INTRODUCTION

Diseases related to inadequate water, poor sanitation and hygiene practices remain a high burden in developing countries. Diarrhoeal disease, a consequent of these problems results in 1.87 million deaths per year, mostly among children in the developing countries. Water, sanitation and hygiene are also linked to school attendance and performance, safety and security of women and girls, economic and social development of communities and nations. United Nations Children's Fund (UNICEF) has estimated that more than half of the world's school lack clean toilets, drinking water and hygiene lessons for all school children. A UNICEF-sponsored study showed that on average, there is only one toilet for every 500 students in school, ten times an acceptable standard of 50, this is clearly much less than the acceptable standard. Lack of toilets in school increase the number of student absences through widespread disease and illness. Schools with poor water, sanitation and hygiene conditions constitute high risk for school children by increasing their susceptibility to helminthic infections, skin diseases and diarrhoeal diseases. This invariably compromises the ability of school children to learn by impacting negatively on their growth, nutritional and mental status. According to the World Health Organization (WHO), a health promoting school is defined as "one that is constantly strengthening its capacity as a healthy setting for living, learning and working". This cannot be over emphasized since children spend a significant amount of time in and around their schools. In recognition of the role of schools on the child's health, the world education forum in Dakar, Senegal, launched the Focusing Resources on Effective School Health (FRESH) as a strategy for achieving Education for All. Water, Sanitation and Environment was identified among the main components to achieve this strategy (UNESCO, 2000).

Noteworthy, the provision of adequate water supply,
proper sanitation and hygiene in schools, is of direct relevance to the United Nations (UN) Millennium Development Goals (MDG) 2 and 4, which are achieving universal primary education and reducing child mortality respectively. The importance of improved water sanitation and hygiene in attainment of optimal health for all is further buttressed by the international observance of some remarkable days annually such as; World Water Day-March 22, World Toilet Day-November 19, Global Hand Washing Day-October 15. Additionally, the theme for the Global Hand Washing Day’s inaugural year was focused on school children.

In spite of these emphasis on water, sanitation and hygiene, Nigeria is rated among the countries whose sanitation coverage rates are between 20% and 40% points below the MDG target. Thus, the water and sanitation situation in Nigeria remains unacceptably low. Most of the data and progress reports on water and sanitation seemingly focus on access at household levels, without reference to access at public places like schools. Schools play a key role in the cognitive and creative development of children comes after family. Improved health and quality learning are not possible in schools as long as basic hygiene, sanitary facilities and water supply are lacking. Furthermore, an unsafe school environment grossly affects the health of children especially the females, leading to low enrollment and high drop-out rates.

Thus, a study to assess water, sanitation and hygiene in schools will not only describe the magnitude of the problem but will serve as a platform to plan evidence based intervention for improving the School Health Programme (SHP). Hence, this study aims to assess the situation of water and toilet facilities in primary schools, hygiene education incorporation into school curriculum and the hand washing practice among school children.

METHODOLOGY

Study Area: This study was conducted in Obio-Akpor Local Government Area (LGA) of Rivers State, South-South region of Nigeria. It is one of the urban LGA in the Metropolis of Port Harcourt in Rivers State. It covers 260sq.km and a 2006 population census of 464,789. It has 45 and 71 public and private primary schools respectively.

Study Population: This comprised of teaching staff and pupils of primary five and six class, who were able to read, comprehend and respond to the self-administered questionnaires.

Study Design: Descriptive cross sectional study was employed. Sample Size: Using the sample size formula for descriptive studies with a maximum prevalence rate used in sample size calculation (50%) and a margin of sampling error set at 5% at 95% confidence level, a sample size of 384 was obtained and with 20% adjustment for non-response, the total sample size was 480 pupils.

Sampling technique: Twenty-five per cent of the total primary schools in the Local Government were sampled, comprising of 10 public and 15 private schools using simple random sampling. A total of 25 teachers, representing each school were enrolled in the study. Multi stage probability sampling was employed in the selection of primary five and six pupils.

Data collection: Data was collected using self-administered structured questionnaires and an observational checklist. The information collected were source of water, water availability and accessibility, toilet facility (type, location and number), the incorporation of hygiene education in school curriculum, teacher training on hygiene education, provision for hand washing and hand washing practice among the pupils.

Data analysis: SPSS Version 17 was used to analyze data. Data were presented as proportions and differences in proportions between public and private schools were tested using Chi square and Fishers Exact test as appropriate. A p value of less than 0.05 was considered statistically significant.

Ethical Approval: The study approval was obtained from the Obio-Akpor Local Government Primary School Board. Verbal informed consent was obtained from the school Administrators and the respondents before inclusion into the study.

RESULTS

Of the 480 questionnaires distributed to the pupils, 466 properly filled questionnaires were analyzed, giving a response rate of 97.1%. While, all the 25 teachers responded, giving a response rate of 100%. Most (279) of the respondents were females (59.9%) while 187 (40.1%) were males. Of the 25 teachers, 7(28%) were males and 18 (72%) were females.

The study showed that 22 (88%) of the primary schools had borehole with electric pump, one (4%) had piped water to school premises and 2 (8%) had no source of water. Although 92% of the schools (23 out of 25) had source of water, the functionality/availability of water was constant in 64% of schools (16 out of the 25
schools). The distance to the common point of use of water facility was less than 5 minutes in most schools (80%) while only 20% of schools had provision of drinking water in the classroom.

Most of the schools, 23 (92%) had water cistern toilets while 2 (8%) had no toilet facility. However, out of the 23 schools with toilet facility, only one had a non-functional toilet. The average toilet to pupil ratio was 1:41. However the lowest toilet to pupil ratio was 1:150, while the highest was 1:12. Only nine (36%) had toilets specifically designed to suit younger children. The separation of toilet by gender was reported in 17 (68%) of the schools.

The incorporation of hygiene education into school curriculum was reported in all the 25 (100%) primary schools. However, only 3 (12%) of the 25 teachers have been trained on hygiene education. Teachers training on hygiene education was reported in 20% and 6.7% in the public and private schools respectively. This difference was not statistically significant (d.f=1, Fisher Exact p=0.5434). Inspection of pupils was reported in 14 (93.3%) out of the 15 private schools and 6 (60%) out of the 10 public schools. Fisher Exact test showed no significant difference between the inspection of pupils and type of school (d.f=1, p =0.1206).

Provision of hand washing facility was reported in 11 (73.3%) of the private and 8 (80%) of the public schools. This difference was not statistically significant (d.f=1 Fisher Exact p =1.000). A total of 19 (76%) out of the 25 schools studied had provision for hand washing. Of these 19 schools, only 8 (42.1%) had provision for drying of hands after washing. The study showed that of the 466 pupils, 203 (43.6%) had properly being taught on proper hand washing. While 248 (53.2%) of the pupils wash their hands before eating, a lower number of 198 pupils (42.5%) wash their hands after using the toilet.

DISCUSSION
The gender distribution of respondents in this study showed that there were more females (59.9%), this was also noted in a similar study in Ibadan, which reported 53% of females. This could be as a result of the role of global and national stakeholders in the improvement of the girl-child enrollment in schools.

In the assessment of source of water in schools, this study reported that 88% of schools had bore hole with electric pump which contrasts with similar studies in the South-Western region of Nigeria reporting rates of 25% and 40%. The apparently better situation of source of water reported in this study may not be unconnected to the fact that Obio-Akpor LGA is an urban area and commercially fast growing while the other studies were in semi urban areas. It suffices to say that it is necessary for all schools to have a good source of water that is constantly available. This study noted that most of the schools could access water within five minutes in the schools. This finding was similar to that found in Ibadan, unlike the finding in Ilorin, where fewer schools had quick access to water. Most children have an inadequate fluid intake in schools, thus quick access to water when needed prevents dehydration and improves their total fluid intake.

Concerning toilet facility, this study revealed that most of the primary schools assessed used the water cistern type of toilet facility. This may not be surprising since most of them had borehole facility. However, fewer of the schools lacked toilet facilities, compared with the finding from Edo State and Kwara State. The absence of toilet facilities in schools cause pupils to defecate in open ground, thereby increasing the risk of acquiring soil-transmitted helminthic infections. Two thirds of the schools had separate toilets for boys and girls which was higher than that reported in the south-west report.

Girls do not need separate toilet facility for defecation only; they also need privacy and dignity. Hygiene education was incorporated into school curriculum in all the schools assessed, which is similar to that obtained in a study in south western region.

Hygiene education in school is very important as it is a form of promoting health of learners, who in turn can pass it onto their families and communities. The study revealed that more private schools inspected their pupils than public schools and this finding was consistent with the finding by Ofiwie and Ofili. This finding could be due to the fact that private schools being profit oriented would want the pupils of the school to always appear neat and well dressed, as this may improve the outlook of their schools in the eyes of the public. Nonetheless, inspection of pupils is important for school children to imbibe the culture of good personal hygiene. This study also noted that 76% of primary schools had provision for hand washing, which is much higher than the study in South-West of Nigeria which reported 10%. This dissimilarity may be attributed to the latter study being done in semi urban area and it’s restriction to only public schools. In spite of the relatively higher percentage of schools with hand washing facility reported in this study, the provision for drying hands after washing was
reported in just 42% of the schools. This could be due to lack of awareness on the benefits of hand drying after washing. Also, the study noted that most of the pupils (58%) have not been taught on proper hand washing even though hygiene education has been incorporated into the school curriculum in all the schools. This may be connected to the finding that only 12% of teachers have been trained on hygiene education. The teaching of school children on proper hand washing as well as the critical points in hand washing play a vital role in the prevention of diarrhea and related diseases. This study being carried out in an urban locality may limit the generalizability of the findings. Thus, the need for such studies to be done in the rural settings as well is implied for an appropriate and effective intervention.

CONCLUSION
The study showed that most of the schools in Obio-Akpor LGA had adequate water and toilet facilities but poor hygiene practice. Most of the teachers were not trained on hygiene education. Thus, there is need for training on hygiene education for teachers in Obio-Akpor primary schools as this may translate to better hygiene practice among the pupils. The effect of optimal hygiene practice among the pupils is far reaching.

REFERENCES
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