A Comparative Study of Hygiene Practices among Residents of Rural and Urban Areas in Lagos-State, Nigeria

Adeniji L.A[1], Ashiru A.W[2], Dahunsi M.A[3], Idowu E.O[4], Olusan B.O[5], Idris M.A[6], Akintola O.E[7]

[1,4,5,7]Department of Statistics, Yaba College of Technology, Yaba Lagos, Nigeria

[2]Department of Biological Science, Yaba College of Technology, Yaba Lagos, Nigeria

[5]Department of Mathematics, Yaba College of Technology, Yaba Lagos, Nigeria

[3]Department of Statistics, University of Lagos, Yaba Lagos, Nigeria

[#]Corresponding Author

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ABSTRACT

The study focused on the practice of hygiene among the people living in rural (Agric) and urban (Yaba) areas in Lagos-State. Hygiene practices happened to be significant concern of public health, and appreciative its practice in both citied and local communities as crucial for effective interventions. The research adopted cross-sectional research design, and data were collected through well-structured questionnaires from 312 participants. The data collected were analyzed using descriptive statistics and inferential (chi-square tests) to assess relationships between categorical variables with the aid of statistical package SPSS27. Results showed that the residents of showed-case better knowledge of practices of hygiene compare to participants in Agric. The results also showed a significant statistical different in the personal hygienic practices at ($p < 0.05$) and environmental hygiene practices at ($p < 0.05$) between both areas. Knowledge of hygiene was also significantly associated with location ($p < 0.05$). More so, the results indicated no significant association in attitudes toward hygiene practices at ($p > 0.05$). In conclusion, the study identified disparities in hygiene knowledge and practices between rural area and urban area. The findings indicated that urban residents displayed better hygienic knowledge and environmental practices, attitudes toward hygiene were similar in both Agric and Yaba locations. Therefore, there is need for equitable access to hygiene facilities and resources for improving public health in both rural and urban areas.

Keywords- Hygiene Practices, Rural and Urban Areas, Public Health, Environmental Sanitation

INTRODUCTION

Practice of hygiene play key fundamental role that are need in the prevention of infectious diseases and the advancement of public health at large. The World Health Organization recognises hygienic as one of the key fundamentals of the prevention of disease, mainly in low- and middle-income countries where access to safe water, sanitation, and hygiene (WASH) facilities remains uneven [1]. In Nigeria, big differences among residents of rural and urban areas in the aspect of the availability of clean water, sanitation facilities, and health education, leading to variations in hygiene behaviour and related health outcomes [2].

Those in urban areas often benefit from improved infrastructure and better access to hygiene information, while rural communities may experience limitations in sanitation facilities and awareness [3]. These differences significantly affect the incidence of communicable diseases such as diarrhea, cholera, and typhoid. According to [4], comparing hygiene practices between rural and urban populations provides insight into behavioral and infrastructural gaps that must be addressed to achieve Sustainable Development Goal (SDG) 6 (Clean Water and Sanitation) and SDG 3 (Good Health and Well-being).

This study then explores and relates hygiene practices among residents of Agric (rural area) and Yaba (urban area) in Lagos-state, with the objective of understanding differences in personal and environmental hygiene, as

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well as the relationship between knowledge, attitude, and hygiene practice.

The disparity in the rural and urban communities appears in many ways that can influence health behaviors, include personal hygiene among secondary school students. [5] stated that place of residence has a meaningful significant impact on the practices of hygiene, with urban students generally demonstrating better hygiene due to greater availability of necessary hygiene resources.

In the study carried out by [5], female secondary school students in Obio/Akpor, like adolescents elsewhere, undergo physical changes during puberty that require proper personal care. However, some are observed to have poor hygiene. Instances such as visible menstrual stains on uniforms indicate inadequate menstrual management, while strong body and mouth odor suggest insufficient grooming. Additionally, some students handle food with unwashed hands, posing health risks [5]. These challenges may be more pronounced in rural areas where sanitation facilities and hygiene materials are limited. Even in urban schools, access to available facilities can be restricted, leaving students to manage their hygiene with minimal support. Therefore, it is important to examine their hygiene practices in both rural and urban settings to guide effective interventions. This underscores the need for the present comparative study on personal hygiene practices among female students.

According to [5], reported that personal hygiene practices including oral, hand, clothing, body, and menstrual hygiene did not show a statistically significant difference between female students in rural and urban settings ($p > 0.05$). However, they noted that overall hygiene behaviors, particularly those related to clothing, body care, and menstrual hygiene, were more commonly practiced among students in urban areas than those in rural communities.

Hygiene and Public Health

According to [6], hygiene is simply a set of practices that encourage health through cleanliness and the prevention of diseases. The good hygiene practices, through handwashing, waste disposal, and clean environments, are critical for reducing infectious disease transmission. Poor hygiene has been linked to high morbidity and mortality rates in developing countries, particularly among children under five [1].

Rural-Urban Differences in Practices of Hygiene

Many past studies have consistently shown disparities in hygiene practices between rural and urban populations. In the study by [7], urban dwellers often have better access to clean water, sanitary facilities, and hygiene education programs. Conversely, rural communities face infrastructural challenges that hinder good hygiene practices, including inadequate water supply, poor waste disposal systems, and limited health literacy [8].

In a comparative study in northern Nigeria, [9] found that urban residents had significantly higher hygiene practice scores than rural residents. Similar findings were reported in Ghana and Kenya, where urban areas exhibited better handwashing behavior and sanitation coverage [1] [3].

Knowledge, Attitude, and Practice (KAP) Framework

The framework of KAP is widely used to assess how people's knowledge and attitudes influence their hygienic behavior. Many studies show that individuals with higher knowledge of hygiene and positive attitudes are more likely to practice proper hygiene [10]. However, in many rural settings, cultural beliefs and limited access to health information reduce the adoption of good hygiene practices [11].

Policy and SDG Context

Nigeria's National Policy on Water, Sanitation and Hygiene (WASH) emphasizes equitable access to safe water and improved sanitation facilities [12]. Nonetheless, achieving SDG 6 remains challenging due to regional inequalities. Strengthening hygiene education and improving community participation are essential strategies to bridge the gap between rural and urban populations [4]. Another study conducted in Amuwo-

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Odofin, Lagos-state, in which sustainable development goal (SDG) 3 was addressed and link it to factors like quality of services and cost of healthcare for it to manifest [13].

AIM AND OBJECTIVES

Aim

To investigate and compare the hygiene practices of individuals residing in rural and urban areas, with the objective of identifying differences, understanding the factors influencing these practices, and providing recommendations for improving hygiene standards in both settings.

Objectives

1. To assess the level of hygiene practices among rural and urban populations.
2. To determine the association between knowledge, attitude and hygiene practices in rural and urban populations.

METHODOLOGY

The research design adopted for this study was a comparative cross-sectional research design, which is appropriate for collection of data at a single point in time, providing a snapshot of the current water sanitation and hygiene (WASH) practices and related health outcomes in these areas.

Adults aged 18 years above who have lived in the selected areas (Yaba or Agric) for at least 6 months, can give informed consent, and understand English or the local language were included in the study. Participants should be household residents knowledgeable about hygiene practices. Individual not up to 18 years, non-residents, visitors, institutionalized persons, those unable to consent, or anyone unwilling to participate were excluded.

Questionnaire was used to assess participants' water sources, sanitation facilities, hygiene practices, and associated health outcomes. And it has 5 sections, demographic variable, personal hygiene, environmental hygiene, knowledge, and attitude towards hygiene practice [3].

The target population comprised adults aged 18 years above residing in Agric and Yaba areas, in which 312 residents of rural (Agric) and urban (Yaba) areas were sampled by random process.

Hygiene practices were scored, giving 1 for positive and 0 for negative responses. Scores were converted to percentages ≥50% = good hygiene, < 50% =poor hygiene [8],[14]. Knowledge was scored 1 for correct and 0 for incorrect responses, scores ≥50%indicated adequate knowledge, while < 50 anshowed inadequate knowledge [10]. More so, attitude scores ≥50%implies positive attitude and <50£means negative attitude [11].

And the responses gotten from the field were analysed using descriptive statistics (frequencies/percentages) and inferential statistics [13] (Chi-square and Risk estimate (odd ratio) Methods) on SPSS27.

RESULTS

Table 1: Association between Overall hygienic practice, attitude, and knowledge

	Location			X^2	P-value
	Agric	Yaba	Total		
Personal hygiene practice					
Poor	39(38.8)	62(61.4)	101(100.0)	11.656	$< 0.05^F$
Good	125(59.2)	86(40.8)	211(100.0)		
Environmental hygiene practice					

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Poor	57(39.3)	88(60.7)	145(100.0)	19.085	$< 0.05^F$
Good	107(64.1)	60(35.9)	167(100.0)		
Overall hygiene practice					
Poor	44(37.3)	74(62.7)	118(100.0)	17.761	
Good	120(61.9)	74(38.1)	194(100.0)		$< 0.05^F$
Attitude towards hygiene					
Negative	46(48.9)	48(51.1)	94(100.0)	0.710	$> 0.05^F$
Positive	118(54.1)	100(45.9)	218(100.0)		
Knowledge towards hygiene practice					
Poor	32(39.5)	49(60.5)	91(100.0)	7.481	$< 0.05^F$
Good	132(57.1)	99(42.9)	231(100.0)		

Note: X^2 "Chi-square value", F "Fisher's Exact Test"

Interpretation:

In table above we observed a strong correlation between different hygiene indices and geography (rural vs. urban), The association that was statistically significantly different between Agric (rural) and Yaba (urban) residents in terms of practices of personal hygiene, practices of environmental hygiene, overall practice of hygiene, and knowledge of hygiene, with p-values less than 0.05 for each.

Table 2: Association between Overall hygienic practice, attitude, and knowledge

	Overall Hygiene Practice			X^2	P-value
	Poor	Good	Total		
Attitude towards hygiene					
Negative	43(36.4)	75(63.6)	118(100.0)	3.592	$> 0.05^F$
Positive	51(26.3)	143(73.7)	194(100.0)		
Knowledge towards hygiene practice					
Poor	43(36.4)	75(63.6)	118(100.0)	10.842	$< 0.05^F$
Good	38(19.6)	156(80.4)	194(100.0)		

Note: X^2 "Chi-square value", F "Fisher's Test"

The results in the above table determines the association between overall hygiene practice and both attitude and knowledge. The association between knowledge and overall hygiene practice was significant ($p < 0.05$), showing that individuals with better hygiene knowledge tend to exhibit better hygiene practices. In contrast, the relationship between attitude and overall hygiene practice was not statistically significant ($p > 0.05$), implying that while attitude may influence hygiene behavior, it does not necessarily translate into enhanced practices without adequate knowledge and supportive infrastructure. Generally, the findings emphasize that knowledge is a stronger determinant of good hygiene behavior than attitude alone, highlighting the importance of hygiene education and community sensitization.

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Table 3: Results of Logistic Regression analysis

Variable: Overall hygienic practice	Odd ratio	95% CI		Pvalue
Knowledge				
Poor	1.000			
Good	2.099	1.316	3.348	0.002
Variable: Overall hygienic practice	Odd ratio	95% CI		Pvalue
Location				
Rural	1.000			
Urban	2.727	1.701	4.374	0.000
Variable: Knowledge	Odd ratio	95% CI		Pvalue
Location				
Rural	1.000			
Urban	1.361	0.866	2.139	0.182

Note: OR-odd ratio, CI-95% confidence interval

In table 3, the logistic regression results revealed that knowledge and location (rural and urban) are main determinants of good hygiene practices. Individual with better hygiene knowledge are more likely to maintain hygienic behavior (OR=2.099, CI:1.316-3.348, P<0.05), and urban (Yaba) residents exhibit statistical significantly better hygiene levels compare to their counterparts (OR=2.727, CI=1.701-4.374, P<0.05). However, since the difference in knowledge between rural and urban residents is not significant (OR=1.361, CI=0.866-2.139, P>0.05), the better hygiene practices in urban and rural areas may largely stem from infrastructural and environmental merits rather than only knowledge disparities.

DISCUSSION OF FINDINGS

The study findings showed clear inequalities in hygiene practices between residents of rural and urban areas in Lagos-State, Nigeria. The results indicated significant associations between location and several hygiene related indicators like personal hygiene**,** environmental hygiene, collective hygiene practices**,** and knowledge of hygiene, with p-values < 0.05. This indicates that the level of hygiene practice is significantly influenced by the area of residence. However, attitude towards hygiene was not significantly different between the two groups (p > 0.05).

These findings clearly support the findings of [5],[7], who observed that urban populations often demonstrate better hygiene practices than rural counterparts due to improved access to water, sanitation facilities, and health information. In the present study, residents of Yaba (urban area) showed higher levels of good hygiene practice compared to those in Agric (rural area), corroborating [9], who found that urban residents generally exhibit better sanitation and handwashing behavior due to exposure to public health campaigns and better infrastructure.

More so, the present study showed significant difference in environmental hygiene practices which aligned with the study of [7], who found that rural areas in Southwest Nigeria often suffer from poor waste management and inadequate sanitation systems. Similarly, [2] emphasized that environmental and infrastructural challenges in rural areas heighten vulnerability to hygiene-related diseases such as cholera and typhoid fever.

In the present study, there is no significant association between attitude towards hygiene and location, which suggests that both rural and urban populations possess relatively similar attitudinal orientations toward

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cleanliness and hygiene, even though practical application differs. This agree with the study conducted by [11], who reported that positive attitudes alone may not always translate into good hygiene behavior unless supported by knowledge, resources, and conducive environmental conditions.

The significant association between knowledge and hygiene practices found in this study ($p < 0.05$) underscores the importance of awareness and education in promoting healthy behaviors. This finding is line with the study by [10], who found that individuals with higher hygiene knowledge tend to practice better sanitation and hygiene routines. It also agrees with the Knowledge, Attitude, and Practice theoretical framework, which posits that knowledge significantly shapes behavioral outcomes [6].

In addition, the present findings indicated that the observed non-significant association between attitude and hygiene practices indicates that while attitude may influence intentions, it may not be a strong predictor of hygiene behavior in isolation. Similar findings were noted by [11], who reported that positive attitudes without sufficient facilities or knowledge may not lead to behavioral change.

Generally, the results reinforce that knowledge is the most influential determinant of good hygiene practice. This underscores the need for community-based health education programs that target not only awareness but also targeted practical behavior modification strategies. The findings continue emphasize the role of infrastructural development and government policy in bridging the urban-rural divide in hygiene standards.

This study supports the Sustainable Development Goals (SDGs), particularly Clean Water and Sanitation and good Health and Well-being, by highlighting the need for equitable access to hygiene facilities and health information. The results suggest that interventions to improve hygiene should prioritize education, access to clean water, and community engagement to reduce the burden of preventable diseases in Nigeria's rural and urban communities [1],[4].

CONCLUSIONS AND RECOMMENDATIONS

This study demonstrated and compared the practices of hygiene among the residents of rural (Agric) and urban (Yaba) residents in Lagos-State, Nigeria. The results showed that location significantly influences hygiene behavior, as urban residents demonstrated higher levels of good personal, environmental, and overall hygiene practices compared to their rural counterparts. The study further revealed that knowledge of hygiene plays a more critical role in determining good hygiene practices than attitude alone.

The findings Signified that, despite both groups exhibiting relatively positive attitudes toward hygiene, actual practices are hindered in rural areas due to infrastructural deficiencies, inadequate water supply, and limited access to sanitation facilities. This underscores the persistent urban-rural inequality in hygiene-related health outcomes in Nigeria.

The study supports the Sustainable Development Goals (Good Health and Well-being and Clean Water and Sanitation), highlighting the need to ensure even access to hygiene resources and education. By enhancing knowledge, ensuring infrastructural provision, and strengthening behavioral change communication, community health can be enhanced, and preventable hygiene-related diseases can be significantly reduced.

We therefore recommended that government and non-governmental bodies should strengthen hygiene education campaigns, particularly in rural areas, focusing more on handwashing, waste management, and sanitation. The government must improve water and sanitation infrastructure to support better hygiene. Community participation should be encouraged through schools, leaders, and religious institutions, while hygiene education should be incorporated into school curricula to instill lifelong hygienic habits.

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