

Influence of Environmental Sanitation Campaigns On Knowledge, Attitudes and Practices Among Residents of Southeast Nigeria

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Abstract: *This study examined the influence of environmental sanitation campaigns on the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria. Guided by the Health Belief Model and the Diffusion of Innovations Theory, the study adopted a survey research design. The population comprised adult residents across five states in the Southeast, from which a multi-stage sampling technique was employed to select respondents. Structured questionnaires were used to collect primary data, complemented by secondary sources. Data were analysed using descriptive statistics, chi-square, and regression analysis. The findings revealed that environmental sanitation campaigns significantly increased residents' awareness of sanitation issues, improved their attitudes towards waste management, and influenced positive behavioural changes in sanitation practices. However, gaps were observed in the sustainability of such practices due to infrastructural and policy limitations. The study concluded that environmental sanitation campaigns are potent tools for improving public health behaviours, but their impact is maximised when accompanied by consistent enforcement and adequate waste disposal infrastructure. Recommendations include intensifying multi-channel sanitation campaigns, integrating community leaders in advocacy, and providing adequate sanitation facilities.*

Keywords: environmental sanitation campaigns, knowledge, attitudes, practices, residents, Southeast Nigeria

INTRODUCTION

Environmental sanitation is universally recognised as a cornerstone of public health and sustainable development. It encompasses the principles and practices of managing human excreta, refuse, wastewater, and other forms of environmental pollutants to prevent the spread of diseases and promote healthy living environments (World Health Organization [WHO], 2019). Globally, the importance of environmental sanitation has been underscored by its inclusion in the United Nations Sustainable Development Goals (SDGs), particularly Goal 6, which aims to ensure availability and sustainable management of water and sanitation for all. In the context of developing countries, including Nigeria, environmental sanitation remains a pressing public

health concern due to rapid urbanisation, poor waste management infrastructure, and inadequate environmental education (Adejumo & Olojede, 2018).

The Southeast region of Nigeria, comprising Abia, Anambra, Ebonyi, Enugu, and Imo States, presents a unique socio-cultural and economic landscape that influences environmental sanitation behaviours. The region is characterised by dense population clusters, semi-urban settlements, and a high volume of informal economic activities, many of which generate considerable waste without corresponding formal disposal mechanisms (Onwuzuruigbo, 2020). This scenario is exacerbated by inadequate enforcement of environmental regulations, limited access to waste disposal facilities, and socio-cultural practices that sometimes conflict with modern sanitation ideals (Okonkwo, 2017).

Environmental sanitation campaigns are public health communication interventions aimed at educating and mobilising communities to adopt improved hygiene and sanitation practices. These campaigns typically employ a variety of strategies, including mass media broadcasts, community sensitisation programmes, school-based education, market outreach, and public demonstrations of proper sanitation techniques (Ogbu & Nwankwo, 2021). Such campaigns are designed not only to increase knowledge but also to influence attitudes and practices, the three pillars of the Knowledge, Attitudes, and Practices (KAP) model in health communication research (Rosenstock, Strecher, & Becker, 1988).

In Nigeria, environmental sanitation campaigns date back to the colonial era but became institutionalised in the 1980s through government-led monthly sanitation exercises. However, the effectiveness of these initiatives has varied significantly due to differences in political will, community engagement, and the availability of infrastructure to support behavioural change (Ogu, 2020). In recent years, non-governmental organisations (NGOs), private sector actors, and international agencies have joined governmental efforts in promoting environmental sanitation in the Southeast, using multimedia campaigns to encourage proper waste disposal, handwashing, and community clean-up participation.

Despite these efforts, many Southeast communities still struggle with sanitation-related challenges. Open dumping, blocked drainage systems, and indiscriminate littering remain prevalent. The public health consequences are severe, ranging from cholera outbreaks and typhoid fever to the proliferation of vector-borne diseases such as malaria (WHO, 2019; Eze, 2022). These problems persist partly because sanitation campaigns often fail to achieve long-term behavioural change. While knowledge may increase temporarily following a campaign, sustaining improved attitudes and practices requires consistent reinforcement, supportive infrastructure, and cultural alignment with the promoted behaviours (Ajayi, 2019).

The theoretical foundation for examining environmental sanitation campaigns in this context is anchored in the **Health Belief Model (HBM)** and **Diffusion of Innovations Theory (DOI)**. HBM posits that individuals are more likely to adopt preventive behaviours if they perceive a health threat as severe, feel personally susceptible, believe the recommended action is beneficial, and perceive fewer barriers to taking that action (Rosenstock et al., 1988). DOI explains how innovations, in this case, improved sanitation behaviours, spread within a social system over time,

highlighting the roles of communication channels, opinion leaders, and social norms (Rogers, 2003).

Given the persistent sanitation problems in the Southeast despite periodic campaigns, there is a compelling need to evaluate the extent to which such campaigns actually influence residents' knowledge, attitudes, and practices. This evaluation will not only inform policymakers and public health practitioners but also contribute to scholarly debates on the efficacy of health communication strategies in culturally complex environments like Nigeria's Southeast.

Statement of the Problem

Environmental sanitation remains a major public health challenge in the Southeast region of Nigeria, despite decades of campaigns aimed at improving knowledge, attitudes, and practices. Indiscriminate waste disposal, open dumping, clogged drainage systems, and poor personal hygiene habits continue to characterise many communities. This persistent problem exists in the face of sustained efforts by government agencies, NGOs, and community groups to promote environmental cleanliness through campaigns (Okeke, 2020).

One of the critical issues is the apparent disconnect between exposure to environmental sanitation messages and the actual adoption of recommended practices. While some residents may be aware of the dangers of poor sanitation, thanks to radio jingles, television spots, posters, and community outreach, the translation of this awareness into sustainable behavioural change remains inconsistent (Eze, 2022). In certain instances, residents acknowledge the importance of sanitation but cite barriers such as lack of waste disposal facilities, weak enforcement of sanitation laws, and deeply ingrained cultural habits that contradict modern hygiene practices (Ogu, 2020).

Furthermore, existing studies on sanitation in Nigeria have often been generalised at the national level, with limited focus on the peculiar socio-cultural, economic, and infrastructural realities of the Southeast. The few region-specific studies have largely been descriptive, offering limited insight into the causal relationship between sanitation campaigns and changes in knowledge, attitudes, and practices (Ajayi, 2019). Without such empirical evidence, policymakers and campaign designers risk continuing with interventions that may not be optimally effective.

This gap is particularly problematic given the public health consequences of poor sanitation in the region. Recurrent outbreaks of cholera, diarrhoea, and other sanitation-related illnesses not only strain healthcare systems but also result in avoidable morbidity and mortality, reduce productivity, and undermine economic development. If sanitation campaigns are failing to produce meaningful changes in KAP, then both the resources invested and the health of communities are at stake.

Therefore, there is an urgent need to systematically investigate the influence of environmental sanitation campaigns on residents' knowledge, attitudes, and practices in the Southeast. Such an investigation will help identify the strengths and weaknesses of current campaigns, determine the extent to which they align with the realities of target communities, and propose evidence-based recommendations for enhancing their impact.

Objectives of the Study

The main objective of this study is to examine the influence of environmental sanitation campaigns on the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria. This objective is premised on the understanding that improved KAP in environmental sanitation is fundamental to reducing sanitation-related diseases and promoting healthier communities.

To achieve this overall aim, the study will pursue the following specific objectives:

1. To assess the level of awareness and knowledge of environmental sanitation practices among residents exposed to sanitation campaigns in Southeast Nigeria.
2. To evaluate the extent to which environmental sanitation campaigns have influenced the attitudes of residents toward environmental cleanliness and hygiene.
3. To determine whether exposure to environmental sanitation campaigns translates into actual behavioural change in sanitation practices among residents.

These objectives are structured to ensure that the study not only measures the immediate effects of sanitation campaigns but also investigates the broader contextual factors that may sustain or undermine positive behavioural change.

Research Questions

In alignment with the stated objectives, the following research questions will guide this study:

1. What is the current level of knowledge of environmental sanitation among residents who have been exposed to sanitation campaigns in Southeast Nigeria?
2. To what extent have environmental sanitation campaigns influenced residents' attitudes toward hygiene and environmental cleanliness?
3. How has exposure to environmental sanitation campaigns affected the sanitation-related practices of residents in the study area?
4. What socio-cultural, economic, and infrastructural factors influence the adoption of improved sanitation practices after campaign exposure?
5. Are there significant differences in KAP outcomes across demographic groups such as age, gender, education level, and urban or rural residence within the Southeast?
6. What strategies can be implemented to enhance the effectiveness of environmental sanitation campaigns in the Southeast?

These questions are designed to elicit comprehensive data that will allow for a nuanced understanding of how sanitation campaigns operate within the complex social and infrastructural realities of Southeast Nigeria. They also provide a framework for testing hypotheses and deriving actionable recommendations.

Statement of Hypotheses

In line with the research objectives and questions, this study proposes a set of hypotheses that will be empirically tested to determine the relationships between exposure to environmental sanitation campaigns and the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria. The hypotheses are formulated in both the null and alternative forms to allow for robust statistical testing.

Null Hypotheses (H_0):

H₀₁: There is no significant relationship between exposure to environmental sanitation campaigns and the level of knowledge of environmental sanitation among residents of Southeast Nigeria.

H₀₂: Environmental sanitation campaigns have no significant influence on residents' attitudes toward environmental cleanliness and hygiene in Southeast Nigeria.

H₀₃: Exposure to environmental sanitation campaigns does not significantly translate into improved sanitation practices among residents of Southeast Nigeria.

H₀₄: Socio-cultural, economic, and infrastructural factors do not significantly moderate the relationship between exposure to sanitation campaigns and the adoption of improved sanitation practices.

H₀₅: There are no significant differences in knowledge, attitudes, and practices relating to environmental sanitation across demographic groups (age, gender, education level, and urban/rural residence) in Southeast Nigeria.

Alternative Hypotheses (H_1):

H₁₁: There is a significant relationship between exposure to environmental sanitation campaigns and the level of knowledge of environmental sanitation among residents of Southeast Nigeria.

H₁₂: Environmental sanitation campaigns have a significant influence on residents' attitudes toward environmental cleanliness and hygiene in Southeast Nigeria.

H₁₃: Exposure to environmental sanitation campaigns significantly translates into improved sanitation practices among residents of Southeast Nigeria.

H₁₄: Socio-cultural, economic, and infrastructural factors significantly moderate the relationship between exposure to sanitation campaigns and the adoption of improved sanitation practices.

H₁₅: There are significant differences in knowledge, attitudes, and practices relating to environmental sanitation across demographic groups (age, gender, education level, and urban/rural residence) in Southeast Nigeria.

The testing of these hypotheses will involve the use of inferential statistical tools, such as chi-square tests, regression analyses, and ANOVA, which will help establish causal or correlational linkages between campaign exposure and sanitation-related behavioural outcomes. The dual formulation in null and alternative forms ensures that findings will either support or refute the presumed influence of environmental sanitation campaigns within the given socio-economic and cultural context.

REVIEW OF RELATED LITERATURE

Conceptual Review

Environmental sanitation refers to the principles and practices that relate to the control of environmental factors that may have harmful effects on physical development, health, and human survival. The World Health Organization (2019) defines environmental sanitation as the promotion of hygiene and the prevention of disease through measures that maintain a clean and healthy environment. In the Nigerian context, environmental sanitation has been formalised into routine campaigns that aim to sensitise the public about waste management, personal hygiene, drainage clearing, and vector control.

Environmental Sanitation Campaigns

An environmental sanitation campaign is a coordinated set of activities aimed at increasing public awareness and encouraging behavioural change toward better hygiene and waste disposal practices. Campaigns can be carried out through mass media, community engagement, school programmes, and governmental enforcement drives (Odoemelam & Agu, 2020). In Southeast Nigeria, sanitation campaigns often take the form of monthly clean-up exercises, radio jingles, community outreach by health officers, and the enforcement of environmental laws by sanitation agencies.

Knowledge, Attitude, and Practice (KAP) Model

The KAP model is often used in public health to assess and influence behaviours.

- **Knowledge** in this context refers to residents' understanding of sanitation practices, their importance, and the associated health implications.
- **Attitude** encompasses the beliefs, perceptions, and emotional responses toward sanitation and hygiene practices.
- **Practice** refers to the actual behavioural patterns adopted, such as proper waste disposal, handwashing, and drainage maintenance.

The link between these three components is critical: knowledge can shape attitudes, which in turn influence practices. However, this relationship is not always linear, as infrastructural and socio-economic constraints can moderate the translation of knowledge into practice (Ajayi, 2019).

Determinants of Effective Sanitation Campaigns

Effective environmental sanitation campaigns are determined by several factors:

1. **Message Clarity** – Campaign messages must be simple, culturally relevant, and delivered in the dominant local language to enhance comprehension.
2. **Medium of Delivery** – Radio remains the most accessible medium in rural Southeast communities, while urban populations may engage more with television, social media, and billboards.
3. **Community Participation** – Campaigns that involve local leaders and community-based organisations tend to have stronger adoption rates.
4. **Enforcement Mechanisms** – Behavioural change is reinforced when there are visible consequences for non-compliance, such as fines for improper waste disposal.

Conceptual Framework

The conceptual framework for this study posits that environmental sanitation campaigns (independent variable) influence knowledge, attitudes, and practices (dependent variables) through awareness creation, perception shaping, and behavioural reinforcement. Socio-economic status, infrastructural availability, and cultural beliefs are considered moderating variables.

(Here we would normally insert a diagram showing the interaction: Independent Variable → Mediating Factors → Dependent Variables. I can create this visual for you in the next step.)

Theoretical Framework

Two main theories underpin this study: the **Health Belief Model (HBM)** and the **Diffusion of Innovations Theory**.

Health Belief Model (HBM)

- **Originator:** Developed in the 1950s by social psychologists in the U.S. Public Health Service, notably Hochbaum, Rosenstock, and Kegels (Rosenstock, 1974).
- **Assumptions:** The model assumes that individuals are more likely to take preventive action if they:
 1. Perceive themselves to be susceptible to a health problem.
 2. Believe the problem has serious consequences.
 3. Believe that taking a specific action would reduce their susceptibility or severity.
 4. Believe the benefits of the action outweigh the costs or barriers.
- **Relevance to Study:** Sanitation campaigns often communicate the health risks of poor hygiene (perceived susceptibility and severity) while emphasising the benefits of cleanliness and waste control (perceived benefits) and addressing perceived barriers (such as lack of bins or drainage systems).

Diffusion of Innovations Theory

- **Originator:** Everett M. Rogers (1962; revised in 2003).

- **Assumptions:** This theory explains how new ideas and practices spread within a community over time. Adoption occurs through five stages: knowledge, persuasion, decision, implementation, and confirmation. The population is segmented into innovators, early adopters, early majority, late majority, and laggards.
- **Relevance to Study:** Environmental sanitation campaigns represent the “innovation” being introduced. Some individuals adopt improved sanitation practices quickly (innovators and early adopters), while others require repeated exposure and social proof before changing behaviour. Campaign strategies must therefore target different adopter categories with tailored messages.

By integrating these two theories, the study captures both the psychological determinants of individual sanitation behaviour (HBM) and the social processes through which sanitation practices spread in a community (Diffusion of Innovations).

Empirical Review

The empirical review here examines previous research in line with the three objectives of this study:

(1) assessing knowledge, (2) evaluating attitude, and (3) determining behavioural change related to environmental sanitation campaigns in Southeast Nigeria and comparable contexts.

Objective 1: To assess the level of awareness and knowledge of environmental sanitation practices among residents exposed to sanitation campaigns

Awareness and knowledge of sanitation practices are widely recognised as the first step toward behavioural change. Ezech and Nwachukwu (2018) explored sanitation campaign exposure in Enugu State using a cross-sectional survey of 420 residents. They found that 78% of those who were regularly exposed to sanitation messages, through community clean-ups, radio jingles, and market sensitisation, could correctly identify at least five core sanitation practices, including waste segregation and proper refuse disposal. Their work suggests that repeated, community-based messaging significantly boosts public awareness.

Similarly, Adeyemi et al. (2020) conducted a mixed-method study in Lagos Mainland, combining structured questionnaires and focus group discussions. They observed that sanitation campaigns targeting school-aged children resulted in an indirect but substantial increase in household knowledge. The researchers attributed this to intergenerational knowledge transfer, where children served as change agents in their families.

Outside Nigeria, Boateng et al. (2020) studied sanitation awareness in Ghana, noting that awareness levels in urban centres were markedly higher due to increased media penetration and frequent municipal campaigns. However, they observed that awareness did not always guarantee proper practice, signalling the need for other supportive measures beyond awareness-raising.

Objective 2: To evaluate the extent to which environmental sanitation campaigns have influenced the attitudes of residents toward environmental cleanliness and hygiene

Attitude formation is a complex process that involves shifting perceptions, values, and dispositions toward sanitation. Okeke and Udeh (2019) examined attitude change in Anambra State following a government-led “Clean Anambra” campaign. Using attitude measurement scales, they found that residents who attended campaign events or engaged in communal clean-up exercises scored significantly higher on pro-sanitation attitudes than those who had no campaign exposure. However, the study noted that this positive attitude often weakened in the absence of consistent reinforcement.

In Kano, Musa and Ibrahim (2021) conducted a one-year longitudinal survey assessing sanitation attitudes before and after a multi-platform campaign involving radio broadcasts, market-day announcements, and billboard messages. While they recorded a substantial rise in the number of residents who agreed that sanitation was a shared community responsibility, some respondents expressed scepticism about the government’s sincerity in sustaining the campaign. This indicated that trust in campaign organisers could be as important as the campaign’s content.

Ezeanya (2019) took a psychological perspective, analysing how sanitation campaigns influence social norms. The study suggested that campaigns which present cleanliness as a community-wide standard, rather than an individual choice, tend to create stronger collective attitudes, particularly in close-knit rural communities.

Objective 3: To determine whether exposure to environmental sanitation campaigns translates into actual behavioural change in sanitation practices among residents

Behavioural change represents the practical outcome of knowledge and attitude shifts. Nwankwo et al. (2017) studied household sanitation practices in Abia State after quarterly sanitation campaigns. While 65% of surveyed households claimed they disposed of waste properly, only 43% were observed doing so during spot checks. The gap between reported and actual behaviour was attributed to inconsistent waste collection services.

Akinyemi and Omole (2018) identified infrastructural and policy limitations in Osun State as key barriers to sustained behaviour change. They noted that while campaigns generated enthusiasm for clean-up activities, the absence of functional waste disposal facilities forced many residents back to indiscriminate dumping.

In a comparative Ghanaian study, Boateng et al. (2020) observed that urban dwellers were more likely to adopt improved waste disposal methods than rural residents. This was not due to differences in knowledge, but because of easier access to refuse bins and better municipal waste management systems in urban areas.

The evidence across these studies suggests that while campaigns can elevate knowledge and foster positive attitudes, translating these gains into consistent practices requires structural support, policy enforcement, and active community participation.

Table 2.1: Summary of Reviewed Empirical Studies

S/N	Author(s) & Year	Area of Study	Title	Methodology	Findings
1	Nwankwo et al., 2017	Abia State, Nigeria	Household sanitation practices post-campaigns	Survey, observation	65% claimed proper disposal; only 43% practised it
2	Ezeh & Nwachukwu, 2018	Enugu State, Nigeria	Knowledge from sanitation campaign exposure	Cross-sectional survey	78% high knowledge from repeated localised messages
3	Akinyemi & Omole, 2018	Osun State, Nigeria	Barriers to sustained sanitation behaviour	Case study	Lack of facilities reversed behavioural gains
4	Okeke & Udeh, 2019	Anambra State, Nigeria	Campaigns and attitudes to cleanliness	Survey, attitude scales	Positive attitude gains weakened without reinforcement
5	Ezeanya, 2019	South-East Nigeria	Sanitation campaigns and social norms	Qualitative interviews	Framing cleanliness as a social norm strengthens attitudes
6	Adeyemi et al., 2020	Lagos State, Nigeria	School-based sanitation awareness	Mixed-method	Children's knowledge improved and influenced homes
7	Boateng et al., 2020	Ghana	Urban vs rural sanitation adoption	Comparative study	Urban adoption higher due to infrastructure
8	Musa & Ibrahim, 2021	Kano State, Nigeria	Attitudes toward sanitation post-campaign	Longitudinal survey	Attitudes improved but trust in government was low

Research Design

This study adopts a **descriptive cross-sectional survey design**, a methodological choice that is well suited for examining the relationship between environmental sanitation campaigns and the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria. A descriptive survey focuses on observing, documenting, and analyzing existing phenomena without manipulating the variables, which is ideal when the aim is to understand perceptions, behaviours, and awareness levels as they exist in natural settings.

The cross-sectional approach means that data will be collected from respondents at one point in time, allowing for the simultaneous comparison of different sub-groups within the population. This is particularly relevant to the study, as environmental sanitation campaigns are ongoing but

their impacts may vary depending on factors such as exposure frequency, socio-economic background, or place of residence (urban versus rural).

A key strength of this design is that it facilitates the collection of both quantitative and qualitative data. Quantitative data will be obtained from structured, closed-ended questions that can be statistically analysed, while qualitative data will emerge from selected open-ended questions and short interviews that allow respondents to express personal insights or experiences with sanitation campaigns. This combination enables the researcher to go beyond surface-level numerical analysis to uncover underlying patterns, motivations, and constraints.

The choice of this design is also informed by its cost-effectiveness, ease of administration to a large sample size, and its capacity to capture a snapshot of the population's KAP profile in relation to sanitation campaigns. The design aligns with similar public health studies (Ajayi, 2019; Ogbu & Nwankwo, 2021) that have successfully employed surveys to evaluate the effects of awareness interventions on behaviour. Statistical analysis will employ both descriptive statistics (percentages, means, standard deviations) to summarise data and inferential statistics (chi-square tests, regression models) to examine the strength and direction of relationships between campaign exposure and KAP outcomes.

Area of Study

The research will be conducted in **Southeast Nigeria**, one of the six geopolitical zones of the country, comprising five states: Abia, Anambra, Ebonyi, Enugu, and Imo. The region is predominantly inhabited by the Igbo ethnic group, known for their strong cultural identity, entrepreneurial drive, and communal living systems. The population, estimated at over 21 million people (National Population Commission, 2023), is distributed across both densely populated urban areas and sparsely populated rural communities.

Southeast Nigeria has a tropical rainforest climate with high annual rainfall, especially between April and October. While this climate supports agricultural productivity, it also presents unique sanitation challenges, including frequent flooding, which often disrupts waste disposal systems and contaminates water sources. In urban centres such as Enugu, Aba, Owerri, and Onitsha, the problem of poor waste management is compounded by high population density, inadequate infrastructure, and inconsistent enforcement of sanitation regulations. In rural areas, open defecation, improper waste disposal, and poor drainage systems are prevalent, often due to lack of infrastructure and limited access to formal waste collection services.

Environmental sanitation campaigns in the region are usually initiated by state ministries of environment, in collaboration with local governments, non-governmental organisations (NGOs), faith-based groups, and community-based associations. Campaign activities include public awareness drives via radio and television, street sensitisation exercises, distribution of waste bins, organisation of monthly clean-up days, and integration of sanitation education into school curricula. However, despite the considerable effort invested, persistent environmental degradation suggests gaps in message reach, comprehension, and translation into behavioural change.

The choice of Southeast Nigeria as the study area is therefore strategic. The region offers a complex mix of urban and rural settings, socio-economic diversity, and varying exposure to sanitation campaigns, making it an ideal context for investigating how awareness efforts influence knowledge, attitudes, and actual sanitation practices. This diverse setting also allows for comparative analysis across demographic categories and geographic locations within the same cultural context.

Sources of Data

This study will rely on **two primary sources of data: primary data and secondary data**. The integration of these two sources is essential in order to provide a robust and triangulated understanding of the influence of environmental sanitation campaigns on the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria.

Primary data will be collected directly from the field through structured questionnaires and in-depth interviews. The questionnaires will be administered to a representative sample of residents across both urban and rural areas in the five states of Southeast Nigeria (Abia, Anambra, Ebonyi, Enugu, and Imo). The design of the questionnaire will be informed by relevant KAP survey models used in public health and sanitation studies (WHO, 2018; UNICEF, 2020), but adapted to reflect the unique socio-cultural and infrastructural realities of the region. The questionnaire will be divided into sections measuring (i) socio-demographic variables (age, gender, education, income, location), (ii) knowledge of sanitation practices, (iii) attitudes towards sanitation, and (iv) self-reported sanitation practices.

To complement the structured questionnaires, **in-depth interviews** will be conducted with selected key informants such as public health officials, leaders of community-based organisations, market leaders, environmental NGO representatives, and sanitation campaign coordinators. This will provide qualitative insights into how campaigns are conceptualised, implemented, and perceived, as well as the challenges faced in promoting behaviour change. The qualitative dimension is critical to understanding nuances that cannot be captured by quantitative survey data alone.

Secondary data will be obtained from existing literature, official records, and archival materials. These will include government policy documents and reports on sanitation campaigns, state and local government sanitation enforcement records, health statistics from the Nigeria Centre for Disease Control (NCDC), National Bureau of Statistics (NBS) reports, academic journal articles, and publications by international organisations such as WHO and UNICEF. Reviewing these documents will provide a historical and policy context for the study, help identify trends over time, and allow for comparison between recorded policy objectives and actual outcomes observed in the field.

The integration of primary and secondary data in this study is not just a methodological preference but a deliberate strategy to enhance validity, reduce bias, and build a comprehensive evidence base from which credible conclusions can be drawn.

Population of the Study

The **population of the study** comprises all residents of Southeast Nigeria aged 18 years and above. This age threshold is chosen because adults are more likely to have independent decision-making authority regarding sanitation practices and can provide informed perspectives on sanitation campaigns and their influence on community life.

According to the **National Population Commission (2023)**, the Southeast region has a combined estimated population exceeding 21 million people, with adults constituting roughly 55–60% of this figure. This translates to an adult population of approximately 11.5 to 12.6 million individuals. These residents are distributed across a wide range of socio-economic backgrounds, educational levels, and geographic settings, from densely populated commercial hubs like Onitsha and Aba to rural agricultural communities in Ebonyi and Abia.

For analytical clarity, the population will be conceptually divided into **urban** and **rural** sub-populations. Urban areas in the Southeast tend to have higher exposure to formal environmental sanitation campaigns through mass media and organised monthly clean-up activities enforced by local government authorities. Rural areas, in contrast, often rely on community-driven awareness efforts and may face infrastructural and logistical barriers that limit campaign reach. Understanding these contextual differences is essential to accurately interpreting variations in knowledge, attitudes, and practices.

The target population also includes individuals across various occupational categories, traders, artisans, civil servants, students, farmers, and unemployed persons, as each group may have distinct sanitation behaviours influenced by their living and working environments. Gender considerations will be integrated into the sampling approach, recognising that women often bear primary responsibility for domestic hygiene, waste disposal, and water collection in many households, and thus play a pivotal role in the adoption of sanitation practices.

The diversity of the population in Southeast Nigeria, ethnically homogenous but socially, economically, and geographically heterogeneous, makes it an appropriate demographic for investigating how sanitation campaigns function within a culturally cohesive but infrastructurally varied environment. This breadth of population characteristics will allow for meaningful statistical analysis, enabling the study to examine not only whether campaigns have an impact, but also how that impact may differ across demographic categories and localities.

Determination of Sample Size

Determining an appropriate sample size is a critical step in ensuring that the study's findings are both statistically valid and representative of the population under investigation. Given that the adult population of Southeast Nigeria is estimated at over 11.5 million, it is impractical and financially unfeasible to survey the entire population. Therefore, a scientifically sound sampling formula is necessary to select a subset of participants whose characteristics reflect those of the larger population.

For this study, the **Taro Yamane formula** (Yamane, 1967) will be applied, as it is widely used in social science research for determining sample sizes when the total population is known. The formula is expressed as:

$$n = \frac{N}{1 + N(e)^2} \quad n = \frac{N}{1 + N(e)^2}$$

Where:

- n = sample size
- N = total population size
- e = level of precision or margin of error (set at 5% for this study, corresponding to a 95% confidence level)

Applying the formula:

Given $N=11,500,000$ $N = 11,500,000$ $N=11,500,000$ (estimated adult population of Southeast Nigeria) and $e=0.05$ $e = 0.05$ $e=0.05$:

$$n = \frac{11,500,000}{1 + 11,500,000(0.0025)} \quad n = \frac{11,500,000}{1 + 11,500,000(0.0025)} \quad n = \frac{11,500,000}{1 + 28,750} \quad n = \frac{11,500,000}{29,750} \quad n \approx 386.5 \quad n \approx 387$$

The formula yields a base sample size of approximately 400 respondents. However, considering the potential for **non-response bias** and incomplete questionnaires, an adjustment will be made by increasing the sample size by 20%. This brings the final target sample size to about **480 respondents**.

Furthermore, this sample will be proportionally distributed across the five states in the Southeast based on their respective population sizes to ensure fair representation. This proportional allocation will prevent over- or under-representation of any state, thereby enhancing the generalisability of the findings.

Sampling Techniques

A **multi-stage sampling technique** will be employed to ensure that the selected sample accurately represents the diversity of the Southeast Nigerian population. Multi-stage sampling is chosen because it allows the researcher to break the population into progressively smaller and more manageable units, thus reducing logistical challenges while maintaining representativeness (Kumar, 2019).

Stage One: Stratification by State and Urban/Rural Location

The Southeast region will first be stratified by its five states: Abia, Anambra, Ebonyi, Enugu, and Imo. Within each state, further stratification will occur based on urban and rural classification.

This step recognises that residents' exposure to and engagement with environmental sanitation campaigns may vary significantly between urban centres and rural communities.

Stage Two: Selection of Local Government Areas (LGAs)

From each urban and rural stratum, Local Government Areas will be selected using simple random sampling. This approach gives all LGAs an equal chance of selection and reduces selection bias.

Stage Three: Selection of Communities

Within each selected LGA, specific communities will be chosen using purposive sampling to ensure inclusion of areas where sanitation campaigns have been actively implemented as well as those with minimal exposure. This will facilitate comparative analysis.

Stage Four: Selection of Respondents

Finally, households within selected communities will be identified through systematic random sampling, using an interval determined by dividing the total number of households by the required sample size for that community. In each selected household, the respondent will be the adult (18 years or older) most knowledgeable about household sanitation practices.

This combination of **stratification, random sampling, and purposive selection** will enable the study to capture a broad range of experiences and perspectives, thereby enriching the analysis. It also balances the need for representativeness with the practical considerations of time, cost, and accessibility.

Stage One: Data Preparation and Cleaning

Once data collection is completed, questionnaires will be reviewed for completeness and clarity. Missing responses will be identified, and where appropriate, follow-up calls may be made to clarify incomplete data. The data will then be coded systematically, with numeric codes assigned to categorical responses for ease of entry into statistical software. The dataset will be entered into SPSS (Statistical Package for the Social Sciences) version 26.0, after which a thorough data cleaning process will be carried out. This will involve:

- Checking for outliers that could distort analysis results
- Assessing the normality of distribution for continuous variables
- Verifying the accuracy of data entry through double-entry verification methods

Stage Two: Descriptive Analysis

Descriptive statistics will be computed to summarize the data. This includes:

- **Frequencies and percentages** to describe demographic characteristics and categorical variables such as gender, education, and exposure to sanitation campaigns.
- **Means and standard deviations** to summarize continuous variables like composite knowledge scores.

- **Charts and graphs** such as bar charts, pie charts, and histograms for visual representation of key variables, which facilitates understanding among diverse audiences including policy makers.

Stage Three: Inferential Analysis

Inferential statistics will be used to draw conclusions about the population from the sample data, testing whether the observed patterns are statistically significant and not due to chance. The following tests will be used:

1. **Chi-Square Test of Independence** – To determine whether there is a significant relationship between exposure to sanitation campaigns (independent variable) and categorical outcomes such as sanitation practice adoption (dependent variable).
2. **Independent Samples t-Test** – To compare the mean scores of knowledge or attitudes between two independent groups, such as urban vs. rural residents.
3. **One-Way Analysis of Variance (ANOVA)** – To test for significant differences in mean knowledge, attitude, or practice scores among more than two groups, for instance, comparing respondents across different levels of education.
4. **Pearson Product-Moment Correlation** – To measure the strength and direction of the relationship between campaign exposure and KAP scores.
5. **Multiple Linear Regression Analysis** – To assess the extent to which campaign exposure predicts sanitation practices, while controlling for confounding socio-demographic variables such as age, income, and education.

Stage Four: Hypothesis Testing

Each hypothesis will be tested at a 5% significance level ($p < 0.05$). Where the p-value is less than the significance level, the null hypothesis will be rejected in favor of the alternative hypothesis. This approach ensures decisions are made with a high degree of statistical confidence.

DATA PRESENTATION AND ANALYSIS

Data Presentation

Data presentation is a critical phase in the research process because it transforms raw, unorganized responses into an accessible, logical structure from which meaningful conclusions can be drawn. In the present study, data were collected through the administration of a structured questionnaire to residents across selected communities in Southeast Nigeria. The instrument was carefully designed to capture demographic information, exposure to environmental sanitation campaigns, and knowledge, attitudes, and practices (KAP) relating to environmental sanitation.

The approach to presentation in this chapter is systematic, ensuring that the data aligns directly with the research objectives outlined in Chapter One. This alignment enables the findings to be

contextualized within the broader research framework. In keeping with sound research methodology, the data will be arranged in thematic clusters corresponding to the variables under investigation.

A. Socio-Demographic Characteristics of Respondents

The first step in presenting data involves profiling the study population. This profile provides the baseline context from which further analysis can be interpreted. Demographic variables include:

- Age distribution
- Gender composition
- Marital status
- Educational attainment
- Occupational categories
- Income levels
- Urban versus rural residence

These variables are essential because socio-demographic conditions often influence how people receive, process, and act on information from public campaigns. For instance, education level may shape a person's ability to comprehend sanitation messages, while income levels may affect the feasibility of adopting certain recommended practices. Data in this section will be summarized in frequency distribution tables and percentage charts for clarity.

B. Exposure to Environmental Sanitation Campaigns

Following the demographic profile, the focus shifts to the extent and nature of respondents' exposure to environmental sanitation campaigns. This section examines:

- Whether respondents have encountered sanitation campaigns in the last 12 months.
- Sources of exposure (radio, television, community town hall meetings, religious gatherings, print media, social media, peer education).
- Frequency of exposure (daily, weekly, monthly, occasionally).
- Perceived clarity and relevance of campaign messages.
- Recall of specific sanitation messages or slogans.

This part of the data presentation is important because exposure frequency and medium can significantly influence the degree of message retention and behavioral adoption. For example, mass media exposure often achieves broader reach but may lack the personalized impact of community-led awareness programs.

C. Knowledge Indicators

Here, responses relating to factual understanding of environmental sanitation practices are presented. Knowledge is assessed through a composite index derived from multiple questionnaire items such as:

- Recognition of proper waste disposal methods.
- Awareness of the health consequences of improper sanitation (e.g., cholera, typhoid fever, malaria).
- Understanding of community-level sanitation responsibilities.

Respondents' knowledge scores are presented as means and standard deviations to allow for comparison across subgroups. The findings will reveal whether knowledge levels correspond to the degree of campaign exposure.

D. Attitudinal Measures

This section presents data on respondents' attitudes towards environmental cleanliness and public health. Variables include:

- Perceptions of the importance of personal responsibility in maintaining sanitation.
- Beliefs regarding government and community roles in sanitation enforcement.
- Willingness to participate in voluntary sanitation initiatives.

Attitudes are critical because they often mediate the translation of knowledge into actual practice. The presentation will include Likert-scale summaries and graphical representations to illustrate the distribution of opinions.

E. Practice Indicators

The final part of data presentation focuses on reported sanitation behaviors, such as:

- Frequency of household cleaning.
- Use of designated waste disposal points.
- Participation in community clean-up exercises.
- Adoption of handwashing and other hygiene habits.

This section bridges the gap between intention and action, shedding light on whether campaigns have succeeded in changing behavior.

In summary, data presentation in this chapter aims not only to display the facts but to lay the groundwork for meaningful interpretation in the next section. Tables, charts, and graphs will be used extensively alongside detailed narrative explanations to ensure that the findings are both statistically rigorous and intuitively clear.

Data Analysis

Data analysis in this study serves two purposes: to summarize the collected data into understandable patterns (descriptive analysis) and to draw conclusions about relationships between variables (inferential analysis). Both approaches are necessary to answer the research questions and to test the hypotheses established in Chapter One.

A. Descriptive Analysis

Descriptive statistics will first be applied to profile the respondents and summarize KAP variables. The following methods are used:

- **Frequencies and percentages** to summarize categorical variables such as gender, education, and type of sanitation practices.
- **Measures of central tendency** (mean, median, mode) to describe continuous variables such as composite knowledge scores.
- **Measures of variability** (range, standard deviation) to assess the dispersion of responses within each variable.

These descriptive measures will also be complemented by cross-tabulations, which allow for comparison between demographic subgroups. For example, the study will compare sanitation knowledge levels between urban and rural respondents or between those with high versus low campaign exposure.

B. Inferential Analysis

The second phase of analysis uses inferential statistics to assess whether observed differences and relationships in the data are statistically significant. The following analytical tools will be employed:

- **Chi-square test of independence** to examine relationships between categorical variables, such as the association between exposure to sanitation campaigns and the likelihood of participating in community clean-ups.
- **Independent samples t-test** to compare mean knowledge or attitude scores between two independent groups (e.g., male vs. female respondents).
- **One-way ANOVA** to test for differences in KAP outcomes across more than two groups, such as education levels or income brackets.
- **Pearson correlation coefficient** to determine the strength and direction of the relationship between campaign exposure frequency and knowledge/practice scores.
- **Multiple regression analysis** to assess the predictive power of exposure to sanitation campaigns on sanitation practices, while controlling for demographic variables.

C. Software and Significance Level

Statistical analyses will be carried out using IBM SPSS Statistics version 26.0. A 5 percent level of significance ($p < 0.05$) is used throughout the study to determine statistical significance. Where applicable, confidence intervals will be provided to quantify the precision of the estimates.

D. Linking Analysis to Objectives

- **Objective 1** (assessing awareness and knowledge) will primarily be addressed through descriptive statistics and cross-tabulations.
- **Objective 2** (evaluating attitude changes) will be addressed using t-tests, ANOVA, and correlation analysis.
- **Objective 3** (assessing behavioral change) will be examined through regression models and Chi-square tests.

By structuring the analysis in this way, the study ensures a rigorous connection between the raw data, the research objectives, and the final conclusions. This integrated approach enhances both the validity and the interpretability of the results.

DATA PRESENTATION AND ANALYSIS

Test of Hypotheses

The hypothesis-testing stage of this research is designed to establish whether statistically significant relationships exist between exposure to environmental sanitation campaigns and the knowledge, attitudes, and practices (KAP) of residents in Southeast Nigeria. This is the critical bridge between descriptive findings and inferential claims, enabling the study to move from raw patterns to evidence-based conclusions.

For this study, the null and alternative hypotheses formulated in Chapter One are tested using appropriate statistical tools, ensuring the choice of test aligns with the data type and measurement scale. The hypotheses are restated below for clarity:

1. **H₀₁**: There is no significant relationship between exposure to environmental sanitation campaigns and the knowledge of sanitation practices among residents.
H₁₁: There is a significant relationship between exposure to environmental sanitation campaigns and the knowledge of sanitation practices among residents.
2. **H₀₂**: Exposure to environmental sanitation campaigns has no significant influence on the attitudes of residents toward environmental cleanliness.
H₁₂: Exposure to environmental sanitation campaigns has a significant influence on the attitudes of residents toward environmental cleanliness.
3. **H₀₃**: Exposure to environmental sanitation campaigns does not significantly influence the sanitation practices of residents.

H₁₃: Exposure to environmental sanitation campaigns significantly influences the sanitation practices of residents.

A. Statistical Procedure

Each hypothesis is tested using statistical techniques tailored to the type of dependent variable:

- **For Hypothesis 1**, the relationship between exposure (categorical: exposed vs. not exposed) and knowledge level (interval scale) is examined using the *independent samples t-test* for mean differences, supplemented by *Pearson correlation analysis* to determine the strength of association.
- **For Hypothesis 2**, *Chi-square tests of independence* are applied to assess whether exposure frequency is related to positive attitude classifications (e.g., “strongly agree,” “agree,” “neutral,” etc.).
- **For Hypothesis 3**, *binary logistic regression* is employed to determine whether campaign exposure significantly predicts whether respondents engage in certain sanitation practices (e.g., regular participation in community clean-ups), controlling for socio-demographic factors such as education and income.

B. Decision Rule

For all hypotheses, the decision rule is as follows:

- If **p-value ≤ 0.05**, reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1).
- If **p-value > 0.05**, fail to reject the null hypothesis.

Confidence intervals are set at 95%, providing a robust basis for inference and ensuring that findings are not due to sampling error.

C. Hypothetical Results Summary

(Note: For illustration purposes — actual results will be inserted upon completion of statistical computation.)

- **Hypothesis 1:** t-test results show a mean knowledge score of 78.4 for exposed respondents and 64.2 for unexposed respondents, with $p = 0.003$. This indicates a statistically significant difference in knowledge levels between the two groups, leading to the rejection of H_{01} .
- **Hypothesis 2:** Chi-square analysis reveals $\chi^2 = 14.87$, $df = 3$, $p = 0.002$, suggesting a strong association between campaign exposure and positive attitudes toward sanitation. H_{02} is rejected.
- **Hypothesis 3:** Logistic regression results show that residents exposed to campaigns are 2.6 times more likely to engage in proper waste disposal (Odds Ratio = 2.62, $p = 0.001$). Thus, H_{03} is rejected in favor of H_{13} .

These results indicate that environmental sanitation campaigns in Southeast Nigeria have statistically significant impacts on knowledge, attitudes, and practices.

Discussion of Findings

The discussion of findings synthesizes the results of the hypothesis tests, the descriptive statistics, and the objectives of the study to derive meaningful interpretations. It also situates the findings within the context of existing literature, thus providing theoretical and practical relevance.

A. Influence on Knowledge

The study's results demonstrate a statistically significant relationship between exposure to sanitation campaigns and the knowledge levels of residents. This aligns with the knowledge-dissemination role of public health communication identified by Freimuth, Linnan, and Potter (2016), who emphasize that repeated exposure to well-designed messages enhances comprehension and retention. In this study, respondents with higher exposure reported greater awareness of disease prevention, waste segregation, and hygienic practices. This suggests that the content and channels of campaign delivery are effectively transmitting essential information, consistent with the Cognitive Learning Theory, which posits that people acquire knowledge through structured and repeated learning stimuli.

B. Influence on Attitudes

Campaign exposure was found to significantly shape positive attitudes toward environmental cleanliness. Respondents frequently cited the moral obligation to maintain a clean environment, not merely as a personal choice but as a civic responsibility. This echoes Ajzen's Theory of Planned Behavior (1991), which posits that attitudes toward a behavior are powerful predictors of the intention to perform it. The campaigns appear to have successfully linked sanitation behavior to broader values such as community pride, public health, and environmental sustainability.

C. Influence on Practices

The logistic regression results reveal that campaign exposure significantly predicts the adoption of proper sanitation practices. Residents exposed to the campaigns were more likely to dispose of waste appropriately, maintain clean household surroundings, and participate in community clean-up events. This finding is consistent with studies by Mosler and Contzen (2016), which highlight that sustained exposure to health promotion efforts can shift ingrained behaviors, especially when supported by enabling community structures (e.g., accessible waste disposal facilities).

D. Consistency with Literature

The findings corroborate earlier research in low- and middle-income contexts, such as that of Oloruntoba, Folarin, and Ayede (2014), which showed that environmental sanitation campaigns significantly improved community hygiene practices in Nigerian urban centers. The present study adds to this body of knowledge by providing robust evidence from a Southeast Nigerian perspective, demonstrating the combined influence of media-based and community-based campaign strategies.

E. Implications for Policy and Practice

From a policy standpoint, the results underscore the necessity of sustaining and scaling up environmental sanitation campaigns. The clear linkage between exposure and positive KAP outcomes suggests that these interventions are cost-effective public health strategies. Moreover, campaigns should be tailored to local contexts, employing culturally relevant messaging and leveraging trusted community figures to reinforce key sanitation behaviors.

F. Theoretical Contribution

This study reinforces the applicability of the Knowledge-Attitude-Practice (KAP) framework to public health sanitation initiatives. It demonstrates how knowledge enhancement acts as a precursor to attitude change, which in turn predicts behavioral adoption. The findings thus provide empirical support for integrated communication models in environmental health promotion.

G. Limitations and Future Research Directions

Although the study's results are robust, it acknowledges limitations such as self-reported behavior, which may be influenced by social desirability bias. Future research should consider observational methods and longitudinal designs to assess the sustainability of behavior changes over time.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

This study was designed to investigate *The Impact of the Mass Media in Combating Girl-Child Trafficking in Enugu State*, focusing on the extent to which media campaigns influence knowledge, attitudes, and practices among residents. The study was guided by three specific objectives: first, to assess the level of awareness and knowledge of girl-child trafficking among residents exposed to mass media campaigns; second, to evaluate the extent to which such campaigns influence attitudes toward victims, trafficking networks, and reporting mechanisms; and third, to determine whether exposure to mass media campaigns translates into concrete behavioural actions aimed at preventing and responding to trafficking. These objectives were complemented by research questions and hypotheses aimed at exploring demographic variations, socio-cultural influences, and infrastructural determinants that may moderate media effectiveness.

The **conceptual review** outlined the fundamental constructs underpinning the study. It revealed that girl-child trafficking is not merely an isolated criminal phenomenon but a socially embedded issue influenced by poverty, education, cultural norms, weak legal enforcement, and community awareness levels. It also highlighted the centrality of mass media as a conduit for awareness creation, advocacy, and behavioral change. Different forms of media, including print, broadcast, social media, and community-based channels, were examined, revealing that each possesses distinct advantages and limitations in reaching diverse population segments.

The **theoretical framework**, drawing on the *Agenda-Setting Theory*, *Social Responsibility Theory*, and *Development Media Theory*, provided a lens for understanding media influence on public perception and action. Findings indicate that the mass media sets the agenda for public discourse on girl-child trafficking, creates a moral imperative for societal intervention, and can mobilize both institutional and community-based responses when effectively deployed. The study also confirmed that theoretical assumptions, such as perceived susceptibility and cues to action from the Health Belief Model, are critical in understanding how media messages translate into knowledge acquisition and attitudinal shifts.

Empirical analysis revealed several key trends:

1. **Awareness and Knowledge** – Residents exposed to mass media campaigns demonstrated significantly higher levels of awareness regarding the causes, risks, and legal consequences of girl-child trafficking compared to those with limited exposure. Radio talk shows, social media campaigns, and television documentaries were identified as the most effective channels for knowledge dissemination. However, rural residents with limited access to these media platforms exhibited lower knowledge levels, highlighting a digital and infrastructural divide.
2. **Attitudinal Influence** – Mass media campaigns positively shaped attitudes toward victims, with respondents reporting increased empathy, willingness to support reporting, and a recognition of trafficking as a societal issue rather than an isolated problem. Nevertheless, residual misconceptions and cultural biases persisted, particularly in communities with entrenched patriarchal norms and traditional practices that inadvertently normalize exploitative behaviors.
3. **Behavioral Practices** – Exposure to media campaigns influenced certain preventive and responsive practices, including community vigilance, participation in awareness programs, reporting suspected trafficking cases, and engagement with NGOs or government-led interventions. However, these behavioral changes were contingent on the availability of enabling infrastructure, such as reporting hotlines, functional law enforcement, and accessible community support mechanisms.
4. **Moderating Factors** – Socio-cultural norms, economic status, and infrastructural access were significant moderators in the relationship between media exposure and behavioral outcomes. For instance, households with higher educational attainment were more likely to adopt recommended practices, while economically disadvantaged communities faced practical constraints despite high awareness levels. Similarly, demographic factors such as age, gender, and urban versus rural residence influenced the reception and internalization of media messages, with younger, urban residents showing the greatest responsiveness.
5. **Stakeholder Engagement and Sustainability** – Findings highlighted gaps in coordination among media houses, government agencies, NGOs, and community leaders. Campaigns were

often episodic and reactive rather than proactive and institutionalized, limiting their long-term impact. Effective campaigns tended to involve multi-stakeholder partnerships, sustained messaging, and periodic evaluation mechanisms.

6. Challenges Identified – The study revealed multiple challenges hindering media effectiveness, including limited funding, lack of investigative reporting, editorial biases, security risks for journalists, and insufficient coverage of rural or hard-to-reach areas. Language barriers and low literacy in some communities further constrained message comprehension, demonstrating the necessity for localized, culturally sensitive communication strategies.

CONCLUSION

The menace of girl-child trafficking in Enugu State presents a complex socio-cultural and structural challenge that requires multi-dimensional interventions. This study concludes that the mass media is an essential component of such interventions, functioning as both a preventive mechanism and a catalyst for societal action. The findings provide compelling evidence that media campaigns can significantly increase awareness and knowledge about trafficking, positively shape public attitudes toward victims and anti-trafficking initiatives, and motivate specific preventive and responsive behaviors among residents.

However, the study also establishes that media interventions alone are insufficient to fully eradicate trafficking. Structural and systemic barriers, such as inadequate law enforcement capacity, poor infrastructural support, and socio-cultural practices that normalize exploitation, limit the translation of awareness into sustained action. Media campaigns achieve maximal effectiveness when integrated into a comprehensive strategy that includes stakeholder collaboration, community engagement, policy enforcement, and continuous monitoring and evaluation.

Theoretical reflections indicate strong support for the Agenda-Setting Theory and Development Media Theory, confirming that media can prioritize issues, mobilize public concern, and facilitate action. Yet, practical implementation gaps, especially in rural and economically disadvantaged communities, highlight the need to contextualize theory within the realities of local infrastructure, literacy, and cultural norms.

In addition, demographic analyses demonstrate that age, gender, educational attainment, and urban-rural residency significantly influence the reception, interpretation, and application of media messages. These findings suggest that anti-trafficking campaigns should adopt **targeted, differentiated strategies** to ensure inclusivity and effectiveness.

Ultimately, the study underscores the following conclusions:

1. Media campaigns are necessary but not sufficient for sustained behavioral change in combating girl-child trafficking. They must be complemented by legal, social, and infrastructural support systems.

2. **Knowledge acquisition is generally high among exposed populations**, but gaps persist in translating awareness into consistent practices, particularly in resource-poor and culturally conservative areas.
3. **Attitudes toward victims and trafficking issues improve significantly** with strategic media exposure; however, ingrained cultural biases require long-term engagement and community-based interventions to achieve lasting change.
4. **Sustainability and effectiveness depend on coordinated multi-stakeholder efforts**, consistent funding, localized content, and integration of feedback mechanisms.

In conclusion, this study demonstrates that the mass media holds transformative potential in addressing girl-child trafficking in Enugu State. The findings suggest that strategic, evidence-based, and context-sensitive media interventions, when integrated with robust community, governmental, and infrastructural support, can significantly reduce trafficking risks and empower residents to participate actively in safeguarding vulnerable children. The research highlights the dual role of media as an instrument of public awareness and a facilitator of social responsibility, confirming that sustainable change requires both informed citizens and systemic support.

Recommendations

Based on the findings and analyses of this study, it is evident that while environmental sanitation campaigns in Southeast Nigeria have made some positive impacts on knowledge, attitudes, and practices (KAP) of residents, there remain significant gaps and opportunities for improvement. The following recommendations are proposed to ensure that sanitation campaigns are more effective, sustainable, and impactful:

1. Strengthen Multi-Stakeholder Collaboration

Effective environmental sanitation campaigns cannot be the responsibility of a single government agency. There is a need for a coordinated framework that integrates efforts from the Ministry of Environment, State Waste Management Boards, local government authorities, NGOs, private sector stakeholders, and community-based organizations. By creating formal networks and partnerships, stakeholders can share resources, harmonize campaign messages, and prevent duplication of efforts. For example, a unified approach can ensure that media campaigns, community outreaches, and school-based programs are synchronized, thereby maximizing coverage and reinforcing consistent behavioral messages.

2. Enhance Community Engagement and Participation

Findings suggest that campaigns that directly involve communities are more likely to influence behavior positively. Residents are more receptive to messages delivered by trusted community leaders, traditional institutions, and local influencers. Campaigns should therefore incorporate participatory approaches such as focus group discussions, town hall meetings, school sensitization programs, and market outreach initiatives. These interactions allow for immediate feedback, clarification of misconceptions, and the creation of local ownership of sanitation practices.

3. Culturally and Linguistically Adapt Campaign Messages

The study highlights the importance of tailoring campaign content to socio-cultural realities. Residents respond better to messages that reflect local languages, cultural idioms, and traditional norms. For instance, proverbs and storytelling that emphasize communal cleanliness and health benefits resonate more than generic slogans. By incorporating local context, campaigns can achieve higher engagement, improve knowledge retention, and foster positive attitudes toward environmental sanitation.

4. Implement Targeted Demographic Strategies

The research revealed variation in knowledge, attitude, and practices across demographic groups. Younger residents and women often show higher responsiveness to campaigns delivered through social media and community workshops. Conversely, older and less literate residents may benefit more from radio broadcasts, town criers, and pictorial messages. Campaigns should therefore adopt segmented strategies that address the specific needs, preferences, and literacy levels of different demographic groups.

5. Integrate Behavioral Nudges and Incentives

Campaigns that combine awareness messages with practical nudges—such as distribution of waste bins, organized clean-up days, and recognition awards for communities demonstrating exemplary sanitation practices—tend to achieve more sustainable behavioral change. These initiatives create visible benchmarks and reinforce positive behavior, increasing the likelihood that residents will internalize sanitation practices into daily routines.

6. Institutionalize Continuous and Long-Term Campaigns

Short-term, sporadic campaigns have limited impact on sustained behavior change. Environmental sanitation programs should be institutionalized with continuous monitoring, regular feedback mechanisms, and iterative messaging. Sustained campaigns, combined with seasonal intensifications during high-risk periods for sanitation-related diseases, can enhance knowledge retention, shift attitudes permanently, and promote habitual behavioral change.

7. Leverage Technology and Modern Communication Platforms

Digital media, mobile applications, and interactive social media campaigns offer innovative ways to enhance engagement. For instance, mobile apps can provide reminders for waste disposal, report unsanitary conditions, and track community participation in clean-up programs. Geo-targeted campaigns can focus resources on high-risk neighborhoods, ensuring that limited funds are allocated efficiently and effectively.

8. Strengthen Policy, Monitoring, and Enforcement Mechanisms

Campaign effectiveness is closely linked to enabling infrastructure and regulatory enforcement. Local governments should ensure the availability of waste disposal facilities, functioning drainage systems, and accessible public toilets. Furthermore, enforcement policies should complement awareness campaigns by holding individuals and organizations accountable for violations of sanitation standards. Policies should include monitoring and evaluation protocols to assess campaign impact and inform future strategy improvements.

9. Capacity Building for Media Practitioners and Community Mobilizers

Media professionals and community mobilizers require training in effective communication strategies, ethical reporting, and community engagement techniques. Well-trained personnel can craft persuasive messages that resonate with diverse audiences, address misconceptions, and stimulate positive behavioral change. Training should also emphasize the use of data to refine campaigns and track impact over time.

10. Promote Collaborative Research and Evidence-Based Campaigns

Future campaigns should be informed by rigorous research that identifies gaps in knowledge, evaluates the effectiveness of prior interventions, and explores the contextual factors that influence sanitation behaviors. Collaborating with academic institutions can enhance the credibility and impact of campaigns while providing practical case studies and data for policy formulation.

In summary, these recommendations aim to create a holistic, sustainable approach to environmental sanitation in Southeast Nigeria, where knowledge, attitudes, and practices are reinforced through integrated media strategies, community engagement, infrastructural support, and evidence-based policymaking. By adopting these strategies, stakeholders can transform awareness into long-lasting positive behaviors, ultimately reducing sanitation-related health risks and enhancing the quality of life for residents.

Contribution to Knowledge

This study offers several substantial contributions to the theoretical, methodological, and practical knowledge bases surrounding environmental sanitation campaigns and their effects on community behavior:

1. Empirical Insights into Media Influence on Knowledge, Attitudes, and Practices

The study provides robust evidence linking exposure to environmental sanitation campaigns with measurable improvements in residents' knowledge, attitudes, and practices. By empirically demonstrating this linkage in Southeast Nigeria, the research fills a critical gap in the literature where studies have predominantly focused on awareness without assessing actual behavioral outcomes.

Advancement of Theoretical Frameworks

By integrating the *Health Belief Model* and the *Diffusion of Innovations Theory*, this research deepens theoretical understanding of behavior change processes in environmental sanitation. It illustrates how perceived susceptibility, perceived benefits, and social influence can mediate the effectiveness of communication interventions. Moreover, it highlights the role of demographic and socio-cultural variables in moderating the diffusion of innovations related to sanitation practices.

2. Methodological Contribution

The mixed-methods approach—combining quantitative surveys with qualitative interviews—provides a comprehensive perspective on how campaigns operate both at the population level and the individual experiential level. This methodological triangulation can serve as a template for future research in other public health and environmental contexts, offering a balanced assessment of both statistical trends and underlying motivations.

3. Contextual Understanding of Southeast Nigeria

This research contextualizes sanitation behavior within the socio-economic, cultural, and infrastructural realities of Southeast Nigeria. By highlighting region-specific facilitators and

barriers, the study provides a nuanced understanding that can inform both local policy interventions and regionally tailored media campaigns.

4. Policy and Practical Implications

The findings directly inform policymakers, NGOs, and community leaders on the design, delivery, and sustainability of sanitation campaigns. The research identifies actionable strategies to enhance campaign effectiveness, optimize resource allocation, and ensure that behavioral outcomes are achieved alongside improvements in knowledge and attitudes.

5. Contribution to Sustainable Development Goals

By addressing sanitation behaviors, the study contributes to SDG 6 (Clean Water and Sanitation) and SDG 3 (Good Health and Well-being). Additionally, its focus on community engagement, evidence-based communication, and behavior change supports SDG 11 (Sustainable Cities and Communities) and SDG 17 (Partnerships for the Goals).

6. Foundation for Further Research

This study lays a strong foundation for future research into the long-term sustainability of environmental sanitation behaviors, the role of technology in campaign dissemination, and comparative studies across different regions of Nigeria or other developing countries. It identifies specific gaps and variables that warrant further exploration, thereby advancing the academic discourse in health communication and environmental management.

7. Bridging Theory and Practice

The research bridges the gap between academic theories of behavior change and real-world public health interventions. By operationalizing theoretical constructs in a practical campaign context, it demonstrates how scholarly models can guide policy, inform campaign design, and ultimately contribute to measurable social outcomes.

Suggestions for Further Studies

While this study has contributed significant insights into the influence of environmental sanitation campaigns on the knowledge, attitudes, and practices of residents in Southeast Nigeria, the research inevitably opens up multiple avenues for further inquiry. Addressing these areas in subsequent studies will strengthen understanding, broaden application, and enhance policy and practical interventions in sanitation management.

1. Longitudinal Studies on Behavioral Sustainability

Future research should employ longitudinal study designs to investigate the long-term sustainability of behavioral changes induced by sanitation campaigns. While this dissertation captured KAP outcomes over the period of 2018–2024, a longitudinal approach would reveal whether changes in knowledge, attitudes, and practices are maintained over extended periods. Such studies could track participants across several years to assess the durability of behavioral change and identify factors that contribute to sustained compliance, including reinforcement frequency, social norms, and community engagement.

2. Comparative Studies Across Different Nigerian Regions

Given that this study focused exclusively on Southeast Nigeria, further research could explore regional variations by including North, South-West, South-South, and North-Central Nigeria. Such comparative analyses would highlight how cultural, socio-economic, environmental, and infrastructural differences influence the effectiveness of sanitation campaigns. Comparative

studies can uncover region-specific challenges and best practices, which would allow policymakers to adopt context-sensitive interventions tailored to unique demographic, cultural, and infrastructural settings.

3. Impact of Digital Media and Emerging Technologies

Future studies could explore the influence of digital media, including social networking platforms, mobile applications, SMS-based campaigns, and interactive online content, on residents' sanitation KAP. The growing penetration of mobile devices and internet access in Nigeria presents an opportunity to assess how digital campaigns influence behavioral adoption, message retention, and peer-to-peer dissemination. Investigating the potential of gamification, push notifications, and online community engagement could provide insights into scalable and cost-effective sanitation interventions.

4. In-Depth Examination of Socio-Cultural and Economic Moderators

While this research identified socio-cultural, economic, and infrastructural factors as moderating variables, future studies could adopt qualitative methods, such as ethnography, focus group discussions, and in-depth interviews, to deeply understand these influences. For instance, cultural beliefs about waste disposal, gender dynamics, household decision-making processes, and social hierarchies may shape how residents interpret and respond to sanitation messages. Similarly, economic constraints, such as low household income or lack of access to waste disposal infrastructure, may impede behavioral adoption. Detailed qualitative insights could provide actionable guidance for designing culturally and economically sensitive interventions.

5. Focus on Vulnerable and Marginalized Groups

Future research should consider investigating the sanitation behaviors of vulnerable populations, including rural communities, informal settlements, women-headed households, and individuals with low literacy levels. These groups often face structural and socio-economic barriers that limit the effectiveness of sanitation campaigns. Understanding their specific needs, challenges, and responses would inform the design of inclusive programs that ensure equitable access to sanitation resources and education, ultimately promoting social justice and public health equity.

6. Integration of Behavioral Economics Approaches

Behavioral economics offers valuable insights into human decision-making and provides tools for designing interventions that nudge individuals toward desirable sanitation behaviors. Future studies could explore incentive-based programs, conditional cash transfers, reward schemes, and social recognition initiatives to encourage proper waste disposal and hygiene practices. Experimental designs assessing the impact of such interventions could yield practical evidence on how to optimize campaign design to achieve measurable behavioral change.

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