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ENVIRONMENTAL SANITATION PRACTICES IN PREVENTION OF COMMUNICABLE DISEASES AMONG RESIDENTS OF AKOKO SOUTH EAST LOCAL GOVERNMENT AREA, ONDO STATE NIGERIA

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ABSTRACT
Environmental sanitation practices play a vital role in the prevention and control of communicable diseases in the community. This study investigated environmental sanitation practices in the prevention of communicable diseases among residents of Akoko South East Local Government Area, Ondo State Nigeria. Three research questions and one hypothesis guided the study. A descriptive cross sectional survey research design was adopted. The population for the study comprised of 10,560 residents. Multi-stage sampling technique was used to select a sample size of 320 respondents. Data were collected using a researcher-designed questionnaire titled "Environmental Sanitation Practices in Prevention of Communicable Diseases (ESPPCD). The reliability of the instrument was established using Cronbach's Alpha method, which yielded a coefficient of 0.85. Data were analyzed using frequency counts, percentages, and Chi-square statistics at 0.05 level of significance. The result of the study showed that residents adopted a high level of environmental sanitation practices (52.68%}, as well as prevention of communicable diseases (56.21%) while male possessed (64.14%) high in environmental sanitation practices than the female counterparts (63.74%}.There was no significant relationship in the Environmental sanitation practices in prevention of communicable diseases based on gender. The study concluded that majority of residents practices environmental Sanitation in the prevention of communicable diseases in the communities. It was then recommended that government agencies, community leaders, and health organizations intensify public health education, provide adequate sanitation facilities, and enforce environmental sanitation laws to promote a healthier environment and reduce disease outbreaks in the communities.

Keywords: Environmental, Sanitation practices, Communicable diseases, Disease prevention, Akoko South East Local Government Area.

Introduction

Environmental sanitation is a fundamental aspect of public health that involves the control and management of environmental factors capable of affecting human health and well-being. According to Johnson (2023) environmental Sanitation encompasses activities aimed at maintaining clean, safe, and healthy surroundings through proper waste disposal, provision of safe water, effective sewage management, and adequate drainage systems. According to Ademuyiwa (2023) environmental sanitation refers to the control of environmental factors that can negatively influence human health and development. Similarly, Bolaji (2021) described environmental sanitation as the maintenance of clean surroundings through proper waste disposal, safe water supply, and adequate sewage systems. These measures are essential for preventing disease transmission, improving quality of life, and promoting sustainable development.

Environmental sanitation plays a critical role in reducing the transmission of communicable diseases by eliminating environmental conditions that facilitate the growth and spread of disease-causing organisms. Ibrahim and Yusuf (2020) concluded that environmental sanitation benefits all individuals irrespective of gender and serves as a universal public health measure for disease prevention. Similarly with the findings of Adebayo et al. (2021), who found no significant gender differences in sanitation practices and their impact on communicable disease prevention among residents. Afolabi and Oyekale (2020) reported that a high proportion of residents in Akoko South East local government area of Ondo state Nigeria regularly participated in environmental sanitation exercises and maintained proper waste disposal practices. Similarly, World Health Organization (WHO, 2022) emphasized that community participation in sanitation practices contributes significantly to improved public health outcomes and environmental sustainability.

Proper waste management, access to clean water, effective sewage disposal, and adequate drainage systems help reduce human exposure to pathogens and eliminate breeding sites for disease vectors such as mosquitoes and rodents (David,2022). Adekunle (2021) emphasized that poor sanitation creates favorable conditions for pathogen transmission, particularly through the contamination of water sources and food supplies. Adekunle (2021) further stated that such conditions increase the incidence of waterborne diseases such as cholera and typhoid fever, which continue to be major public health challenges in many developing countries.

The importance of environmental sanitation has become increasingly evident in many developing countries, including Nigeria, where rapid urbanization, population growth, and inadequate infrastructure have contributed to poor environmental conditions. Makinwa & Ajayi (2020) opined that common sanitation challenges such as indiscriminate waste disposal, open defecation, blocked drainage systems, and poor sewage management create favorable conditions for the spread of communicable diseases. Alabi (2023) noted that consistent sanitation practices are effective in preventing disease outbreaks from escalating into widespread epidemics. Consequently, environmental sanitation remains one of the most cost-effective strategies for promoting public health and preventing diseases.

Communicable diseases continue to pose significant health challenges globally, particularly in developing regions where environmental and socio-economic conditions increase vulnerability to infections. Samuel & Amalia (2023) stated that these diseases are

caused by pathogenic microorganisms, including bacteria, viruses, fungi, and parasites, and can be transmitted directly through human contact or indirectly through contaminated food, water, air, and disease vectors. Diseases such as cholera, malaria, tuberculosis, typhoid fever, and COVID-19 remain major public health concerns due to their impact on morbidity, mortality, and economic productivity.

Disease prevention refers to the various measures and strategies employed to reduce the occurrence of diseases, control their transmission, and minimize their effects on individuals and communities. Opeyemi, and, Enyi, et al, (2025), disease prevention is a vital component of public health because it contributes to improved quality of life, reduced healthcare costs, and enhanced community well-being. According to Boluwatinfe (2023), the prevention of communicable diseases requires a comprehensive approach that addresses environmental, behavioral, and systemic factors associated with disease transmission. Eke (2021) suggested that effective disease prevention extends beyond medical treatment and requires collaborative efforts among individuals, communities, healthcare institutions, and government agencies.

One of the major strategies for preventing communicable diseases is the improvement of environmental sanitation. Ezigbo (2023) asserted that access to clean water, proper sewage disposal, and effective drainage systems significantly reduces exposure to disease-causing microorganisms. In communities where sanitation facilities are inadequate, pathogens can easily contaminate drinking water and food sources, thereby increasing the risk of disease outbreaks. Therefore, the provision of safe drinking water and adequate sanitation facilities remains essential for effective disease control and prevention.

Waste management is another important component of environmental sanitation. It involves the collection, transportation, treatment, and disposal of solid and liquid wastes in ways that minimize environmental pollution and public health risks. Saliu (2021) stated that inefficient waste management systems often result in the accumulation of refuse in residential areas, blockage of drainage channels, and contamination of water sources. Saliu (2022) further stated that these conditions contribute to environmental degradation and provide breeding grounds for disease vectors such as mosquitoes and rodents, thereby increasing the risk of communicable diseases.

Furthermore, vector control measures play a significant role in disease prevention. Several communicable diseases, such as malaria and dengue fever, are transmitted through vectors such as mosquitoes. Preventive strategies such as the use of insecticide-treated bed nets, indoor residual spraying, and environmental management practices aimed at eliminating vector

Hygiene practices play a critical role in breaking the chain of infection. Olufemi (2021) opined that behaviors such as regular handwashing with soap, safe food handling, proper disposal of human waste, and maintaining personal cleanliness can reduce the transmission of communicable diseases. However, regular handwashing with soap, particularly before eating and after using the toilet, has been proven to reduce the transmission of many infectious diseases. Emeka (2022), safe food preparation, personal cleanliness, and proper waste disposal are essential behaviors that limit the spread of harmful microorganisms. However, the effectiveness of these practices often depends on access to basic amenities such as clean water and sanitation facilities, as well as public awareness and education.

Health education and community engagement are essential components of disease prevention. Public awareness campaigns help individuals understand how diseases spread and what actions they can take to protect themselves and others. Adeboye & Vera (2020) opined that when communities are actively involved in sanitation initiatives, vaccination drives, and health promotion activities, the impact of prevention efforts is significantly enhanced.

Regular drainage maintenance, including cleaning, desilting, inspection, and repair of drainage channels, is essential for effective environmental sanitation. Community participation, government intervention, and public awareness campaigns are important measures that contribute to sustainable drainage management. By promoting proper drainage maintenance practices, communities can reduce environmental hazards, improve public health conditions, and create cleaner and safer living (Bankole, 2020).

Access to clean water supports effective environmental sanitation by promoting handwashing, food hygiene, and proper cleaning of homes and public facilities. These practices help interrupt disease transmission pathways and reduce the incidence of infections within communities. Furthermore, Joshua (2024) stated that provision of safe water contributes to improved health outcomes, increased productivity, and enhanced quality of life. When people have access to safe water sources, the risk of exposure to harmful microorganisms would reduced. Conversely, the use of contaminated water can lead to the transmission of communicable diseases such as cholera, typhoid fever, dysentery, hepatitis A, and other waterborne infections.

In Akoko south-sast local government area, environmental sanitation remains a critical public health concern. Akolade (2021) stated that challenges associated with improper waste disposal, inadequate drainage systems, and poor sanitation practices may contribute to the spread of communicable diseases within the area. Therefore, understanding the role of environmental sanitation practices in preventing communicable diseases is essential for developing effective interventions and policies that can improve public health outcomes. This study seeks to examine the environmental sanitation practices in prevention of communicable diseases in Akoko south-east local government area, Ondo State, Nigeria.

Statement of the Problem

Environmental sanitation plays a vital role in prevention and control of communicable diseases. Poor sanitation practices, such as improper waste disposal, stagnant water accumulation, and unhygienic surroundings, contribute to the spread of diseases such as cholera, typhoid fever, malaria, and diarrhea.

In Akoko South East Local Government Area of Ondo State, residents are expected to adopt proper environmental sanitation practices to reduce the occurrence and spread of communicable diseases. However, the extent to which these practices are carried out and their effectiveness in disease prevention among residents is not clearly known. This situation raises concerns about the level of environmental sanitation practices among residents and their role in preventing communicable diseases. Therefore, this study seeks to investigate environmental sanitation practices in prevention of communicable diseases among residents of Akoko south east local government area, Ondo State, Nigeria.

Purpose of the Study

1. To determine the environmental sanitation practices adopted among residents of Akoko South East Local Government Area, Ondo State

2. To determine the environmental sanitation practices in the prevention of communicable diseases among residents of Akoko South East Local Government Area, Ondo State
3. To determine the environmental sanitation practices in the prevention of communicable diseases among residents of Akoko south east local government area, Ondo State based on gender

Research Questions

1. What are the environmental sanitation practices adopted among residents of Akoko South East Local Government Area, Ondo State ?
2. What are the environmental sanitation practices in the prevention of communicable diseases among residents of Akoko South East Local Government Area of Ondo state ?
3. What are the environmental sanitation practices in the prevention of communicable diseases among residents of Akoko South East Local Government Area, Ondo State based on gender?

Research Hypothesis

Ho1: There is no significant relationship in the environmental sanitation practices in prevention of communicable diseases among residents of Akoko South East Local Government Area Ondo State based on gender?

Methods

Research Design: A descriptive cross-sectional survey research design was adopted. A cross-sectional survey research design is one that produces a snapshot of a population at a particular point in time (Cohen & Morrison,2011).

Area of the study: The study was conducted in Akoko South East Local Government Area of Ondo State Nigeria. The researchers observed that the residents of Akoko South East Local Government Area may have some challenges in waste disposal, clean water, personal hygiene, drainage maintenance and cleaning of surrounding which may likely predispose them to diseases. Thus the researchers deemed the area appropriate for the study.

Population for the study: The population for the study comprised of all the residents of Akoko South East Local Government Area in Ondo State.(The A.S.E.L.G.A, Records and statistics,2025)

Sample and Sampling Technique: A sample of 320 residents was chosen for the study. The sample was determined using Yaro Yamane formula. Multi stage sampling technique was used to select the respondents.

Instrument for Data Collection: The researcher structured Questionnaire, titled" Environmental sanitation practices in prevention of communicable diseases Questionnaire (ESPPCD). It consisted of three sections A, B, and C. Section A was to elicit information on demographic Data of the respondents. Section B elicit information on Environmental sanitation practices while section C, elicit information on Environmental sanitation practices in prevention of communicable diseases.

Validity of the instrument: The face validity of the instrument was made by two experts in the ministry of health Akure in Ondo state. Following the inputs, corrections and suggestions made by experts. The final copy of the instrument was produced based on items.

Reliability of the instrument: The reliability of the instrument was established by using Cronbach's Alpha method. An internal consistency of 0.85 was obtained and this was considered reliable for use in the study.

Method of Data analysis: Data were analyzed using descriptive statistics of frequency counts and percentages while Chi-square statistic was used to test the hypothesis at 0.05 level of significance.

Results

Table 1. What are the Environmental sanitation practices adopted among residents of Akoko South East Local Government Area of Ondo State

Sanitation practices	Yes		No	
	F.	%	F	%
1. Open dumping	167	(52.2)	153	(47.8)
2. Waste collection services	195	(60.9)	125	(39.1)
3. Burning	177	(55.3)	143	(44.7)
4. Burying	131	(40.9)	189	(59.1)
5. Clear surroundings	173	(54.1)	147	(45.9)
Percentage average		52.68		47.32

The result in table 1 showed that waste collection services 195 (60.9%) was the commonest sanitation practices among residents of Akoko south east local government area. This was followed by burning 177(55.3%) and the clear surrounding 173 (54.1%). The result also showed that the least sanitation practices by the residents was burying 131(40.9%). The overall result showed that environmental sanitation practices were adopted by residents.

Table 2. What are the Environmental sanitation practices in prevention of communicable diseases among residents of Akoko South East Local Government Area of Ondo State

Environmental sanitation practices in preventing of communicable diseases	Yes	No	Yes.	No
	F	%	F.	%
1. Regular cleaning of surroundings	183	(57.2)	137	(42.8)
2. Proper waste disposal	197	(61.5)	123	(38.4)
3. Access to clean water	175	(54.7)	145	(45.3)
4. Drainage maintenance	129	(40.3)	191	(59.7)
5. Personal hygiene	213	(66.6)	107	(33.4)
6. Food sanitation	173	(54.1)	147	(45.9)
7. Vector control	189	(59.1)	131	(40.9)
Percentage average		56.21		43.77

The results in table 2, showed that personal hygiene 213(66.6%) was the most sanitation practices in preventing of communicable diseases among residents. This was followed by the proper waste disposal 197(61.5%) and vector control 189 (59.1%) as indicated by the respondents. The result also showed that the least sanitation practices in preventing of communicable diseases by the residents was 129(40.3. The overall result showed that

residents made efforts to employ environmental sanitation practices in preventing of communicable diseases

Table 3, What are the Environmental sanitation practices in prevention of communicable diseases among residents of Akoko South East Local Government Area of Ondo State based on gender

Environmental sanitation practices in prevention of communicable diseases	Male N=153 Yes F	No %	Yes. F.	No %	Female N=167 Yes. F	No %	Yes. F	No %
1. Regular cleaning of surroundings	97	63.4)	56	(36.6)	133	(79.6)	34	(20.4)
2. Proper waste disposal	78	(51.0)	75	(49.0)	111	(66.5)	9.56	(66.5)
3. Access to clean water	107	(69.9)	46	(30.1)	121	(72.5	46	(27.5)
4. Drainage maintenance	131	(85.6)	22	(14.4)	97	(58.1)	70	(41.9)
5. Personal hygiene practices	91	(59.5)	62	(40.5)	105	(62.9)	62	(37.1)
6. Waste collection services	82	(53.6)	71	(46.4)	87	(52.1)	80	(47.9)
7. Clear surroundings	101	(66.0)	52	(34.0)	91	(54.5)	76	(45.5)
Percentage		64.14		35.86		63.74		40.97

The findings presented in Table 3 revealed that male residents demonstrated a slightly higher level of sanitation practice in the prevention of communicable diseases (64.14%) compared to female residents (63.74%). Although the difference between the two groups is minimal, the result suggests that both male and female residents possess a relatively good understanding and practice of sanitation measures necessary for preventing communicable diseases within the community.

Table 4: Summary of Chi-square no significant relationship in the Environmental sanitation practices in prevention of communicable diseases among residents of Akoko South East Local Government Area of Ondo state based on gender

Gender	N.	Yes	No.	X^2	critical. V.	df	Decision
		0(E)	O (E)	2.52	3.841	1.	No rejected
Male	153	111(104.5)	42(47.8)				
Female	167	109(114.8)	58(52.2)				

Table 4, showed that there was no significance relationship in environmental sanitation practices in the prevention of communicable diseases among residents. Since the calculated value is less than critical value at the level of 0.05 significance, the null hypothesis was therefore not rejected. This implies that there was not significant relationship in the

environmental sanitation practices in the prevention of communicable diseases among residents of Akoko south east LGA based on gender.

Discussion of Findings

Table 1 revealed that the majority of residents of Akoko south east local government area practice environmental sanitation. This finding suggests that residents are aware of the importance of maintaining a clean environment and engaging in sanitation activities to promote health and prevent disease outbreaks. The result is in agreement with the study conducted by Afolabi and Oyekale (2020), who reported that a high proportion of residents in Southwestern Nigeria regularly participated in environmental sanitation exercises and maintained proper waste disposal practices. Similarly, World Health Organization (WHO, 2022) emphasized that community participation in sanitation practices contributes significantly to improved public health outcomes and environmental sustainability.

Table 2, showed that environmental sanitation practices in prevention of communicable diseases were adopted by the majority of residents in Akoko south east local government area. This finding indicates that residents recognize the role of environmental cleanliness in reducing the spread of communicable diseases such as cholera, typhoid fever, malaria, and diarrheal diseases. The finding is consistent with the study of David (2022) stated that proper waste management, access to clean water, effective sewage disposal, and adequate drainage systems help reduce human exposure to pathogens and eliminate breeding sites for disease vectors such as mosquitoes and rodents. The result also supports the findings of Emeka (2022), safe food preparation, personal cleanliness, and proper waste disposal are essential behaviors that limit the spread of harmful microorganisms.

Table 3 revealed that males adopted environmental sanitation practices in prevention of communicable diseases more than their female counterparts. This finding may be attributed to the greater involvement of men in community sanitation activities, environmental maintenance programs, and public health campaigns within the community. However, the observed difference does not necessarily imply that females do not participate actively in sanitation practices. The similarity in the percentages indicates that gender may not be a significant factor influencing sanitation practices among the residents. This could be attributed to equal exposure to health education campaigns, community sensitization programs, and access to information on disease prevention among both males and females. The findings is similar to that Alabi (2023) noted that consistent sanitation practices are effective in preventing disease outbreaks from escalating into widespread epidemics. The result also showed that both male and female residents indicated positive sanitation practices, this reflecting a shared commitment to promoting a healthy environment and preventing disease outbreaks. This finding is encouraging because effective sanitation practices are essential public health measures that contribute significantly to reducing the incidence and transmission of communicable diseases.

Table 4 showed that there was no significant difference between environmental sanitation practices in prevention of communicable diseases among residents of Akoko south east local government area based on gender. This implies that both male and female residents engage in environmental sanitation practices that contribute to disease prevention, and that gender does not significantly influence the effectiveness of these practices. This finding is supported by Adebayo et al. (2021), who found no significant gender differences in sanitation

practices and their impact on communicable disease prevention among residents. The finding also agrees with Ibrahim and Yusuf (2020), who concluded that environmental sanitation benefits all individuals irrespective of gender and serves as a universal public health measure for disease prevention.

Conclusion

Based on the findings of this study, it was concluded that the majority of the residents in Akoko South East Local Government Area of Ondo State practices environmental sanitation while male practices environmental Sanitation little more than their females counterparts. Hence, there was no significant relationship in environmental sanitation practices in the prevention of communicable diseases among residents of Akoko South East Local Government Area in Ondo State based on gender.

Recommendations

1. Government should provide adequate sanitation infrastructure to the community
2. Public health education campaigns should be intensified in order to increase awareness to the member of the residents
3. Enforcement of sanitation laws on environmental Sanitation should be strengthened in the community.
4. Access to clean water and proper waste disposal systems should be improved in the community in order to prevent them of contracting communicable diseases.

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