KIU Journal of Social Sciences Copyright©2019
Kampala International University ISSN: *2413-9580*; 5(4): 59- 66

Survey of Toilet Sanitary Facilities and Water Hygiene in Rural Communities of Ovia Areas, Edo state, Nigeria

TIMOTHY A. AKINGBADE, OSARENMWANTA DANIEL AIDEYAN
University of Benin, Benin City, Nigeria

Abstract. Toilet sanitary facilities and water hygiene are important aspects or rural health. Without proper toilet facilities and water hygiene, human lives can be at serious health risks. The study focused on the survey of toilet sanitary facilities and water hygiene in rural communities of Ovia areas, Edo state. The study employed the cross sectional form of descriptive research design where four research questions were answered. The sample consists of 2 individuals from the 200 households selected from Ovia south west and Ovia North East local government areas of Edo state. Focus group discussion was used among 120 respondents which were selected purposively (60 respondents each from Ovia south west and Ovia North East local government areas). In addition, checklist was also used to elicit data for the study. The checklist and focus group discussion documents were administered by the researchers only except for the questionnaires that were administered with the aid of research assistants. The research instruments were ascertained valid by three experts in the field of health education and environmental health education from the University of Benin and University of Ilorin, Nigeria. A reliability coefficient of 0.69 was obtained through the split half approach of Cronbach alpha analysis. The completed series of instruments were collected, sorted and coded and descriptively analyzed by frequency counts and percentages. The findings of the study revealed that the rural communities of Ovia areas, Edo state uses ventilated improved pit latrine, ordinary pit latrine, water closet and aqua privy with soak away, however, the ordinary pit latrine is the commonest type of toilet facilities use in the rural communities of Ovia areas, Edo state. The toilet facilities in the rural communities, Edo state are majorly dilapidated, unsanitary and poorly sited. The rural communities of Ovia areas, Edo state uses water, tissue, paper, dried leaves and combination of the materials, however water and paper are the commonest type of self-cleaning materials in the rural communities of Ovia areas, Edo state. Majority of community members demonstrate poor water hygiene practice in rural communities of Ovia areas, Edo state. The researchers recommended among others that Local government chairmen and councilors should support community members with water closet to replace the pit latrines as many health hazards are associated with pit latrines.

Keywords: Toilet, Sanitary facilities, water hygiene and Rural communities

1. Introduction

Toilet facilities and water hygiene are functions of sanitation and are important indicators of community health. Toilet sanitary facilities refers to the kind of toilet used, the hygiene condition for prevention of communicable diseases among community members, while water hygiene refers to the source of water, handling of water source to promote optimal health of the people in line with the attainment of the millennium development goals (MDGs).

According to World Health Organization, WHO/United Nations Children Funds, UNICEF (2011), progress has been good on increasing access to clean drinking water, the global target is likely to be surpassed although rural areas are lagging behind and more than one in ten people may still not have access to safe drinking water by the 2015 deadline. This report still demonstrates even in recent times the challenges to toilet sanitary facilities and poor water hygiene especially in developing countries and even devastating in the rural communities of the developing countries. UNICEF (2014) reported that almost half the population in developing countries do not have access to sanitary facilities and an estimated 1.4 billion people practice open defecation, exposing themselves and their communities to major health risks. In Sub-Saharan Africa, only 24 percent of the rural population were using improved sanitation facility (WHO/UNICEF, 2011. Without proper toilet facility, untreated human waste can impact a whole community, affecting many aspect of daily life and ultimately posing serious risks to health.

Access to decent and clean toilet is globally considered as fundamental to the human survival and wellness. It remains one of the target of the millennium development goals. Access to improved sanitary facilities, particularly efficient and decent toilet remains very critical not only to achieve MDGs but also to sustain environment, improve health and development. UNICEF (2014) reported that Nigeria is the fourth in term of highest number of population without access to safe toilet with about 39 million people practicing open defecation after India, Indonesia and Pakistan. It is estimated that about 72 percent of the population in Nigeria use indecent and unsafe toilets especially in the rural communities (Abdu, Adewara&Oloni, 2015).Toilet facilities are important in community health as well as school health. Nwankwo, Uzoechina & Oguegbu (2016) reported that unsafe and indecent toilet facilities result to drop out in schools, prevalence of communicable diseases like diarrhea, cholera, trachoma, typhoid and amoebic dysentery among others, sexual abuse among women as they resort to open defecation and remain a good indicator of poverty.

There are several toilet facilities available for use with different structures, demand for water and health implications. According to Ordinioha & Owhondah (2008) explained that ventilated improved pit (VIP) latrine, simple pit latrine, septic water closet with collection well and aqua privy with soak-away were mentioned in a survey study of toilet facilities in rural communities. Shittu, Akpan, Mafiana, Ogunshola & Sodipe (2014) further stated that simple pit latrineswere found in 72 percent of the household surveyed with 6 percent of the households having the water closet. A common toilet facility used in rural communities is the close pit toilet or latrine; it has a platform with a hole in it and a lid to cover the hole when it is not in use. The platform could be made of wood, concrete or logs. A common problem with it is that once the pit is full, the toilet can no longer be used, however it requires no or very less water. According to Nkwocha, Pat-Mbano & Okeoma (2012), the use of pit latrine is a main cause of diarrhea and cholera in developing countries and to prevent future diseases. Pit latrine should be replaced by water closet, the pit latrine should be kept clean and covered when not in use.

The conditions of toilet sanitary facilities determine its usage, and the health risks associated with it. Researchers' observations from rural survey revealed that many cases of the common pit latrine were uncovered, not properly sited, without lid or cover and are breeding site for flies. Infact, Abdu, Adewara & Oloni (2015) reported that most pit latrine are located close to the kitchen at the backyard of the house and utilized by many people in the house especially large extended families which sometime are shared by neighbors. Shittu, Akpan, Mafiana, Ogunshola & Sodipe (2014) also reported that sometime the pit latrines are sited close to the well which is the major source of water in the rural communities and the dilapidated structure often result to rain which wet the wood hereby becoming weak and threat to safety of the users.

Water hygiene and sanitized toilet facilities are mutual in promoting public health. The provision of water source is not enough to improved people's health, rather water hygiene practices are essential. The proper use of water before and after toilet use plays a significant role to determine water hygiene. Self-cleaning materials include materials used after toilet use, they include water, tissue, paper, dried leaves and sometimes combination of these materials. Ashaiolu & Onudi (2014) reported in a rural survey study that majority of the people use water. WHO (2011); WHO (2004) reported that the unhygienic condition of the toilet sanitary facilities, improper disposal of children faeces and the poor hand washing behavior of the respondents and perhaps responsible for number of childhood diarrhea and other communicable diseases in the rural communities.

Toilet facility is an important part of a building as it determines environmental wellness and influence the occurrence of water and food borne diseases like cholera, diarrhea and typhoid fever. The quest to pay attention to toilet sanitary facilities and water hygiene as an important component of toilet facilities so as to promote individual, family and public health is borne out of the interest of the researchers to Survey of toilet sanitary facilities and water hygiene in rural communities of Ovia areas, Edo state.

2. Statement of the Problem

The environmental and health policies to ensure adequate toilet sanitary facilities in households are still a difficult task in Nigeria and Edo state in particular. Effective toilet sanitary facilities including water hygiene is no doubt important to promote individual, family and public health and equally prevent water and food borne diseases especially that related to poor toilet sanitary facilities. In the rural communities, there is prevalence of neglects, underdevelopment, poverty and lack of healthful knowledge to sanitized toilet facilities, water hygiene and general sanitation. It becomes necessary to find out contemporarily the nature of toilets available and use, hygienic conditions of the available toilets, water hygiene in relation to materials for self-cleaning after toilet use so as to report contemporary findings as regard toilet sanitary facilities and water hygiene in rural communities of Ovia areas of Edo state as it is an important aspect of the millennium development goals attainment.

3. Research Questions

The following research questions guided the study:

- What are the toilet facilities available in rural communities of Ovia areas, Edo state?
- What is the condition of the available toilet facilities in rural communities of Ovia areas, Edo state?
- What materials are used for self-cleaning after toilet use in rural communities of Ovia areas, Edo state?
- What is the level of water hygiene practice among rural communities' members of Ovia areas, Edo state?

4. Method and Materials

The study employed the cross sectional form of the descriptive research design study because the information about the independent and dependent variables that are gathered represent what is going on at a particular point in time (Best &Kalin, 2009) in relation to survey of toilet sanitary facilities and water hygiene in rural communities of Ovia areas, Edo state.Ovia areas are made up of Ovia South West and Ovia North East constituencies in Edo state.

Data were collected with structured interview administered questionnaire, checklist and focus group discussion (FGD). The questionnaire was administered to two (2) individuals from the 200 households (100 persons each from Ovia South West and Ovia North East local government areas). The focus group discussion was discussed with 120 respondents (60 each from Ovia South West and Ovia North East local government areas). The checklist was use to gathered data for research question 1 and 2, while questionnaire was use to gathered data for research question 3 and focus group discussion was used to gathered data for research question

4. A composition of these research instruments were needed to help gather valid data on the independent and dependent variables of the study.

The instruments were administered by the researchers except for the questionnaires that were administered with the aid of research assistants. The research instruments were ascertained valid by three experts in the field of health education and environmental health education from the University of Benin and University of Ilorin, Nigeria. A reliability coefficient of 0.69r was obtained through the split half approach of Cronbach alpha analysis.

The completed series of instruments were collected, sorted, coded and descriptively analyzed using frequency counts and percentages.

5. Results

RQ1: What are the toilet facilities available in rural communities of Ovia areas, Edo state?

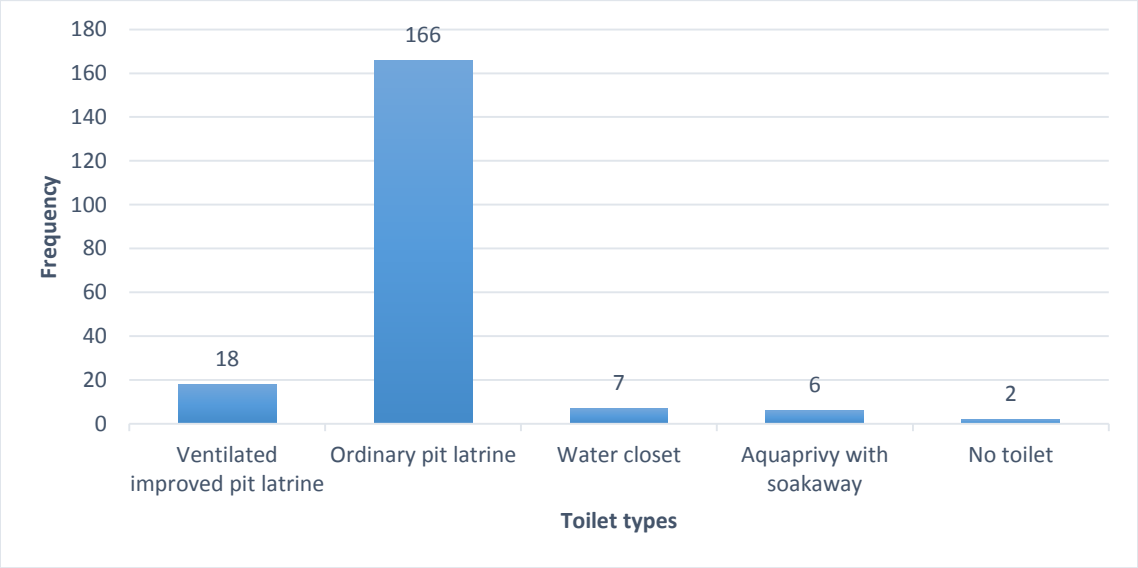

Figure1: Bar chart representing the types of toilet facilities in rural communities of Ovia areas of Edo state.

The figure 1 above shows a representation of the descriptive analysis for research question 1, From the 200 households sampled, 18 (9%) of the households have ventilated improved pit (VIP) latrine, and majority of the households, 166(83%) have ordinary pit latrine, 7(3.5%) of the households have water closet toilet, 6(3%) of the households have aqua privy with soakaway toilet and 3(1.5%) of the households have no toilet.

RQ2: What is the condition of the available toilet facilities in rural communities of Ovia areas, Edo state?

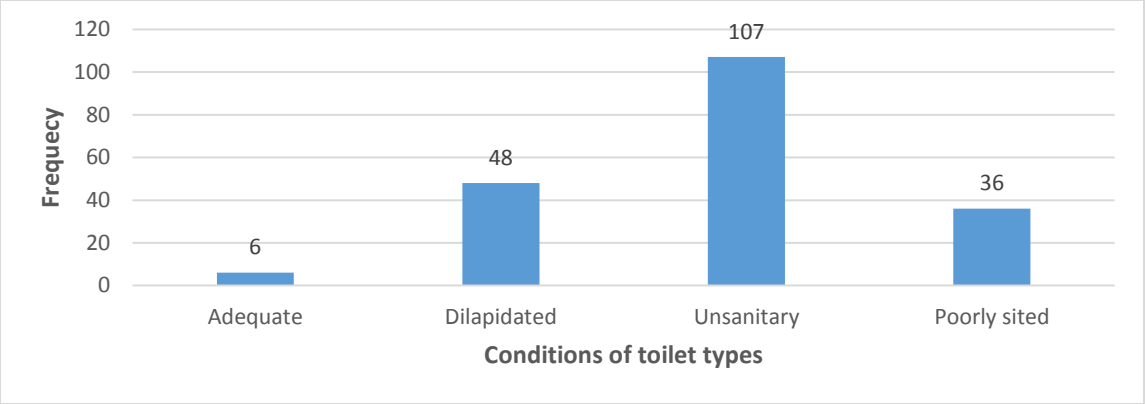

Figure 2: Bar chart representing the conditions of the toilet facilities in rural communities of Ovia areas of Edo state.

From the total 197 toilets observed in the 200 households,6 (3.0%) of the toilets were adequate, 48(24.4%) of the toilets were dilapidated with old zinc, decayed wood and uncovereed, 107(54.3%) of the toilets were unsanitary and breeding sites for disease vectors like flies, mosquitoes and rodents and 36(18.3%) of the toilets especially ordinary pit latrines were poorly sited either close to the kitchen or well.

RQ3: What materials are used for self-cleaning after toilet use in rural communities of Ovia areas, Edo state?

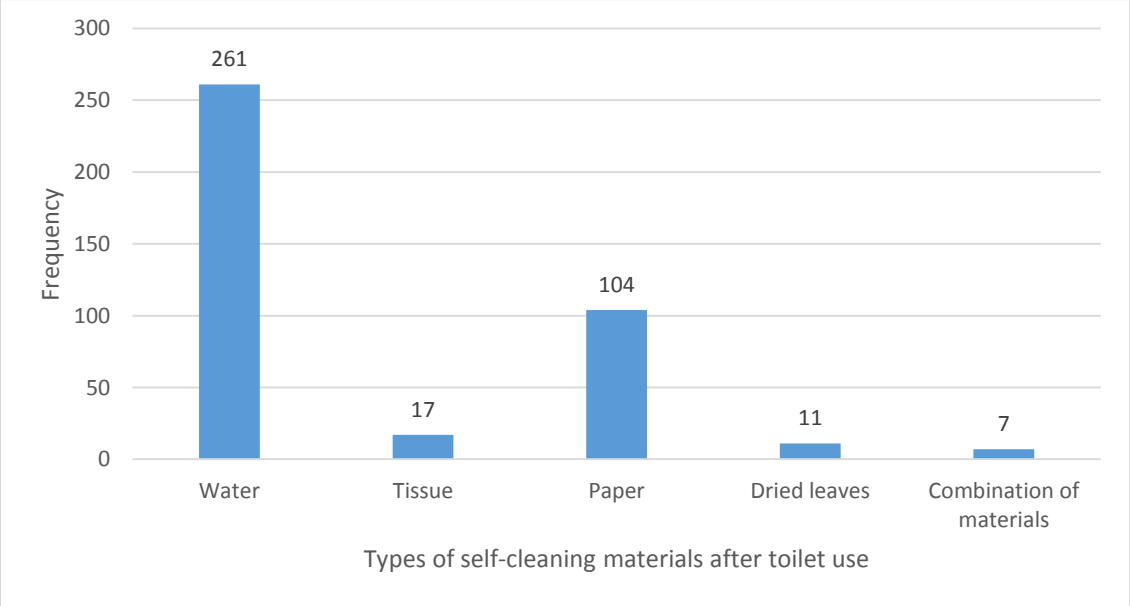

Figure 3: Bar chart representing the types of self-cleaning materials after toilet use in rural communities of Ovia areas of Edo state.

From the figure 3 above, questionnaires were used to gather data for research question 3, the sample size of the respondents were 400. The figure revealed that 261(65.25%) of the respondents reported to use water as self-cleaning after toilet use, 17(4.25%) of the respondents reported to use tissue as self-cleaning after toilet use, 104(26%) of the respondents reported to use paper as self-cleaning after toilet use, 11(2.75%) of the respondents reported to use dried leaves as self-cleaning after toilet use, and 7(1.75%) of the respondents reported to use combination of materials as self-cleaning after toilet use.

RQ4: What is the level of water hygiene practice among rural communities' members of Ovia areas, Edo state?

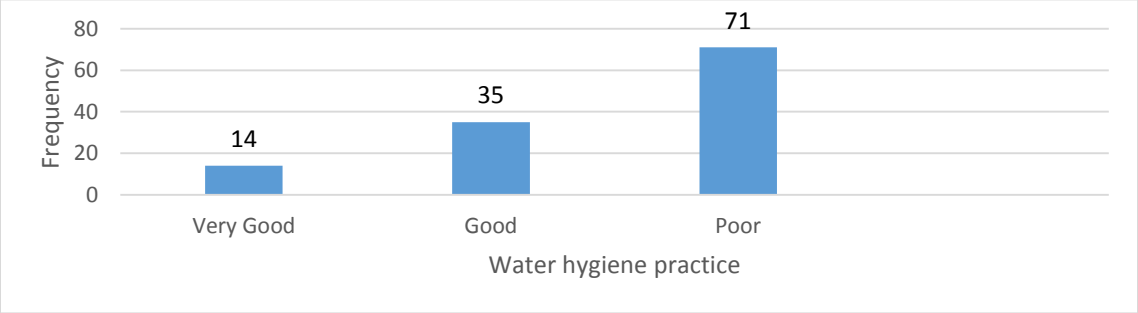

Figure 4: Bar chart representing the level of water hygiene practice in rural communities of Ovia areas, Edo state.

The figure above shows the responses from focus group discussion on the level of hygiene practices in rural communities of Ovia areas of Edo state. The figure revealed from the 120 respondents that 14 (11.7%) of the respondents reported very good water hygiene practice, 35(29.2%) of the respondents reported good water hygiene practice while 71(59.2%) of the respondents reported poor water hygiene practice.

6. Discussion of Findings

The findings of the study revealed a survey on the toilet sanitary facilities and water hygiene in rural communities of Ovia areas in Edo state.

Research question 1, revealed that the rural communities in Ovia areas Edo state have ventilated improved pit latrine, ordinary pit latrine, water closet and aqua privy with soak-away as toilet facilities used however majority of the households 166(83%) have ordinary pit latrine with 7(3.5%) households having water closet. This therefore revealed that the communities make use of the ordinary pit latrine than any other form of toilet facilities. This finding is in concordance with the finding of Shittu, Akpan, Mafiana, Ogunshola & Sodipe (2014) that most of the rural communities uses the pit latrines than any other types of toilet facilities.

Research question 2, revealed that 107(54.3%) of the toilet facilities in the rural communities of Ovia areas, Edo state are unsanitary, 48(24.4%) are dilapidated, 36(18.3%) are poorly sited while very few, 6(3.0%) are adequate. These shows that the toilet facilities in the rural communities are associated with one or combination of challenges that predisposes people to health hazards. The finding is similar to that of Abdu, Adewara & Oloni (2015) that reported that 72% of Nigeria population uses indecent and unsafe toilet especially in the rural communities and, Shittu, Akpan, Mafiana, Ogunshola & Sodipe (2014) reported that most pit latrine are poorly sited with weak structures.

Research question 3, revealed that several self-cleaning materials are used by communities' members after toilet use. Majority of the respondents, 261(65.25%) use water as self-cleaning materials and a quite majority, 104(26%) use paper as self-cleaning material and next on the ranking is tissue as a self-cleaning material,17 (4.25%) of the respondents agreeing to its usage. The finding corroborates with the finding of Ashaiolu & Onudi (2014) which reported in a survey that majority of the people use water as a self-cleaning material after toilet use.

Research question 4, revealed the level of water hygiene practice among communities' members in the rural communities of Ovia areas, Edo state. The finding revealed that 71(59.2%) of the respondents reported a poor water hygiene practice, only 14(11.7%) demonstrate a very good water hygiene practice. The finding corroborates with the findings of WHO (2011); WHO (2004) that poor hand-washing behavior is more in rural communities thereby resulting to diarrhea and other food and water borne diseases.

7. Conclusion

Based on the findings of the study, it was concluded that:

- The rural communities of Ovia areas, Edo state uses ventilated improved pit latrine, ordinary pit latrine, water closet and aqua privy with soak away, however, the ordinary pit latrine is the commonest type of toilet facilities use in the rural communities of Ovia areas, Edo state.
- The toilet facilities in the rural communities, Edo state are majorly dilapidated, unsanitary and poorly sited.
- The rural communities of Ovia areas, Edo state uses water, tissue, paper, dried leaves and combination of the materials, however water and paper are the commonest type of self-cleaning materials in the rural communities of Ovia areas, Edo state.
- Majority of community members demonstrate poor water hygiene practice in rural communities of Ovia areas, Edo state.

8. Recommendations

Based on the findings and conclusion made to the study, the followings recommendations were made:

- Local government chairmen and councilors should support community members with water closet to replace the pit latrines as many health hazards are associated with pit latrines.
- There should be strict enforcement of sanitation by government at all levels to ensure toilet facilities are well built and kept sanitized always.
- Water and tissue are recommended as self-cleaning materials however health education should be advocated more on proper water handling and hand washing.

References

Abdu, M., Adewara, S.O. & Oloni, E.F. (2015).Determinants of access to safe toilet facilities and its rural-urban disparity in Nigeria. *Paper presented at Biennial Conference of the Economic Society of South Africa. Cape Town South Africa*, 2-4v September 2015.

Ashaiolu, E.N & Onudi, F.T. (2014) Households water use behaviours in Irepodun Local Government Area of Kwara State, Nigeria. *Journal of Environment and Earth Science,* 4(2) , 2224-3216.

Best, J. W & Kalin, J. V. (2009).Research in Education. Singapore: Allyn and Bacon.

Nkwocha, E.E, Pat-Mbano, E.C. &Okeoma, I.O. (2012).Sanitation Indicators in the Rural Communities of the South-Eastern Nigeria. Additional Evidence of Policy Failure in Rural Development. *An International Multidisciplinary Journal, Ethiopia*, 155-170.

Nwanjwo, I.N., Uzoechona, G.O. & Oguegbu, A.E. (2016). A Survey of Sanitation and Hygiene Facilities in Public and Private Schools for Effective Implementation of UBE Programme in Onitsha, Anambra State. *Research Journal of Education*, 2(8), 129-136.

Ordinioha, B & Owhonda, G. (2008). Sanitation Facilities and Hygiene in a Semi-Urban community in Rivers state, South-South, Nigeria. *The Nigeria Health Journal*, 8(1-2), 10- 16.

Shittu, O.B., Akpan, I., Mafiana, C.F., Ogunshola, E.O &Sodipe, O. (2014) Assessment of Sanitation and Water Handling Practices in Rural Communities of Ogun State, Southwestern, Nigeria. *International Journal of Public Health Research,* 2(5), 44-53.

United Nations Children Funds (2014).Lack of Toilets Dangerous for Everyone. UNICEF Publications.

World Health Organization (2004). Guidelines for Drinking Water Quality (3rd ed.). Recommendations Volume 1. Geneva. WHO Publications.

World Health Organization (2011). Guidelines for Drinking Water Quality (4th ed.). Water Sanitation. Volume 1. Geneva. WHO Publications.

World Health Organization/United Nations Children Funds (2011). Progress on Sanitation and Drinking Water: Report Analysis. Geneva. United Nations Publications.