

Evaluating the Abuja environmental protection board's communication campaign strategies in combating open defecation practice in FCT, Nigeria

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Abstract

This study examines the communication campaign strategies employed by the Abuja Environmental Protection Board (AEPB) in addressing open defecation practices within the Federal Capital Territory (FCT), Nigeria. The study's objectives include identifying the communication strategies used by AEPB, assessing the extent of their implementation, evaluating their effectiveness, and analysing the challenges hindering their assimilation in combating open defecation. The study was anchored on the Persuasive Communication Theory and Empowerment Theory. A survey research design was adopted, and data were collected from a sample of 384 respondents using a structured questionnaire. Findings reveal that AEPB employs various communication strategies, including town hall meetings with stakeholders, engagement of town criers, community theatre, utilisation of traditional and religious centres, billboards, posters, banners, and strategic placement of informational materials. However, the study establishes that these strategies have been ineffective due to challenges such as public attitudes towards sanitation and inadequate monitoring mechanisms. The study recommends that AEPB enhance public awareness of its hygiene promotion initiatives, particularly by intensifying the deployment of diverse communication strategies to combat open defecation effectively.

Keywords: Open defecation; Communication strategies; Public health campaign; Sanitation; AEPB

1. Introduction

Open defecation, a practice as old as human existence, remains a significant global challenge, particularly affecting developing nations such as Nigeria (Anjorin, 2019). The World Health Organisation (2013) defines open defecation as the disposal of human faeces in open spaces such as fields, bushes, forests, water bodies, and public areas. Data from the Joint Monitoring Programme (JMP) of the United Nations Children's Fund (UNICEF) and World Health Organisation (WHO) (2021) indicate that approximately 494 million people worldwide still engage in open defecation (Belay et al., 2022). Notably, 92% of these individuals reside in rural areas, primarily within developing countries (WHO, 2021).

The health consequences of open defecation are severe, contributing to the spread of communicable diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid, and polio. In addition, it fosters conditions for neglected tropical diseases, including intestinal worms, schistosomiasis, and trachoma, which further exacerbate malnutrition, particularly in low-income nations. Recognising the urgency of this issue, the United Nations General Assembly, through Resolution 64/292 on 28 July 2010, declared access to clean water and sanitation a fundamental human right. The resolution urged governments and international organisations to provide financial resources, enhance capacity-building, and facilitate technology transfer to improve access to safe, clean, affordable water and sanitation services (United Nations, 2014).

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While open defecation remains a challenge in many developing nations, some countries face a particularly alarming situation. For example, in Afghanistan, over 4.2 million people engage in open defecation, with 50% of the population lacking access to basic sanitation facilities **and** 60% deprived of hygiene services (UNICEF, 2022). Similarly, a joint WHO-UNICEF report (2021) reveals that 15% of India's population still practises open defecation, with 1% in urban areas and 22% in rural regions. In Latin America and the Caribbean, 82.7 million people lack basic sanitation, of which 15.5 million (18.8%) continue open defecation (Pan American Health Organisation & WHO, 2019). In Uganda, statistics indicate that 22.9% of the population practises open defecation despite substantial government interventions (MWE MoWaEGoU, 2019; Rakotomanana et al., 2020). Further data from Nafula (2023) show that 14.6 million Ugandans (32.4% of the population) still engage in open defecation, highlighting the persistence of this issue despite global and national efforts.

Although progress has been made through international resolutions such as the Millennium Development Goals (MDGs) of 2015, open defecation remains a pressing issue in Nigeria. According to WHO (2016), Nigeria ranks among the top nations with the highest number of people practising open defecation, with an estimated 47 million individuals still involved (Babalola, 2019). This practice has severe implications, particularly for children's health and education, and has hindered Nigeria's ability to achieve its MDG sanitation targets.

Recognising the urgency of this challenge, the Abuja Environmental Protection Board (AEPB) has implemented various communication campaigns to address open defecation within the Federal Capital Territory (FCT). However, the effectiveness of these strategies remains uncertain, necessitating a critical evaluation. Behavioural Change Communication (BCC) campaigns are crucial in shaping public attitudes and promoting healthier practices. Many harmful behaviours are deeply rooted in cultural norms and beliefs, requiring targeted communication interventions to facilitate change. According to Sood, Corinne, and Sengupta (2006), BCC campaigns in developing nations enhance public knowledge and stimulate interpersonal communication, fostering pro-social behavioural changes. These campaigns create awareness and serve as a catalyst for community engagement in addressing critical health issues.

Several studies have examined open defecation and communication interventions both within and outside Nigeria (Onyiaji, 2018; Adewuji & Adefemi, 2016; Bealy et al., 2022; Briscoe & Aboud, 2012; Bwakan, 2021; Kauppi, 2015). Adewuji and Adefemi (2016) explored social media's role in behaviour change communication, while Bealy et al. (2022) conducted a multilevel analysis of open defecation determinants across 33 sub-Saharan African countries. Similarly, Briscoe and Aboud (2012) reviewed communication strategies targeting health behaviours in developing nations. Bwakan (2021) assessed Social and Behavioural Change Communication (SBCC) campaigns against open defecation, while Kauppi (2015) examined communication strategies in sub-Saharan Africa.

However, despite various studies, there is limited empirical research on the communication strategies employed by AEPB to combat open defecation in the FCT between 2020 and 2024. This study addresses this gap by evaluating the effectiveness of AEPB's communication campaigns and identifying areas for improvement.

1.1. Objectives of the Study

This study aims to assess the communication campaign strategies employed by the Abuja Environmental Protection Board (AEPB) in addressing the issue of open defecation in the Federal Capital Territory (FCT), Nigeria. Specifically, the study seeks to:

- Identify the communication strategies implemented by AEPB to combat open defecation in the FCT.
- Investigate how AEPB utilises communication strategies to tackle open defecation.
- Assess the effectiveness of AEPB's communication campaigns in ensuring the sustainability of open defecation-free communities.
- Examine the challenges that hinder adopting and assimilating AEPB's communication strategies in the fight against open defecation.

2. Conceptual Clarifications

2.1. Communication Strategies

Sackey (2014) asserts that communication strategies are crucial in shaping relationships and fostering collaboration with key stakeholders, including investors, who are instrumental in successfully implementing organisational programmes. According to Skinner and Rampersad (2014), a communication strategy is a systematically planned approach designed to achieve specific objectives by integrating various communication methods, techniques, and

approaches. Tarone (1980), cited by Huang (2010), emphasises that communication strategies help bridge the knowledge gap between the sender and the receiver in real-life communication contexts, thereby minimising potential disruptions.

Anjuwon and Okiyi (2018) further corroborate this by stating that in social development strategies, various communication techniques such as town hall meetings, market square discussions, community engagement initiatives, radio jingles, talk shows, flyers, posters, handbills, involvement of traditional rulers, churches, schools, age groups, women's associations, family heads, field visits, film screenings, dramatic presentations, and face-to-face meetings are employed. Rhee (2008) highlights that strategic communication is intentional, strongly emphasising designing appropriate messages, structuring their delivery processes, and ensuring the intended outcomes are achieved effectively.

2.2. Open Defecation

Open defecation refers to the act of excreting in open spaces rather than using designated toilet facilities. Individuals engaging in this practice do so either due to the unavailability of proper sanitation facilities or deeply rooted traditional beliefs, even when toilets are accessible. This practice is predominantly observed in rural communities across Nigeria. Gupta et al. (2014) describe open defecation as relieving oneself in an open environment instead of using a sanitary facility with common locations, including bushes, forests, canals, ditches, and streets. Statistical data indicate that rural populations constitute the majority of individuals who engage in open defecation.

2.3. Review of Literature

2.3.1. *The Role of Communication and Media in Influencing Health Behavioural Change*

The United Nations Children's Fund (UNICEF) Regional Office for South Asia (2005) defines behaviour change communication as a research-driven, consultative process to modify knowledge, attitudes, and practices through well-structured communication strategies. These strategies utilise an appropriate mix of interpersonal, group, and mass media channels, including participatory methods, to reach the target audience effectively. Behaviour change communication operates at multiple levels, including individuals, families, communities, service delivery systems, and enabling environments. Rather than focusing solely on individual transformation, it addresses social and cultural factors contributing to harmful community behaviours. It is an essential developmental tool for promoting awareness and fostering positive behavioural changes.

Adewuyi and Adefemi (2016) describe behaviour change communication as an extension of health communication, which is explicitly concerned with applying communication strategies to promote positive health outcomes. Similarly, Briscoe and Aboud (2012) argue that behaviour change communication is a participatory process rather than a linear one. It is strategically designed to encourage individuals and communities to adopt healthier practices through targeted messaging. This approach underscores the importance of individual and collective engagement in health interventions.

The mass media serve as crucial channels for disseminating health-related information, raising disease awareness, and promoting public health initiatives. Ankem (2006) emphasises that the media play a pivotal role in public health advocacy, acting as a primary source of information while driving awareness campaigns. According to the United States Agency for International Development (USAID) (2006), health authorities frequently rely on the media to relay critical health information to the public in accessible formats through various communication channels. Boyd and William (2009) further highlight that mass media enable health practitioners to expand their reach, effectively informing and persuading target audiences to adopt healthier behaviours while reinforcing key messages regarding disease prevention and healthcare services.

2.3.2. *Factors Influencing Public Knowledge of the Health Risks Associated with Open Defecation*

Several scholars have explored the factors that shape public awareness of the health implications of open defecation. Routray et al. (2015) identify age, educational background, and economic status as key determinants of public knowledge regarding the adverse health effects of open defecation. Their study suggests that younger individuals are generally more informed about the risks of open defecation than older populations. Furthermore, a lack of education often results in ignorance, preventing individuals from fully understanding the health consequences of this practice. This issue is particularly prevalent among economically disadvantaged groups, who may not have access to formal education and consequently fail to recognise the importance of household sanitation.

Okullo et al. (2017) support this view, asserting that inadequate education is a major contributor to public ignorance regarding the health hazards of open defecation. Similarly, Atkinson (2016) argues that a lack of education significantly exacerbates the problem, particularly in rural communities where many cannot afford formal education. Consequently, these individuals are less likely to invest in private sanitation facilities, perpetuating the cycle of open defecation. Tarraf (2016) highlights that education is a powerful instrument for driving positive change in sanitation practices. His research indicates that in communities where open defecation is still prevalent, educated individuals are less likely to engage in the practice due to their awareness of its detrimental health and environmental consequences.

Overall, the existing literature underscores the critical role of education, economic status, and targeted communication strategies in addressing open defecation. By enhancing public awareness through effective communication campaigns, policymakers and health advocates can drive behavioural change and promote sustainable sanitation practices within affected communities.

2.4. Theoretical Framework

Various theories have been developed to explain human behaviour. This study adopts the Persuasive Communication Theory and the Empowerment Theory as theoretical foundations.

2.5. Persuasive Communication Theory

The Persuasive Communication Theory, proposed by Carl I. Hovland in 1940, is utilised in this research to examine how communication influences behaviour change. Hovland (1940) defined persuasion as "changing one's attitude by absorbing new knowledge." Similarly, persuasion is "human communication aimed at influencing others by altering their beliefs, values, or attitudes" (Simon, 1976, p. 21). According to Nwoke, as cited in Asemah (2012, p. 347), persuasion is a systematic and strategic approach to raising awareness to influence or reinforce ideas, attitudes, beliefs, or values towards a more favourable outcome. It involves skillfully presenting ideas and messages to different audiences to achieve the desired effect.

Persuasion is inherently linked to communication. It requires influencing individuals to change their perspectives, attitudes, beliefs, habits, or behaviours. In essence, it is the capacity to present arguments that encourage others to see things from a particular point of view.

The Persuasive Communication Theory outlines a three-phase model: communication, attitude, and behaviour. In the context of this study, communication entails disseminating information to residents of the Federal Capital Territory (FCT) about the health risks associated with open defecation through anti-open defecation campaigns. Once awareness is created, campaigners can alter attitudes perpetuating open defecation practices. The researcher observes whether the information acquired influences people's attitudes towards open defecation, expecting that attitudinal change will translate into behavioural change, ultimately reducing the prevalence of open defecation.

2.6. Empowerment Theory

The Empowerment Theory also provides a relevant analytical framework for this study. Initially developed by Solomon (1976), the theory has been further refined by scholars such as Mallucion and Libassi (1984), Gutierrez, Dubois, and Maye (1995), as well as Miley, O'Melia, and Dubois (2001). Empowerment is how individuals gain social, political, economic, and psychological control by accessing information, knowledge, skills, decision-making opportunities, self-efficacy, community participation, and perceived control (Zimmerman & Rappaport, 1988). As a process, empowerment enables individuals and groups to acquire the power and resources necessary to take control of their lives, fostering their ability to achieve both personal and collective goals (Robin et al., 1988).

Empowerment Theory provides a supportive framework for individuals, groups, and communities that face structural barriers to achieving their objectives. Payne (2005) asserts that empowerment practices assist individuals and groups in overcoming social obstacles. This theory helps explain why, despite awareness of the dangers associated with open defecation, some individuals in rural, semi-urban, and urban communities in Nigeria continue to engage in this practice. Contributing factors may include formal education and enlightenment gaps, entrenched cultural practices, and inadequate sanitation facilities.

Since empowerment entails providing individuals, groups, and communities with the resources and knowledge required to exert control over their lives, it becomes a crucial component in addressing open defecation. Through strategic communication efforts, such as those implemented by the Abuja Environmental Protection Board (AEPB), individuals in these communities can be empowered with information and resources that encourage them to abandon

open defecation. Thus, Empowerment Theory is particularly relevant to this study, as it underscores the need for community-based interventions that provide people with the necessary tools and knowledge to adopt and sustain open defecation-free behaviours.

3. Methodology

This study adopted a quantitative research approach. According to Coghlan and Brydon-Miller (2014), quantitative research encompasses a set of strategies, techniques, and assumptions designed to investigate a specific phenomenon through numerical data. Phandari (2020) further asserts that quantitative research involves systematically collecting, analysing, and interpreting statistical data to explain, predict, or structure variables. This approach was deemed appropriate for the study as it enables the coverage of a large population, ensures objectivity in data collection, and allows respondents to participate anonymously, thereby reducing response bias. Moreover, the quantitative research method is widely recognised for its efficiency in gathering data within a short time frame and its ability to generate replicable results (Check & Schutt, 2012; Nwodu, 2006).

The study population comprised all Federal Capital Territory (FCT) residents in Abuja, Nigeria. The FCT consists of six Area Councils: Municipal Area Council (1,693,400), Gwagwalada (346,000), Kuje (212,100), Kwali (188,000), Abaji (127,900), and Bwari (500,100), based on population estimates from City Population (2024). However, to ensure effective data collection, the study employed a sample size of 384 respondents, with 64 participants selected from each Area Council.

Primary data were collected using a structured questionnaire as the research instrument, while secondary data were sourced from libraries and online repositories. These included published and unpublished materials such as academic books, peer-reviewed journals, official government documents, newspapers, press releases, and other relevant publications. The questionnaires were distributed face-to-face to ensure high response rates and accuracy in data collection.

Descriptive statistical techniques were employed for data presentation and analysis, including tables, charts, figures, frequencies, percentages, and measures of central tendency. The study utilised a five-point Likert scale: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). The criterion mean was set at 3.0, with values equal to or above this threshold considered an accepted result, while values below 3.0 were regarded as rejected outcomes. This approach was chosen to facilitate clarity and ease of interpretation for readers and potential stakeholders engaging with the study's findings.

3.1. Data Presentation and Analysis

In this study, 384 questionnaires were distributed to respondents. Of these, 371 were successfully retrieved, representing a response rate of 97%. The retrieved questionnaires were deemed valid for analysis. Figure 1 provides a graphic representation of the response rate.

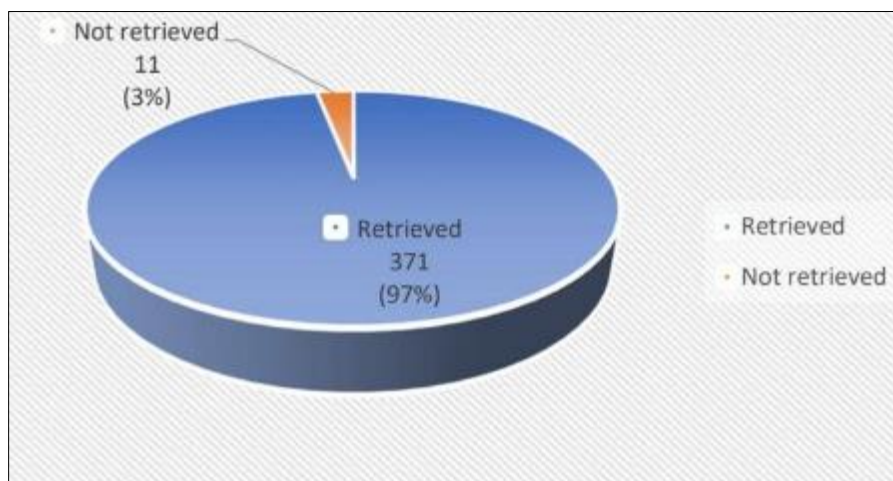


Figure 1 Analysis of Response Rate

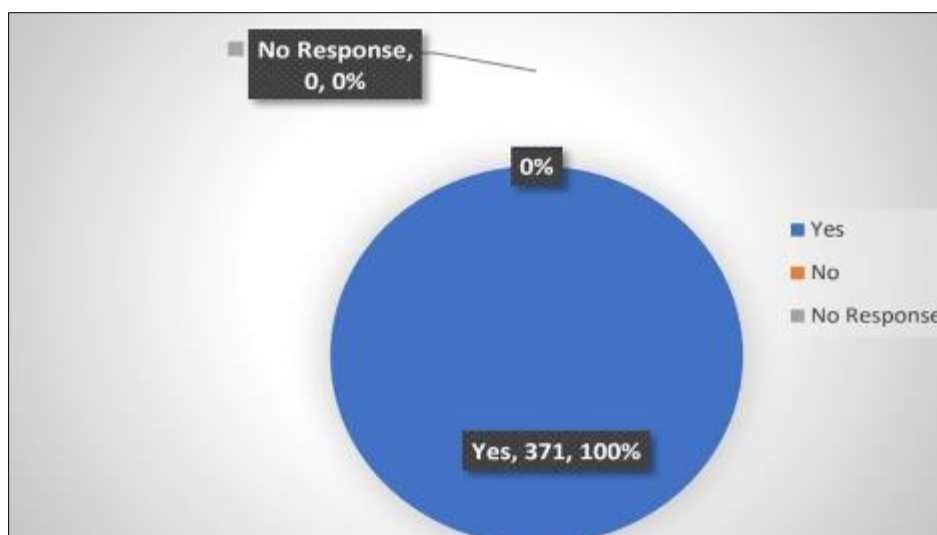


Figure 2 Respondents' Awareness of AEPB Activities in Their Area

Figure 2 presents the responses gathered from participants regarding their awareness of the Abuja Environmental Protection Board (AEPB) 's activities within their locality. Notably, all respondents indicated familiarity with AEPB and its various programmes implemented in their communities. This suggests high public awareness regarding the agency's environmental initiatives.

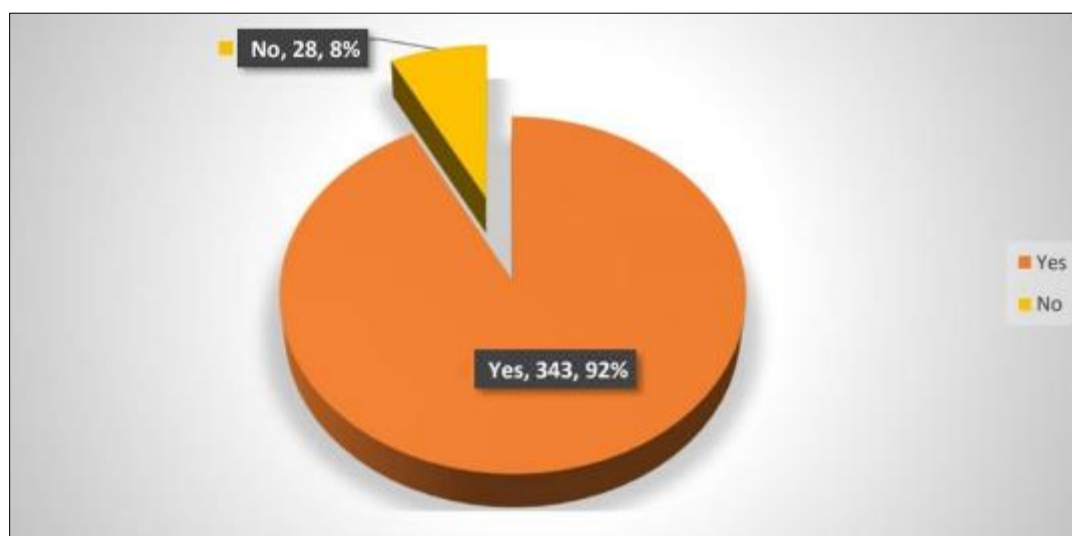


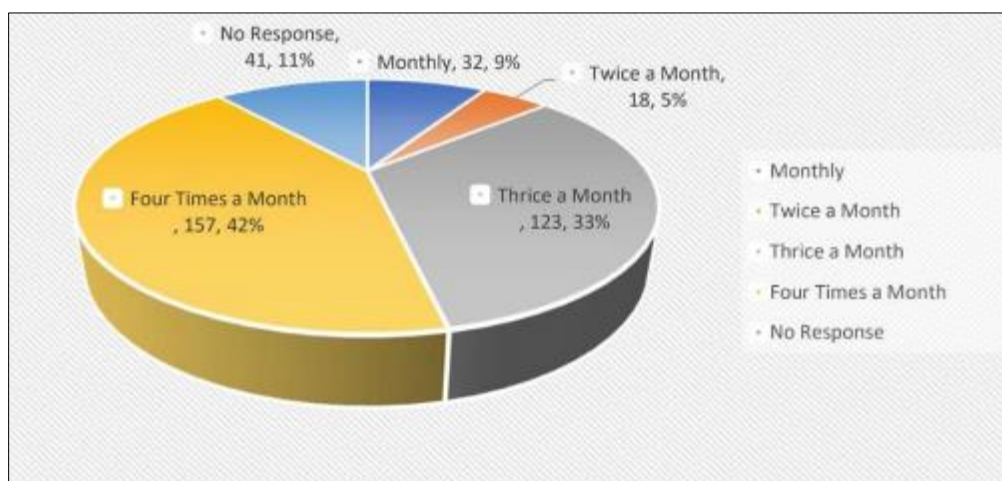
Figure 3 AEPB's Use of Communication in Addressing Open Defecation in Local Communities

The quantitative data in Figure 3 suggests that communication is crucial in addressing societal issues, particularly in influencing behavioural change regarding open defecation. Effective communication is a strategic tool for raising awareness, educating the public, and fostering the attitudinal shifts necessary to eliminate open defecation practices.

Table 1 Communication Strategies Employed by AEPB in Addressing Open Defecation

Communication Strategies	SA	A	U	SD	D	Total	Mean Rating	Decision
Use of conventional mass media (television, radio, newspapers, magazines)	131	208	13	8	11	371	4.1	Accepted
Use of social media platforms (Facebook, WhatsApp, X, Instagram, YouTube, TikTok)	112	214	6	22	17	371	4.0	Accepted
Distribution of information, education, and communication (IEC) materials such as leaflets, flyers, and pamphlets	134	185	9	18	25	371	4.0	Accepted
Town hall meetings, engagement of town criers, community theatre, and use of religious and traditional institutions	111	223	3	23	11	371	4.0	Accepted
Use of billboards, posters, and banners in strategic locations	127	182	14	31	17	371	3.9	Accepted

The data presented in Table 1 indicate that the Abuja Environmental Protection Board (AEPB) employs multiple communication strategies to promote open defecation-free communities in Nigeria. These strategies include using traditional and new media, printed educational materials, community engagements, and outdoor advertising. A significant proportion of respondents either strongly agreed or agreed with the listed strategies, suggesting a widespread awareness of AEPB's communication efforts. This finding underscores the agency's recognition of diverse communication approaches as essential for driving behavioural change and promoting improved sanitation practices.

**Figure 4** Frequency of Exposure to Communication Strategies Employed by AEPB in Addressing Open Defecation

The data presented in Figure 4 suggest that AEPB's communication efforts regarding open defecation have been inconsistent. This conclusion is supported by 157 respondents (42%) indicating irregular exposure to these strategies. The findings imply that while AEPB employs various communication methods, their frequency may not effectively sustain public awareness and behavioural change. Consequently, more consistent and reinforced messaging is needed to enhance the impact of these strategies in promoting open-defecation-free communities.

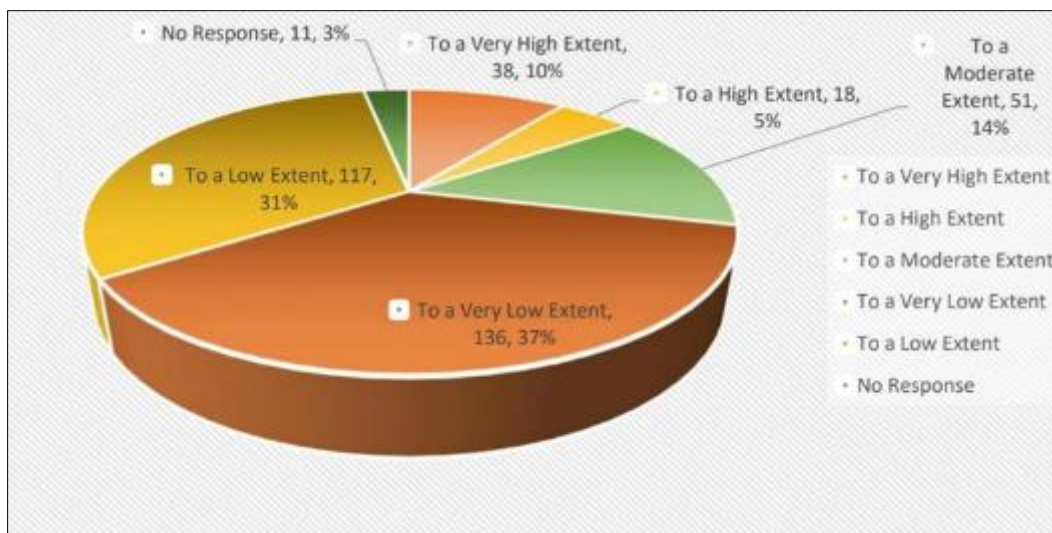


Figure 5 Extent of AEPB's Use of Communication Strategies in Addressing Open Defecation

The findings presented in Figure 5 indicate that AEPB has not extensively utilised communication strategies to address open defecation in the surveyed areas. This inference is drawn from the responses, which suggest that many participants have not been regularly informed about AEPB's initiatives on open defecation. The data highlights a gap in disseminating relevant information, implying that increased communication efforts may be necessary to enhance public awareness and encourage behavioural change.

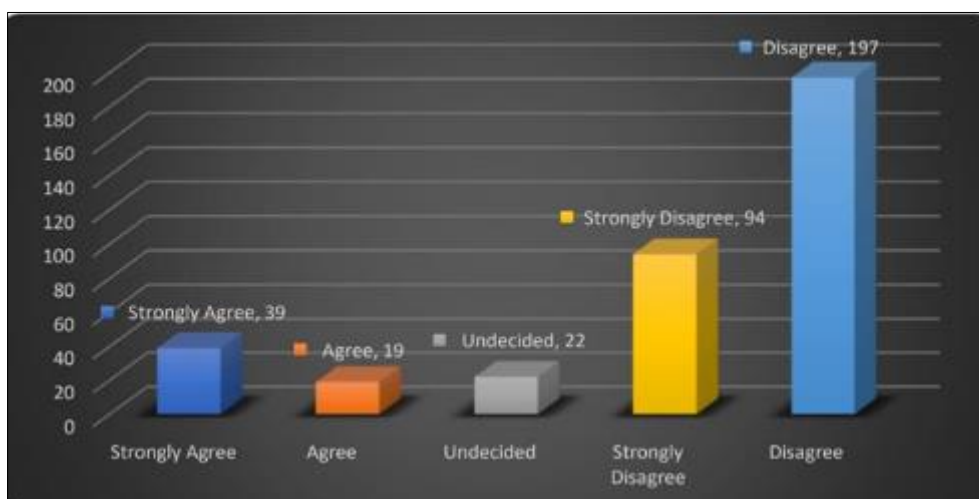


Figure 6 Responses on the Effectiveness of AEPB's Communication Strategies in Addressing Open Defecation

The findings presented in Figure 6 indicate that AEPB's communication efforts regarding open defecation have not been entirely practical. This suggests that disseminating information and public enlightenment on the issue may be inadequate. Consequently, insufficient awareness could contribute to increased open defecation within the studied areas. These results underscore the need for AEPB to enhance its communication strategies to foster greater public engagement and behavioural change.

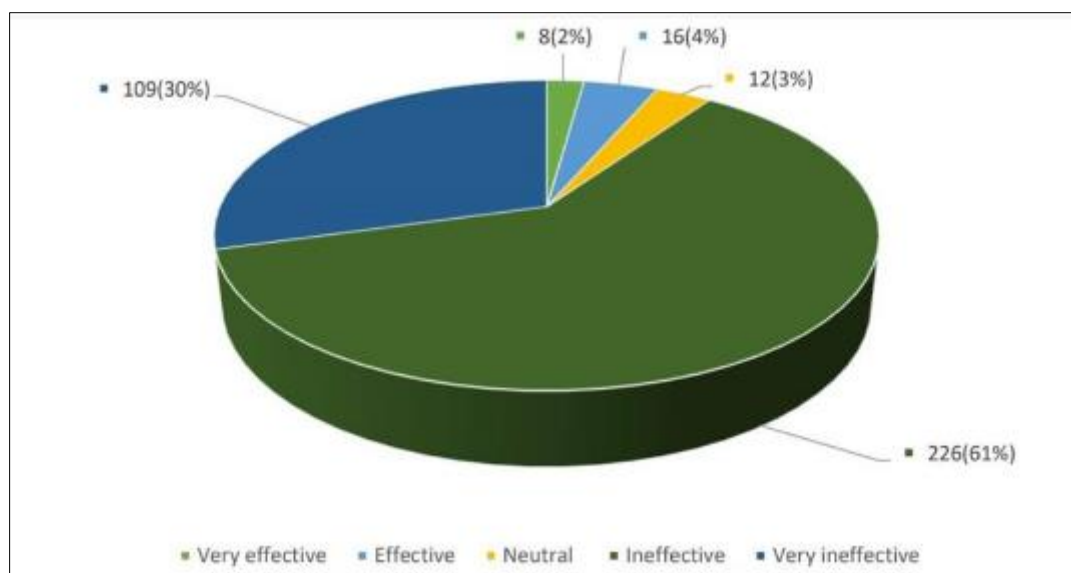


Figure 7 Effectiveness of AEPB's Communication Strategies in Addressing Open Defecation

The data presented in Figure 7 suggests that respondents perceive AEPB's communication and public education efforts on open defecation as largely ineffective. This finding implies that a critical public health concern like cholera necessitates a more intensive, targeted information and education campaign. Organisations like AEPB must strengthen communication strategies to ensure that residents within the studied areas are adequately informed and encouraged to abandon open defecation practices.

Table 2 Effectiveness of AEPB's Communication Strategies in Addressing Open Defecation

Options	AS	A	U	SD	D	Total	Mean Rating	Decision
The messages effectively raised your awareness and informed you about the importance of avoiding open defecation	22	19	35	97	198	371	1.8	Rejected
The information provided by AEPB has effectively informed you about the significance of refraining from open defecation	16	32	12	151	160	371	1.9	Rejected

The data presented in Table 2 evaluate the effectiveness of the communication strategies employed by the Abuja Environmental Protection Board (AEPB) to address the issue of open defecation. The assessment was based on respondents' perceptions of whether the messages effectively raised awareness and conveyed the importance of avoiding open defecation.

The findings indicate that the mean ratings for both statements fall below the acceptance threshold of 3.0, suggesting that respondents did not perceive the communication strategies as effective in raising awareness or discouraging open defecation. This implies a need for a more robust and impactful communication approach to enhance public understanding and behavioural change.

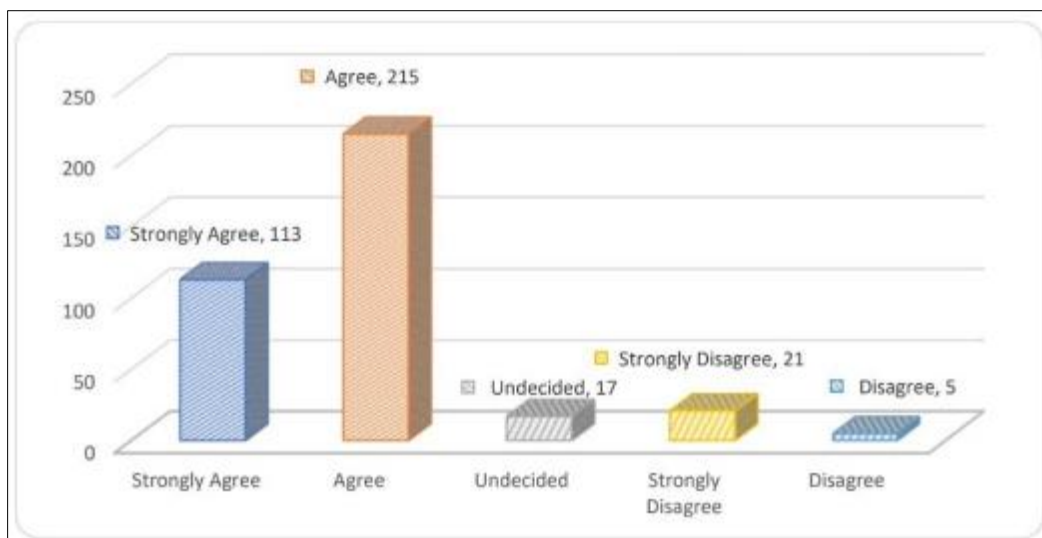


Figure 8 Challenges in Adopting and Implementing AEPB's Communication Strategies on Open Defecation

The data presented in Figure 8 highlights significant challenges associated with adopting and implementing the Abuja Environmental Protection Board (AEPB)'s communication strategies to mitigate open defecation. These challenges may hinder the effectiveness of AEPB initiatives, limiting their ability to influence behavioural change within the affected communities. Furthermore, these obstacles could impede other organisations' efforts to achieve the same objective, necessitating a more strategic and adaptive approach to ensuring greater public engagement and compliance.

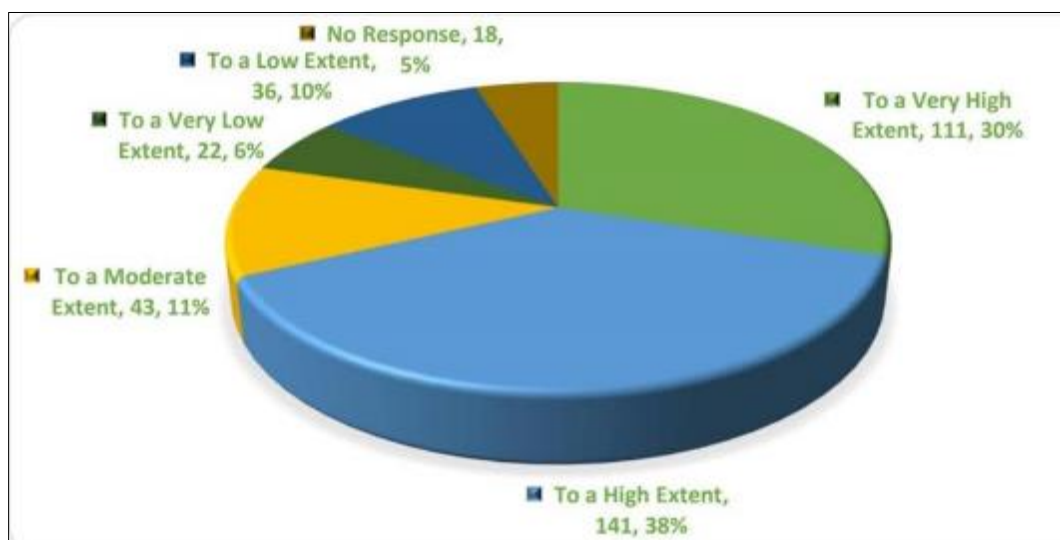


Figure 9 Impact of Challenges on the Adoption and Implementation of AEPB's Communication Strategies on Open Defecation

The data illustrated in Figure 9 indicates that significant challenges hinder the assimilation of AEPB's messages on open defecation. These obstacles underscore the complexities of influencing behavioural change through communication, particularly in communities where traditional practices persist. The findings suggest that despite efforts to promote public awareness, the effectiveness of AEPB's strategies may be limited unless additional measures are implemented to address these barriers and enhance message reception.

Table 3 Challenges Hindering the Adoption and Implementation of AEPB's Communication Strategies on Open Defecation

Options	SA	A	SD	D	UD	Total	Mean Rating	Decision
Lack of understanding of AEPB's communication	15	24	11	159	162	371	1.8	Rejected
Strong adherence to traditional defecation practices	219	91	7	24	30	371	4.1	Accepted
High cost of constructing modern toilet facilities	236	69	34	10	22	371	4.3	Accepted
Weak monitoring and evaluation mechanisms by AEPB	79	238	21	14	19	371	3.9	Accepted

The data presented in Table 3 highlights that adherence to traditional defecation practices and the high cost of constructing modern toilet facilities are the most significant barriers to successfully implementing AEPB's communication strategies. These factors significantly impede efforts to eliminate open defecation in the studied communities.

Additionally, weak monitoring and evaluation mechanisms by AEPB were identified as another challenge affecting the effectiveness of these strategies. The findings suggest that despite efforts to promote hygienic sanitation practices, deeply ingrained cultural attitudes and financial constraints continue to hinder progress.

It can, therefore, be inferred that AEPB's communication strategies for addressing open defecation have not fully achieved their intended objectives due to various challenges, including resistance to behavioural change, inadequate evaluation mechanisms, and economic limitations. Addressing these issues through a more robust, community-focused approach may enhance the effectiveness of these interventions.

4. Discussion

The findings of this study reveal that the communication strategies employed to address open defecation include conventional mass media such as television, radio, newspapers, and magazines. Social media platforms like Facebook, WhatsApp, X (formerly Twitter), Instagram, YouTube, and TikTok play a role. Other methods include the distribution of leaflets, flyers, and pamphlets—collectively referred to as Information, Education, and Communication (IEC) materials. Further strategies encompass town hall meetings with stakeholders, engagement of town criers, community theatre, utilisation of traditional and religious worship centres, and strategically placed billboards, posters, and banners. The study revealed that most respondents knew the Abuja Environmental Protection Board (AEPB)'s communication strategies for tackling open defecation within their communities.

This finding aligns with previous research by Anjuwon and Okiyi (2018), who established that social development strategies frequently utilise communication techniques such as town hall meetings, market square gatherings, community engagement, radio jingles, talk shows, flyers, posters, handbills, traditional rulers, churches, schools, age groups, women's associations, family heads, field visits, film shows, drama, and face-to-face meetings. Similarly, Rhee (2008) emphasised that strategic communication is a deliberate process that focuses on designing appropriate messages and ensuring effective delivery through various channels, including traditional and religious leaders, public gatherings, banners, and IEC materials.

Further analysis of the findings indicates that these communication strategies have not been implemented consistently. This suggests that open defecation may persist in the studied communities. This observation is consistent with studies of Melea (2023), which found that Nigerian newspapers, including *Daily Trust*, *This-Day*, and *Nigerian Tribune*, underreport the issue of open defecation. The findings further highlight that AEPB's communication efforts regarding open defecation have been inadequate. Consequently, the lack of sufficient information and awareness may contribute to the continued prevalence of open defecation, thereby exacerbating health risks such as cholera and other diseases linked to environmental and water contamination. This aligns with the findings of Coffey et al. (2014), who reported that open defecation remains widespread in rural communities, posing serious threats to both human health and the environment.

In addition, the study identified several challenges hindering the effectiveness of AEPB's communication strategies in addressing open defecation. These include strong adherence to traditional defecation practices, the high cost of constructing modern toilet facilities, and weak monitoring and evaluation mechanisms by AEPB. The findings suggest that cultural attitudes significantly influence people's engagement in open defecation. This corresponds with research

by Geetha and Kumar (2014), which noted that although sanitation infrastructure in India improved between 2001 and 2011, more than half of the country's households still lacked toilet facilities. Similarly, Devkota (2011) asserted that poor behavioural attitudes, particularly negligence towards proper sanitation practices, were significant barriers to eradicating open defecation.

These findings imply that such challenges may undermine AEPB's efforts to combat open defecation and pose difficulties for other sanitation and public health organisations. They further highlight the complexities of behaviour change communication, especially in societies where traditional practices remain deeply entrenched.

5. Conclusion

The data analysis shows that despite AEPB's deployment of various communication strategies—such as town hall meetings, community engagement, religious and traditional institution involvement, billboards, posters, and banners—these efforts have not yielded the desired impact. This is primarily due to persistent challenges, including cultural resistance to change, the high cost of constructing toilet facilities, public attitudes towards sanitation, and inadequate monitoring and evaluation by AEPB.

Addressing these issues requires a more strategic, community-driven approach to sanitation communication. Open defecation will likely persist without proactive intervention, posing significant public health risks and environmental hazards.

Recommendations

In light of the study's findings, the following recommendations are proposed:

- **Enhancing Public Awareness:** The Public Enlightenment and Sanitation Agency (PEPSA) should intensify public awareness campaigns on proper hygiene and the dangers of open defecation. This can be achieved by using more diverse communication strategies, ensuring the widespread dissemination of sanitation messages.
- **Engagement of Health Communicators:** PEPSA should recruit and train more volunteer health communicators in collaboration with the Nigerian government and relevant non-governmental organisations (NGOs). These individuals can engage directly with communities, educating them on the health risks of open defecation and advocating for improved sanitation practices.
- **Policy Recommendations:** The Nigerian government should study and adapt successful sanitation policies from other countries. For instance, India's *Swachh Bharat Mission* (Clean India Mission), launched in 2014, successfully achieved Open Defecation Free (ODF) status by 2019 through large-scale toilet construction and behaviour change campaigns. Similar strategies could be implemented in Nigeria, including targeted education and community sensitisation.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest is to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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