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RESEARCH

Assessment of health communication strategies in promoting immunisation uptake among women of a local community in Nigeria

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Brief Background: The importance of effective health communication strategies in the promotion of vaccines and their uptake, especially in disease priority populations, cannot be overemphasised.

Objective: The general goal of this study was to examine how health communication strategies can promote immunisation uptake among women of a local community in Niger State, North Central, Nigeria. The specific objectives were to assess the current health communication strategies used in promoting immunisation in the community, evaluate the effectiveness of the strategies in the promotion of vaccine uptake, and the possible factors (if any) that influence the effectiveness of the health communication strategies towards immunisation.

Material and Method: The study adopted the survey research design and used a structured questionnaire in data gathering. The study's population comprised 400 residents of Lapai, local government area of Niger State particularly women. Taro Yamane sample size calculation formula was used to get the sample size, while descriptive statistics were used as the method of data analysis.

Results: Findings revealed that respondents were frequently exposed to vaccination advertisements via the traditional media of radio and television, as messages encouraging immunisation and vaccine uptake were made culturally relevant to the people.

Conclusions: The study, therefore, concludes on the need to improve more in education while encouraging social support network strategies in engaging younger populations towards taking up immunisation against vaccine-preventable diseases.

Keywords: health communication, immunisation, strategies, assessment, promotion, local community, women, Nigeria

Introduction

Vaccination, undoubtedly, has contributed significantly to the reduction of morbidity and mortality associated with vaccine-preventable diseases, which is considered a veritable public health measure (1). Research has shown that vaccinations can improve the immune system to produce a response to an identified disease and can have indirect effects on other illnesses (2, 3). Vaccines are crucial in protecting people from diseases that are contagious, particularly among susceptible groups comprising women and children (4). However, the response to and uptake of vaccines through immunisation exercises is still at its lowest level in many regions of the world.

Many developed countries of the world have attained high vaccination coverage rates due to their well-developed healthcare systems. Through functional healthcare systems alongside government regulatory mechanisms and public awareness initiatives, a major priority has been placed by these nations on vaccination as a public health intervention measure (5). In the US, for instance, vaccination is considered an essential criterion for school enrolment (6).

However, developing nations, especially those in Africa, face additional difficulties when it comes to vaccination. In spite of the developments in medicine, many African nations' total vaccination rates have continued to fall short of the global goal set by the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF). These challenges are attributable to a number of variables, such as political instability, cultural views, low health literacy, geographic hurdles, and restricted access to healthcare facilities (7). Although some African nations have improved vaccination rates significantly by partnering with governments and international organisations. For instance, Ethiopia recorded giant strides by expanding the reach of immunisation programs to remote and underserved communities while combining immunisation services with other healthcare initiatives (8). In a comparative analysis, South Africa's healthcare system is considered advanced, seeing that the country has made significant progress in supplying its citizens with necessary immunisations. It is noteworthy that the attainment of optimal immunisation coverage is still hampered by problems such as vaccination hesitancy, logistical difficulties, and unequal access to healthcare (9).

No doubt, Nigeria, as Africa's most populous nation, has had both achievements and drawbacks with its vaccination initiatives. Despite efforts to increase vaccination rates, there are still disparities between urban and rural communities. Coordination of vaccination campaigns and the application of strategic tactics to overcome vaccination hurdles have been greatly supported by agencies such as the National Primary Health Care Development Agency (NPHCDA) (10). Africa has experienced massive improvement in vaccine uptake following its partnerships with organisations such as the African Vaccine-Preventable Diseases Network (AVPN) and Global Alliance for Vaccines and Immunisation (GAVI). Oliveira et al. (11) observed that the partnerships have tremendously strengthened healthcare systems, and have facilitated widespread vaccination on the continent through financial aid, technical support, and vaccine procurement.

In Nigeria, poor response to vaccination can be attributed to limited access to medical services (7), as well as lack of knowledge about vaccination, cultural norms and beliefs, and practical difficulties (12). When taken as a whole, these factors increase the danger of vaccine-preventable diseases for mothers and children, underscoring the need for immediate attention. Therefore, this study aims to assess the existing health communication strategies in promoting immunisation uptake among women, evaluate the effectiveness of the strategies in promoting immunisation uptake and identify factors (if any) that influence the effectiveness of health communication strategies in promoting immunisation uptake in Lapai a local community in Niger State, North central, Nigeria.

Methodology

Survey research design was employed to gather data from a large and diverse population of women in Lapai, Niger State. A structured questionnaire was used as the primary research instrument. The questionnaire consists of close-ended questions measured through a five-point Likert scale. Likert scale questions are chosen because they allow respondents to express the extent of their agreement or disagreement with specific statements, providing a more nuanced understanding of their perceptions and attitudes (13). The questionnaire was structured to address various aspects of health communication strategies, including respondents' assessment of such strategies, their perception of their effectiveness, and their influence on immunisation decisions. The descriptive statistics method was used to calculate how many respondents chose each point on the scale and what percentage it represents. Ethical permission was obtained for the study from the Institutional Research Board (IRB) of the University. Also, to ensure inclusiveness, the simple random sampling technique was adopted in the selection of wards in the community, while the quota sampling technique was used in the distribution of the research instrument to the study respondents since the population of the subsets is unknown. The study's duration spanned the first quarter of 2025.

According to the Federal Republic of Nigeria's official gazette, the projected population of women in Lapai local government in 2009 is 57,047 women. Because it is too distant in the past, the researcher linked himself with (14) and conducted a 13-year projection with an annual growth rate of 3.2%.

$$P_p = G_p \times P_i \times T$$

Here's how each component of the formula works:

- $\boldsymbol{P_p}$ (Projected population): This is the estimated population at a future date.
- $\boldsymbol{G_p}$ (Given population): This refers to the current or most recent population figure, typically from the last census or a reliable estimate.
- $\boldsymbol{P_i}$ (Population increase index): This is a multiplier representing the rate of population increase. It could

be based on historical growth rates, such as annual percentage increases, or other demographic trends.

- ***T*** (Time factor): This represents the number of time periods (often years) over which the projection is made.

Thus, G_p = 57,047

P_i = 3.2%

T = 2025–2009 = 16

P_p = 57,047 × 3.2 × 16 = 2,920,806. Going by this projection, the population of women in Lapai local government of Niger State has increased by 2,920,806. When added to the given population, it will be 2,920,806 + 57,047 = 2,977,853. Therefore, the population for this study is = 2,977,853. The sample size for the study was determined using the Taro Yamane sample formula, which is suitable for large populations. This formula is expressed as:

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

$$\frac{2,977,853}{1 + 294,362\ (0.05)^2}$$

$$\frac{2,977,853}{1 + 294,362\ (0.0025000000000000005)}$$

$$\frac{2,977,853}{1 + 735.905}$$

$$\frac{2,977,853}{736.905}$$

$$n = 399.4571891899$$

$$n = 400$$

N = Population of study
K = Constant (1)
e = degree of error expected
n = sample size

In this research, a multi-stage sampling technique was used, which is highly advantageous for conducting studies involving large and geographically dispersed populations (15).

Lapai LGA already exists in a cluster known as electoral wards. There are ten electoral wards in Lapai LGA: Arewa/yamma, Birnin maza/tashibo, Ebbo/gbacinku, Evuti/kpada, Gulu/anguwa vatsa, Gupa/abugi, Gurdi/zago, Kudu/gabas, Muye/egba and Takuti/shaku.

Phase 1

From the 10 clustered wards, simple random sampling was employed to select 4 electoral wards: Arewa/yamma, Evuti/kpada, Gulu/anguwa vatsa, and Gupa/abugi.

Phase 2

Finally, a quota sampling technique was applied in the distribution of the questionnaire copies to the women respondents (**Table 1**).

Results

The data in **Table 2** shows that traditional communication channels, community-based approaches, engagements with religious leaders, and involvement of community health workers are highly regarded in the context of immunisation promotion in Lapai, Niger State. On the other hand, there is a more cautious stance towards the effectiveness of social media and text message reminders, as they were below the acceptable mean score for a positive attitude or response regarding current health communication strategies used to promote immunisation in the Lapai community.

The responses from the survey on effective strategies for promoting immunisation uptake in Lapai, Niger State, in **Table 3**, reveal distinct patterns of support and perception among the respondents. Public awareness campaigns employing community and opinion leaders, community health talks and workshops, and community health workers set up units to administer immunisation were accepted and highly endorsed, which indicates that local influencers and community figures in awareness campaigns are highly effective in promoting immunisation and direct engagement with educational activities within local communities positively influences health behaviours. Particularly, those involving community and opinion leaders, community health talks, workshops and community health workers are highly regarded in promoting immunisation uptake in Lapai, Niger State. While house-to-house is moderately effective, which means that while there is recognition of the effectiveness of door-to-door, it may

TABLE 1 | Distribution of questionnaires.

Sub-set	Number of questionnaires
Arewa/yamma	100
Evuti/kpada	100
Gulu/anguwa vatsa	100
Kudu/gabas	100

Source: Field Survey (2025).

TABLE 2 | Responses on current health communication strategies used to promote immunisation in Lapai Niger State.

S/N	Responses	SA	A	UD	SD	D	Mean	SD	Decision
1.	Public awareness campaigns through radio and television are effective in promoting immunisation.	31 8%	282 70%	41 10%	27 7%	19 5%	3.89	0.84	High
2.	Community health talks and workshops contribute to increased immunisation uptake.	210 52.5%	127 32%	50 12.5%	9 2%	4 1%	3.86	0.74	High
3.	The use of social media platforms (e.g., Facebook, Twitter) is an effective strategy for promoting immunisation.	17 4%	114 28%	39 10%	199 50%	31 8%	2.77	0.91	Low
4.	Text message reminders for immunisation appointments help improve vaccine uptake.	8 2%	97 24.25%	61 15.25%	190 47%	44 11%	2.76	0.88	Low
5.	Engagement of religious leaders in vaccination promotion is beneficial.	48 12%	210 52%	61 15%	31 8%	50 12%	3.63	0.91	High
6.	Involvement of community health workers plays a crucial role in immunisation promotion.	169 42%	174 43%	40 10%	6 1%	11 4%	3.54	0.81	High

Source: Field Survey (2025).

Total N = 400, SA = Strongly Agree, A = Agree, UN = Undecided, SD = Strongly Disagree (is an option in a four- or five-point Likert scale), D = Disagree. Mean: This is the average score of all responses to a particular item or question. It provides a measure of central tendency, indicating the overall attitude or opinion of the group. Standard Deviation: This statistic measures the spread or variability of the responses around the mean. A low standard deviation means that most responses are close to the mean (high agreement among respondents), while a high standard deviation indicates that responses are more spread out (greater diversity of opinion). Mean scores are therefore grouped: 1.0–2.4 (negative attitude), 2.5–3.4 (neutral attitude), 3.5–5.0 (positive attitude) for a five-point Likert scale. A decision point, or a cut-off, in a Likert scale enables researchers to interpret the responses in a way that supports clear conclusions or actions. This is especially important when the goal is to move beyond simply describing attitudes or opinions and to make decisions or classifications based on the data collected.

TABLE 3 | Responses on effective strategies in promoting immunisation uptake in Lapai, Niger State.

S/N	Responses	SA	A	UD	SD	D	Mean	SD	Decision
7.	Public awareness campaigns through the use of community and opinion leaders.	99 25%	186 46%	58 15%	37 9%	20 5%	3.40	0.88	High support
8.	Community health talks and workshops contribute to increased immunisation uptake.	29 7%	334 84%	24 6%	10 3%	3 0.75	3.89	0.78	High support
9.	House-to-house movement is an effective strategy for promoting immunisation.	251 62%	104 26%	4 1%	30 8%	11 3%	3.11	0.94	Moderate support
10.	Text message reminders for immunisation appointments help improve vaccine uptake.	13 3%	111 27%	90 23%	156 39%	30 8	2.38	0.94	Low support
11.	Engagement of religious leaders in vaccination promotion is beneficial.	22 6%	151 38%	69 17%	133 33%	25 6%	2.67	0.89	Low support
12.	Community health workers set up units to administer the immunisation, which plays a crucial role in immunisation promotion.	176 44%	164 41%	48 12%	4 1%	8 2%	3.38	0.79	High support

Source: Field Survey (2025).

Total N = 400, SA = Strongly Agree, A = Agree, UN = Undecided, SD = Strongly Disagree, D = Disagree. Mean: This is the average score of all responses to a particular item or question. It provides a measure of central tendency, indicating the overall attitude or opinion of the group. Standard Deviation: This statistic measures the spread or variability of the responses around the mean. A low standard deviation means that most responses are close to the mean (high agreement among respondents), while a high standard deviation indicates that responses are more spread out (greater diversity of opinion). Mean scores are therefore grouped: 1.0–2.4 (negative attitude), 2.5–3.4 (neutral attitude) and 3.5–5.0 (positive attitude) for a five-point Likert scale. A decision point, or a cut-off, in a Likert scale enables researchers to interpret the responses in a way that supports clear conclusions or actions. This is especially important when the goal is to move beyond simply describing attitudes or opinions and to make decisions or classifications based on the data collected.

not be universally accepted. On the other hand, text message reminders and the engagement of religious leaders were rejected, indicating a more cautious or limited confidence in the effectiveness of these strategies among the respondents.

The survey data on factors influencing the effectiveness of health communication strategies in promoting immunisation uptake in Lapai, Niger State, in **Table 4**, reveals distinctive patterns in respondents' perceptions. Access to healthcare facilities, socio-economic status and cultural beliefs and practices are perceived as moderately accepted, which indicates that the availability and proximity of healthcare facilities play a role, and respondents recognise the impact of socio-economic

TABLE 4 | Responses on factors that influence the effectiveness of health communication strategies in promoting immunisation uptake.

S/N	Responses	SA	A	UD	SD	D	Mean	SD	Decision
13.	Access to healthcare facilities influences the effectiveness of health communication strategies for immunisation.	35 10%	339 85%	20 5%	3 0%	3 0%	3.61	0.64	Moderate support
14.	Socioeconomic status affects the effectiveness of health communication strategies for immunisation.	48 12%	264 66%	78 20%	7 1.75%	3 0.25%	3.54	0.69	Moderate support
15.	Education level plays a role in the effectiveness of health communication strategies for immunisation.	224 56%	127 32%	40 10%	5 1%	4 1%	3.73	0.63	Strong support
16.	Cultural beliefs and practices influence the effectiveness of health communication strategies for immunisation.	153 38%	195 49%	37 10%	7 1%	8 2%	3.18	0.71	Moderate support
17.	Trust in healthcare providers and information sources impacts the effectiveness of health communication strategies for immunisation.	37 9%	176 44%	163 41%	16 4%	8 2%	2.65	0.94	Low support
18.	Gender dynamics play a role in the effectiveness of health communication strategies for immunisation.	24 6%	149 37%	205 51%	14 4%	8 2%	2.50	0.95	Low support
19.	Social support networks influence the effectiveness of health communication strategies for immunisation.	198 50%	109 27%	31 8%	10 2%	52 13%	3.79	0.51	Strong support

Source: Field Survey (2025).

Total N = 400, SA = Strongly Agree, A = Agree, UN = Undecided SD = Strongly Disagree, D = Disagree. Mean: This is the average score of all responses to a particular item or question. It provides a measure of central tendency, indicating the overall attitude or opinion of the group. Standard Deviation: This statistic measures the spread or variability of the responses around the mean. A low standard deviation means that most responses are close to the mean (high agreement among respondents), while a high standard deviation indicates that responses are more spread out (greater diversity of opinion). Mean scores are therefore grouped: 1.0–2.4 (negative attitude), 2.5–3.4 (neutral attitude) and 3.5–5.0 (positive attitude) for a five-point Likert scale. Decision point or a cut-off in a Likert scale enables researchers to interpret the responses in a way that supports clear conclusions or actions. This is especially important when the goal is to move beyond simply describing attitudes or opinions and to make decisions or classifications based on the data collected.

factors on the health communication strategies, with cultural factors shaping the effectiveness of health communication for immunisation, though not overwhelmingly strong in influencing immunisation strategies. In contrast, educational level and social support network emerge as highly accepted, which suggests a robust agreement among respondents regarding the significant role education and social support network play in shaping the effectiveness of health communication strategies for immunisation. On the other hand, trust in healthcare providers and information sources and gender dynamics is rejected due to the fact that, even though trust is recognised as a factor, it is not a predominant consideration in the effectiveness of health communication strategies for immunisation, and gender-related considerations may not significantly impact the effectiveness of health communication strategies for immunisation.

Discussions

The first objective was to evaluate the health communication tactics currently employed in Lapai, Niger State, to encourage vaccination. Findings reveal that mainstream media outlets like television and radio are the major source of information about vaccinations, as admitted by 65% of the study's participants who agreed to being exposed to vaccination advertisements through these traditional channels of communication. These media have the capacity of reaching a wide range of persons, especially those within the priority population, with messages that promote vaccine uptake and enhance positive behavioural change. Health intervention messages are domesticated most of the time in the people's local dialect in these outlets, making them excellent conveyors of vaccine-preventable diseases and the potency of immunisation in its mitigation. This finding is consistent with the submissions of Adeyemi and Adebayo (16), where traditional media's strategic role in spreading health information in a digital era is still relevant. The implication of this finding is that traditional media of communication make health information on immunisation or vaccine uptake relatable, understandable, and trustworthy as messages are delivered to the people or target audience by familiar voices or respected community figures in such a way that it could lead to positive behaviour change. However, there are unanswered questions bordering on the limited empirical evidence of the direct impact of traditional media campaigns on long-term health outcomes in local communities as well as concerns about addressing health

disparities based on how health information is framed in traditional media.

Also, findings reveal that interpersonal communication strategies involving community health workers, opinion leaders, and workshops aided immunisation and vaccine acceptance among respondents in the study area. This resonates with the ideals of the strategic development era of health communication, where diverse channels of communication, especially the ones that can ensure two-way feedback, are deployed to ascertain positive health outcomes. It is believed that the adoption of these multi-pronged communication tactics would help lower obstacles to vaccine adoption by addressing widespread misconceptions and anxieties about vaccination. This finding aligns with the submission of Afolabi and Bello (17), who established a viable link between higher immunisation rates due to efficient health communication aimed at lowering the perceived barriers and raising perceived susceptibility, as described in the Health Belief Model. The implication of this finding is that interpersonal communication fosters trust between health workers and the community members, as caregivers often cite health workers as their most trusted source of immunisation information, making effective interpersonal communication skills crucial for addressing concerns and motivating vaccine uptake.

Furthermore, findings show that educational attainment and social networking are strong strategies that promote immunisation in the community. Health information circulated through social networks of people within their communities tends to produce better results. As messages are customised and delivered within a social circle of influence through an educated and reliable source, the possibility of taking the desired measures to get vaccinated becomes higher. However, the message must be relevant to the people's culture to be effective. Aliyu and Ibrahim (18) and Kamau and Ahmed (19) note that health behaviours are greatly influenced by trust in the sources of information as well as culturally relevant messages that are more likely to encourage people to take action. This finding implies that education combats misinformation and boosts vaccine knowledge and uptake through programs that provide targeted education through face-to-face sessions. Also, community-based social networking enhances outreach by leveraging local leaders and peer groups. However, there abounds the challenge of social network mapping and mobilisation for maximum vaccine promotion efforts in local communities.

Conclusion

Digital media can play a crucial role by availing newer opportunities for increasing reach and improving engagement, which is imperative to innovate and incorporate more modern communication techniques while preserving the cultural core of traditional approaches; and community involvement, especially of women, is crucial to the success of health communication strategies. Thus, this study offers important new information about health communication and establishes a course for future initiatives to increase vaccination rates among women in Lapai, Niger State.

Declarations

The author declares that there is no conflict of interest. Also, the paper is not under any organisational funding, and all sources cited in the work are duly acknowledged.

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