hygiene should be emphasized in primary schools to ensure a good foundation in knowledge as well as the habit of proper practice of personal hygiene. There is so much literature on this topic among secondary school and University students. But few studies on this topic have been carried out among primary school pupils in Nigeria. Also, there is a paucity of data in Calabar South LGA on a similar topic. This research will serve to fill the information gap as it will add to the body of knowledge, serve as baseline data for further research, and may also help the appropriate authorities in planning and implementation of proper intervention strategies for the promotion of proper personal hygiene among primary school pupils in Cross River State in particular and Nigeria in general.

Materials and Methods

Study area/setting: This study was conducted among the pupils of primary schools in Calabar South LGA, Cross River State, Nigeria. Calabar South is one of the 18 Local Government Areas (LGAs) in Cross River State, Nigeria. It's headquarter is Anantigha. It has an area of 264km² and a population of 291,700 according to the 2022 population projections.⁹

The ethnic groups that make up the indigenous population of Calabar South are the Efiks and the Efuts. However, several other ethnic groups from Cross River State and its environs also reside in this urban LGA. Religion is predominantly Christianity, though there are a few Muslims and some traditional religious groups. Most inhabitants are government employees, self-employed in business or trade, or employed in private establishments, as well as farmers, fishermen, and women.

The Local Government Area also hosts some institutions such as the University of Cross River State, Palace of the Obong of Calabar, Palace of Muri Munene, and markets, with Watt market being the main market. Eateries, restaurants, and food vendors operate in the area. There are 12 Wards, 29 Primary Health Centers, numerous nursery, primary, and secondary schools which are being monitored by the Director of Health and Director of Education, respectively, at the Local Government Council.¹⁰

Study design/sample size calculation: This was a

cross-sectional descriptive study. The study population comprised all pupils between the ages of 6 to 15 years from 142 primary schools in Calabar South LGA, 11 who were present on the day of the survey, and whose parents gave their consent for their children to participate in this study. The minimum sample size, "n" was calculated using the Cochran Formula,¹² which was 324, ($p = 74.6\%$ from a previous study).¹³

Sampling method: A multi-stage sampling involving 4 stages was used to select participants for the study.

Stage 1: This involved the selection of 6 wards from the existing 12 wards in Calabar South LGA using simple random sampling by balloting. This involved writing the ward numbers on pieces of papers, folding them similarly, and after shuffling, picking any 6 papers. The 6 papers picked represent 6 wards and was noted down. These were the wards used for the study.

Stage 2: This comprised selection of 6 schools from the 6 selected wards using simple random sampling by balloting. That is, 3 schools each from public and private schools were selected. A comprehensive list of all the primary schools (both public and private) in the 6 selected wards was gotten from the Local Government Council Education Unit and the names of these schools were written on pieces of papers and shuffled vigorously in a container. The schools picked were recruited for the study.

Stage 3: This comprised selection of classes. For each of the schools (both in public and private primary schools), simple random sampling method was employed to select 2 classes. This involved folding pieces of paper that contain primary 1 to 5 and the 2 classes selected through the balloting were employed for the study.

Stage 4: This stage involved selection of pupils/respondents. A systematic random sampling method was used in the selection of 27 ($54/2 = 27$) respondents in each class and this was based on the class population list (sampling frame). Hence, 27 respondents were interviewed from each class. The sampling interval was arrived at by dividing the class population by the desired sample (27) and the sampling interval obtained was used as nth. The starting point was obtained by simple random sampling, by balloting and afterward, every nth student randomly selected was used for the study

until minimum sample size was obtained.

Data collection instrument: Data were obtained using semi-structured interviewer administered questionnaire, including observational checklist. The questionnaire were pretested in a primary school at Calabar Municipality (to test for validity and need for adjustment or modification in case of ambiguous questions). A total of 162 questionnaire were distributed in public primary schools and 162 questionnaire in private primary schools. This implies that 54 questionnaire were distributed in each of the selected 6 schools.

Data analysis: Questionnaire were manually sorted, coded before entry and cleaned following entry. Data entered was analyzed using IBM Statistical Packages for Social Sciences (SPSS) version 22. Descriptive statistics such as frequency, percentages, mean and standard deviation were used to describe the variables and inferential statistics (chi-square) to test for association between categorical variables, while statistical significance was set at $p < 0.05$.

Composite scoring system: A practice score of personal hygiene was generated from 18 questions giving a total score of 18. An aggregate score of 1-11 was considered poor personal hygiene practice, while a score of 12-18 was considered good personal hygiene practice.

Ethical consideration: Ethical clearance was obtained from the Research and Ethical Committee of the University of Calabar Teaching Hospital, Calabar. In addition to the ethical clearance, written informed consent was obtained from the pupils' parents/guardians, class teachers, as well as school management, and verbal informed assent from the respondents. Voluntary participation, anonymity, and confidentiality were assured throughout the study.

Results:

A total of 324 primary school pupils were interviewed; 162 public primary school pupils and 162 private primary school pupils in Calabar South (giving a response rate of 100%). The mean age of the respondents was 9.7 ± 1.9 years. A majority, 189(58.4%), of the respondents were within the age range 9-11 years. A majority, 174(53.7%) of the respondents were females, and the highest proportion of the respondents, 127 (39.2%), being

pupils of primary class level 4.

Most of the respondents were of the Efik tribe 159 (49.1%), the predominant religion was Christianity 310 (95.7%) and most of the respondent's parents' marital status were married 264 (81.5%). Trading was the predominant occupation among parents, father and mother of respondents, 113 (34.9%) and 174 (53.7%) respectively. The highest proportion of respondent's fathers' and mothers' level of education was tertiary, 179 (55.2%) and 157 (48.5%) respectively. More than half 196 (60.7%) of respondents had 5-7 household members as shown in table 1.

Table 1: Socio-demographic characteristic of respondents

Variable	Frequency (n=324)	Percentage (%)
Gender		
Female	174	53.7
Male	150	46.3
Age (years)		
6-8	79	24.4
9-11	189	58.4
12-15	56	17.2
Mean Age $\pm$ Standard deviation = 9.7 $\pm$ 1.9		
Class (Primary)		
2	34	10.5
3	40	12.3
4	127	39.2
5	65	20.1
6	58	17.9
Religion		
Christianity	310	95.7
Islam	10	3.1
Traditionalist	4	1.2
Parent's marital status		
Single	20	6.2
Married	264	81.5
Divorced	4	1.2
Separated	17	5.2
Widowed	19	5.9
Father's occupation		
Trader	113	34.9
Clergy	15	4.6
Health Professional	24	7.4
Artisan	37	11.4
Technician	14	4.3
Teacher	15	4.6
Public Servant	46	14.2
Jobless	27	8.3
Driver	15	4.6
Fishing	8	2.5
Don't know	10	3.1
Mother's occupation		
Trader	174	53.7
Clergy	3	0.9
Health Professional	14	4.3
Artisan	35	10.8
Technician	3	0.9
Teacher	20	6.2
Public Servant	39	12.0
Jobless	21	6.5
Fishing	8	2.5
Don't know	7	2.2
Members of household		
2-4	59	18.2
5-7	196	60.7
8-10	58	17.8
11-14	11	3.3
Type of school		
Private	162	50.0
Public	162	50.0

The overall practice of personal hygiene revealed that 69.4% of the pupils had good personal hygiene practice while 30.6% had poor personal hygiene practice, as shown in figure I

OVERALL PERSONAL HYGIENE PRACTICE

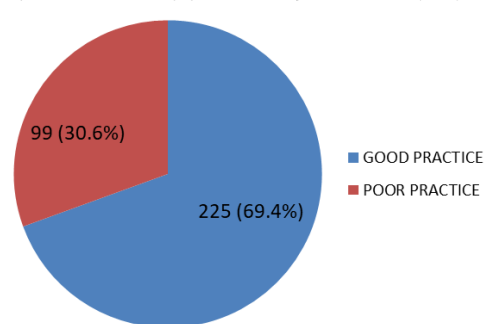


Figure I: Practice of personal hygiene among primary school pupils in Calabar South LGA.

Using the observational checklist to assess the level of personal hygiene among the primary school pupils; majority of the pupils 309 (95.4%) had their hands and hair respectively kempt, 307 (94.8%) had neat ears, 217 (67.0%) had clean socks, 261 (80.6%) pupils had smart uniforms, 265 (81.8%) looked neat, 303 (93.5%) had well-groomed and healthy skin and 270 (83.3%) smell good, as shown in figure II.

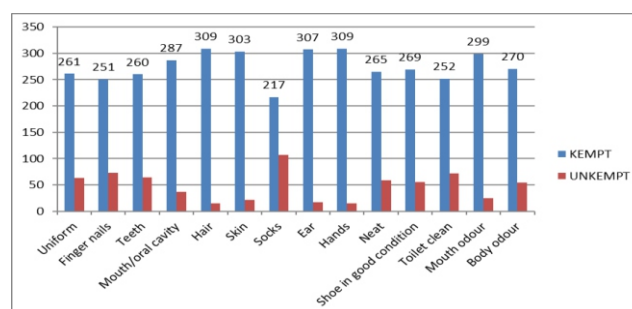


Figure II: Observational checklist of personal hygiene among pupils of primary schools in Calabar South LGA.

There was no statistically significant association between socio-demographic characteristic of the pupil's practice of personal hygiene with gender and age ($p > 0.05$). However, there was statistically significant association between the practice of personal hygiene with father's level of education, mother's level of education and type of school at $p = 0.000$, $p = 0.002$ and $p = 0.000$ respectively. There was also statistically significant association with class level, $p = 0.049$, as shown in table 2.

With respect to barriers to personal hygienic practices, this study focused on factors such as:

Table 2: Association between socio-demographic characteristics and practice of personal hygiene

Variable	Good practice	Poor practice	Chi square	P – value
Gender				
Girl	124	50	0.587	0.444
Boy	101	49		
Age (years)				
6-8	62	17	16.257	0.062
9-11	127	62		
12-15	36	20		
Class (primary)				
2	27	7	11.121	0.049*
3	30	10		
4	85	42		
5	38	27		
6	45	13		
Father's educational status				
Primary			22.865	0.000*
Secondary	14	16		
Tertiary	52	35		
Jobless	142	37		
Don't know	14	11		
Mother's educational status				
Primary	3	0	17.340	0.002*
Secondary				
Tertiary	21	14		
Jobless	74	39		
Don't know	122	36		
Type of school				
Private	5	10	12.233	0.000*
Public	3	0		
	127	35	12.233	0.000*
	98	64		

*statistically significant (p-value is <0.05).

school factors, family and economic factors, social factors and physical factors. The highest school barrier 70 (21.6%) was due to the fact that personal hygiene was not being taught in the schools, hence, this accounted for the high proportion and it was also observed that the least school barrier 18 (5.6%) was because of the fact that there were appropriate laid down rules and regulations in primary schools to promote personal hygienic practices. A total of 162 (50%) of the pupils had no peers/friends encouragement or influencers to practice personal hygiene, 72 (22.2%) of the pupils did not have access to running water/hand washing buckets at home and hence it was a barrier to their practice of

hand hygiene at home, 51 (15.7%) of the pupils had no parental encouragement and at least 3 (0.9%) had no toothbrush, as shown in table 3.

Discussion

This study was aimed at determining the practice of personal hygiene among primary school pupils in Calabar South Local Government Area of Cross River State by assessing the level of personal hygiene and identified the barriers to the practice of personal hygiene among the study population.

The poor practice noticed was associated with lower levels of observed personal hygiene while good practice was associated with higher levels of observed personal hygiene.

Our study revealed that, 69.4% of the pupils had fair overall practice of personal hygiene which include; hand washing, oral hygiene, daily bathing, and body care practices. With regards to hand washing, our findings were consistent with previous similar studies.¹⁴ A similar study which did an eleven-country review on planned, motivated and habitual hygiene behavior; had shown that washing hands before eating and after using the toilet were critical for the primary prevention of many diseases.¹⁵ Just after using toilets (88.6%), before eating (79.6%), and after eating (90.4%), were the major moments when pupils washed their hands. This was comparable to a similar study,¹⁶ which recorded nearly 70% of the students washed their hands after using the toilet, 87.3% before eating, while a greater proportion of our study population (93.8%) used soap and water to wash their hands.

Our study found a statistically significant relationship between the father's level of education, mother's level of education, type of school, and the practice of personal hygiene. Poor practice of personal hygiene was noticed majorly among pupils in public schools, while those in private school had better practice of personal hygiene. This could be due to the level of seriousness and attention teachers in these different schools pay to their pupils with respect to hygiene generally. It could also be due to economic disparity between households that have children in the two kinds of schools, as better finances translate to higher availability of facilities like running water, soap, toothpaste, and other hand hygiene facilities. These, in turn, promote high hygienic practices among pupils.

Table 3: Barriers to Personal Hygiene Practice

Variables	Yes Frequency (%)	No Frequency (%)
School factors		
Running water/hand washing buckets in school	297 (91.7)	27 (8.3)
Rules/regulations to promote practice	306 (18)	18 (5.6)
Multiple school outfits	259 (79.9)	65 (20.1)
Personal hygiene taught in school	254 (78.4)	70 (21.6)
Social factors		
Peers/ friends encouragement	162 (50)	162 (50)
Family/economic factors		
Parental encouragement	273 (84.3)	51 (15.7)
Running water and/or handwashing buckets	252 (77.8)	72 (22.2)
Presence of soap	319 (98.5)	5 (1.5)
Presence of toilet roll	286 (88.3)	38 (11.7)
Presence of toothpaste	316 (97.5)	8 (2.5)
Presence of toothbrush	321 (99.1)	3 (0.9)
Physical challenge	20 (6.2)	304 (93.8)

The respondents in our study were assessed on their level of personal hygiene. This involved inspection and observation of their uniforms, hair, fingernails, and school toilets, among others. This study used the grading of “kempt” and “unkempt” for the variables. Socks were the least likely variable to be kempt, with 33% observed as unkempt. Hands and hair were the most kept kempt, with 95% of respondents assessed as having clean hair and hands. Although findings from our study show fair levels of practice of personal hygiene, compared with results from similar studies, which were lower.^{13,17,18} These observations were mostly from private schools where parents and teachers of pupils from these private schools pay more attention on how their wards dress to school, while in school and back from school.

Our study found an association between socio-demographic factors and the assessed level of personal hygiene. It was observed that there was a statistically significant relationship between certain socio-demographic factors such as; age, mother's level of education, and type of school (private or public) and level of personal hygiene. Good practice was highly associated with tertiary level of maternal education. This finding was similar though not identical to what was discovered in a previous study in India where children of illiterate mothers ended up with poorer hygiene scores than those with educated mothers.¹⁷ While the father's level of education was not statistically significant, a greater number of pupils whose fathers had tertiary education were assessed as having a good level of personal hygiene practice. Gender and class of pupils did not demonstrate statistical significance with the level of personal hygiene of these school children. However, a similar study conducted in India,¹⁹ showed a statistically significant association between gender and level of personal hygiene that (65.9%) of girls had good personal hygiene compared to boys (60.5%), and about (28.8%) of the boys had poor personal hygiene, compared to girls (25.5%).

Our study also identified the barriers to personal hygiene among our respondents, as they were assessed based on their responses to the frequency at which they had access to facilities and items like running water and toiletries that they needed for proper hygienic practices. It was also based on

family, peer, and school influences, as well as the presence of physical challenges impeding their ability to practice personal hygiene. Their accesses and influences were divided into “yes” or “no”. From these, it was discovered that hygiene-promoting factors were available for 72.5% of respondents, while 27.5% of respondents experienced barriers.

The most significant barrier was the lack of peer encouragement, with 50% not having encouragement from their peers. Among economic barriers, the biggest barriers were lack of access to soap (22.2%) and running water and/or handwashing buckets (15.7%). In another similar study, some significant physical barriers to personal hygiene among children included the non-functionality of items (for example - shower, taps, toilets, and handwashing buckets)²⁰ which was similar to the findings in this study.

Conclusion

There was fair practice of personal hygiene among the study population, especially among the pupils in private schools, compared to pupils in the public schools. Parents, teachers, school management and governments should ensure that pupils sustain and improve on this practice of personal hygiene.

There is need for quality health education on personal hygiene as a means of primary prevention of illnesses in all primary schools.

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