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**LANGUAGE AS A CATALYST FOR PUBLIC HEALTH AWARENESS IN RURAL
KATSINA STATE, NIGERIA: A MULTIMODAL ANALYSIS**

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Abstract

Improving knowledge, attitudes, and behaviours related to sickness prevention and health promotion, particularly in rural multilingual settings, necessitates effective public health communications. This study looks at how multimodal components in public health posters increase health awareness in rural Katsina State, Nigeria. The study used a qualitative research approach and multimodal discourse analysis to investigate 10 selected health posters developed by national and international health organisations, led by multimodal theory and social semiotic perspectives. The analysis focuses on how verbal, visual, spatial, colour, and symbolic variables combine to deliver health messages. The findings indicate that the use of many communication modalities, rather than only language, is a significant element in the success of public health posters. Posters written in *Hausa*, the dominant language in rural Katsina, are easier for viewers to access and understand than those written entirely in English. Visual components such as drawings, pictograms, and demonstrations of preventive methods can also help low-literacy audiences understand complex health information. Furthermore, culturally appropriate imagery, clear layout patterns, and dependable institutional symbols improve message uptake and community trust. Overall, the study concludes that effective public health communication in rural areas requires multimodal designs that are linguistically accessible, visually clear, and culturally suitable in order to increase knowledge and promote healthy behaviours.

Keywords: Public health communication, Multimodal discourse analysis, Health posters, Rural communities, Health awareness, Multimodal elements, Sociolinguistics.

1. Introduction

Public health communication is critical for promoting disease prevention, health awareness, and healthy behaviours. Effective communication in multilingual and culturally diverse groups is dependent not just on language, but also on how visual and verbal components interact, such as images, colours, symbols, typography, and spatial organisation. These multimodal resources work together to contextualise health messages and alter how target audiences perceive them. Nigerian government agencies and foreign organisations commonly use health posters and billboards to disseminate information about immunisations, maternal and child health, malaria prevention, HIV/AIDS awareness, and other public health concerns.

Both linguistic and visual design factors influence the efficacy of health communication in Katsina State, particularly in rural areas where *Hausa*, *Fulfulde*, and other regional languages coexist alongside English. The National Primary Health Care Development Agency (NPHCDA), the United Nations Children's Fund (UNICEF), the Katsina State Agency for the Control of AIDS (KATSACA), and the World Health Organization (WHO) have all created health posters to raise public awareness and promote healthy behaviours. These goods usually include written messages as well as visual representations of families, medical experts, immunisations, and preventive measures. Despite these measures, rural populations continue to face difficulties such as low vaccination rates, high maternal and infant mortality rates, and recurring outbreaks of preventable diseases. This scenario calls into doubt the usefulness of multimodal approaches employed in health communication products.

One potential issue is that poster design might not reflect the sociocultural reality of rural areas. Low-literacy audiences may struggle to understand the long language content featured on many health posters. In a similar vein, many visual portrayals of family structures, metropolitan life, or Western medical environments may not fully reflect local perspectives. Colour symbolism,

fashion trends, images of medical facilities, and the positioning of textual and visual information can all have a big impact on how people perceive and understand messages. Visual cues usually carry the same communicative weight as written language in nations with strong oral communication traditions.

Furthermore, sociocultural factors such as gender roles, traditional beliefs, and community authority systems can also influence how health messages are perceived. Visual representations that overlook the influence of household decision-makers, community leaders, or elders may reduce the persuasiveness of health programs. As a result, the interaction of verbal, visual, spatial, and symbolic components can enhance or degrade public health communication.

Despite extensive study on public health campaigns in Nigeria, the multimodal aspects of health posters in rural settings, particularly in Katsina State, have gotten little attention. Studies that are presently accessible usually focus on health outcomes and policy implementation rather than how verbal and visual resources interact to build meaning. To enhance public health awareness in rural communities, this study employs multimodal theory and social semiotics to examine the relationships between language, imagery, layout, colour, and symbolism in health posters. The aim of this study is to look at how multimodal components of health posters might be used to raise public health awareness in Katsina State's rural communities. Its specific objective is to identify the linguistic, educational, and sociocultural factors that influence rural populations' comprehension and acceptance of health messages provided using a combination of visual and verbal modes. This promotes language, communication, and public health scholarship while also providing useful recommendations for developing culturally acceptable and effective health communication tools for rural areas.

2. Literature Review

Public health communication in multilingual Katsina State requires not just accurate information, but also visually and culturally suitable design. Although previous research has focused on language barriers, mobilisation strategies, and health outcomes, the multimodal composition of health posters has received less attention. The current study's social semiotic analysis of rural poster design addresses this gap by synthesising six relevant studies.

Nuhu, Mustapha, and Imam (2026), investigated the effect of community-based social mobilisation on polio vaccination awareness, acceptance, and use in the Batagarawa Local Government Area of Katsina State. According to the study, local media, volunteer mobilisers, and religious and traditional leaders all contributed significantly to vaccine acceptance and adoption. The study did not examine the visual and semiotic features of the health promotion materials used, despite demonstrating how effective community influencers are at encouraging healthy habits. To address this gap, the current study investigates how language, imagery, colour, and layout influence the efficacy of public health posters in rural Katsina State.

Similarly, Ajayi and Kilani (2024), explored how language and culture influenced the *Jukun* people of Nigeria's capacity to communicate with medical experts. The study found that linguistic and cultural differences have a significant impact on people's understanding of health information and their connections with medical specialists. Although the study underlined the need of culturally competent communication in healthcare settings, it did not consider the use of visual health communication resources and instead focused mostly on in-person clinical interactions. Thus, by investigating how multimodal components of public health posters affect rural people's understanding of health messages in Katsina State, the current study builds on prior research.

Furthermore, Oyo-lta et al. (2021), found that involving traditional and religious leaders in immunisation initiatives boosted community acceptance and vaccine coverage in Nigeria. The study indicated how acknowledged community leaders may effectively promote healthy

lifestyle choices. It did not, however, investigate how the visual depiction of these leaders in health posters influences audience acceptance and message credibility. The current study addresses this gap by conducting a multimodal analysis of public health posters.

Also, Babalola and Fatusi (2009), found that women's education, household wealth, community socioeconomic status, place of residence, and access to healthcare facilities all had a significant impact on their use of maternal health services. The study focused on how structural and societal restrictions influence women's healthcare-seeking behaviour, particularly in rural and disadvantaged communities. However, it did not investigate how language and visual features influenced health communication tools. To address this gap, the current study investigates how multimodal features of public health posters affect rural inhabitants' health consciousness and behaviour.

Moreover, Houts et al. (2006), found that visual components such as drawings, symbols, and pictures significantly improve understanding and memory of health information, particularly among low-literacy populations. Nonetheless, the study did not take a multimodal analytical approach or examine health posters in a specific cultural context. The current study addresses this gap by looking at the multimodal aspects of public health posters in rural Katsina State, as well as their relationship to regional cultural values and interpretations.

Finally, visual displays and relevant textual announcements are critical to effective health communication, according to Saidu and Rajandran's (2024), research of 100 public health posters from Katsina State. The study demonstrated how words and imagery combine to produce meaning in health messages. The current study seeks to address this gap by investigating audience interpretation and the social utility of visual resources in rural locations.

3. Methodology

This study employed a qualitative research technique to better understand how public health posters function as multimodal devices for boosting public health awareness in rural Katsina State, Nigeria. Ten carefully selected public health posters from communities representing Hausa-speaking, Fulfulde-speaking, and linguistically mixed people were utilised to collect data. The posters were photographed to preserve their linguistic, visual, and geographic qualities for future research. The data was analysed using Multimodal Discourse Analysis (MDA), which combined sociolinguistic analysis with Kress and van Leeuwen's (2006) and Jewitt's (2009) social semiotic frameworks to examine patterns of language variation and choice. This combined analytical strategy enabled researchers to investigate how linguistic, visual, spatial, and symbolic resources interact to influence public health message delivery and interpretation in rural sociolinguistic contexts.

4. Theoretical Framework

Within the context of social semiotics, this study is founded on Multimodal Theory, which holds that meaning is created through the interaction of multiple semiotic resources rather than just language. Multimodal communication blends linguistic, visual, spatial, and symbolic components to convey meaning in certain social contexts. According to Gunther Kress and Theo van Leeuwen (2006), modern texts impact interpretation through a number of modes such as language, layout, colour, and images. This paradigm allows us to examine health posters in rural Katsina State as integrated communication products rather than just printed messages.

5. Data Presentation and Analysis

This section presents and examines the selected public health posters used in Katsina State's rural areas. The discussion focuses on the use of multimodal components to communicate health information, such as language, graphics, colour, and layout. Using Multimodal Discourse Analysis

ideas, this section studies how these components interact to influence the meaning and efficacy of public health communication.

Poster 1



The multimodal analysis of Poster 1 demonstrates the successful integration of visual, linguistic, spatial, colour, and symbolic resources in communicating malaria vaccination procedures. Culturally appropriate images increase audience identification and engagement, and visual components such as hand washing, vaccination preparation, administration, and storage promote comprehension, particularly among low-literacy audiences. The information is presented rationally due to the hierarchical structure, which is supported by numbered elements and clear visual sequencing, as well as the use of a green colour scheme that promotes health, safety, and trust. The poster is written in standard *Hausa* to promote accessibility and effective communication with the target demographic in rural Katsina State. Because of the clear, instructive language, readers can readily understand intricate vaccination procedures. The usage of institutional logos also helps to increase the poster's authority and reliability. In general,

combining language and multimodal resources increases message clarity, raises health awareness, and encourages community participation in malaria prevention and children's health.

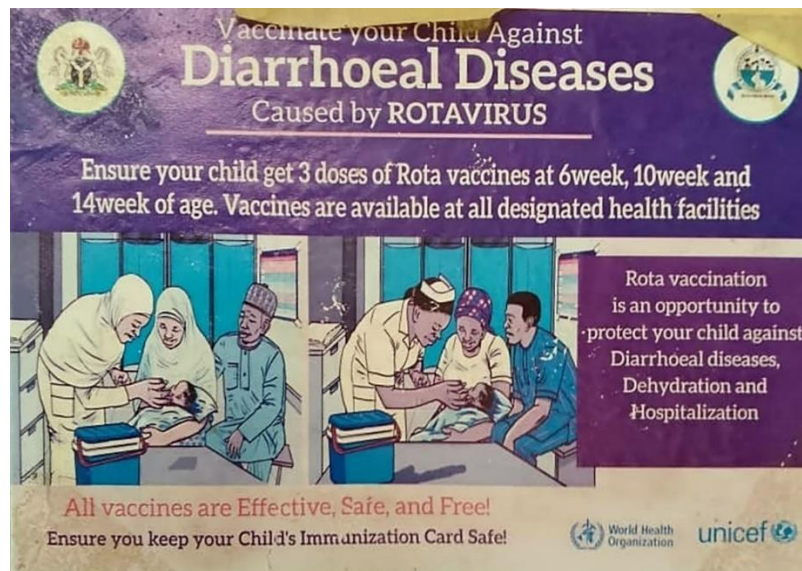
Poster 2



The multimodal study of the second malaria vaccination poster reveals the effective use of visual, verbal, spatial, colour, and symbolic resources in raising awareness and acceptance of malaria immunisation. To grab attention, provide crucial information, and boost confidence in the vaccination program, the poster employs culturally relevant pictures, a careful colour palette, and an ordered layout. Visual components such as an image of a healthy child, the crossed-out mosquito sign, and institutional logos help to provide meaning by expressing safety, illness prevention, and legitimacy. Linguistically, the poster communicates vaccine accessibility, safety, and eligibility in an intelligible and straightforward manner. However, its effectiveness among rural Hausa-speaking residents of Katsina State, particularly those with low literacy levels, is hampered by the use of only English. A lack of local cultural allusions, *Hausa* translation, and community-based endorsements may reduce audience comprehension and engagement.

As a result, while the poster has strong multimodal design components, further linguistic and cultural adaptation may improve its communicative efficiency in rural contexts.

Poster 3



The multimodal study of Rotavirus Vaccine Poster 3 demonstrates how visual, linguistic, spatial, colour, and symbolic resources can be effectively integrated to encourage childhood vaccination. The poster presents vaccination benefits, schedules, and safety guarantees using culturally relevant images, institutional symbols, a prominent headline, and an orderly arrangement. Visual representations of healthcare experts, parents, and infants normalise immunisation as a regular and appropriate parenting activity. The poster's validity and persuasive appeal are enhanced by the use of colour and globally recognisable health emblems. Although the message is clear, concise, and informative in terms of language, its use of English limits its accessibility to rural Hausa-speaking communities in Katsina State. The lack of *Hausa* translations may make it more difficult for persons with limited formal education to comprehend critical information. As a result, even if the poster has strong multimodal communication features, its effectiveness may be enhanced by include translations into the local language to ensure a wider audience's comprehension and involvement.

Poster 4

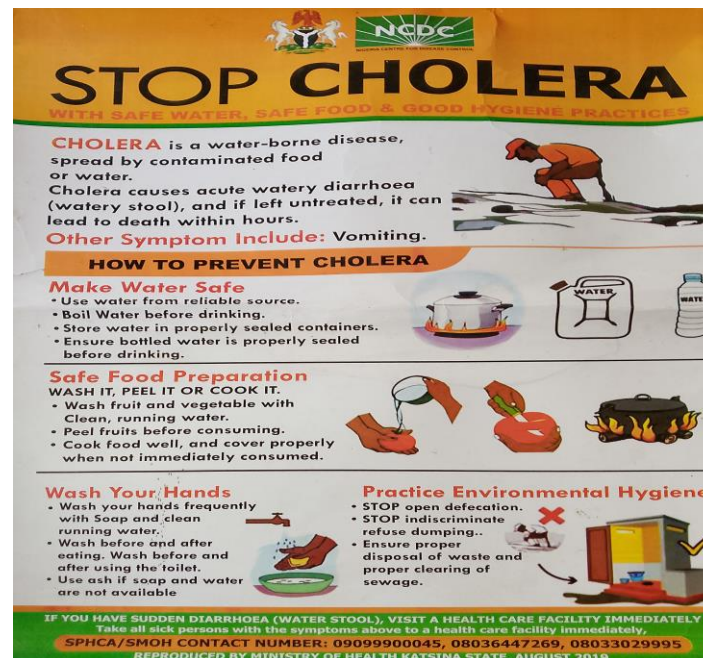
The multimodal analysis of HIV awareness poster 4 demonstrates the effective use of visual, verbal, spatial, colour, and symbolic resources in promoting HIV testing and awareness. Institutional symbols such as the Katsina State Government seal, the KATSACA logo, and the red ribbon insignia contribute to the poster's credibility and authority. Furthermore, the poster's fundamental health message is highlighted and made more visible by the strategic use of colour and typography. Also, photographs of community members participating in a health education program demonstrate community involvement in HIV prevention, trust, and shared responsibility. The spatial arrangement of textual and visual elements creates a coherent message structure that guides audience interpretation. Linguistically, the message is brief and persuasive, but because it is only available in English, rural Hausa-speaking populations, particularly those with low literacy levels, are unable to access it. Furthermore, the poster's potential to battle stigma and inaccurate perceptions about HIV may be hampered by a lack of culturally relevant allusions and local health narratives. As a result, even if the poster contains excellent multimodal communication aspects, Hausa translations and culturally relevant communication approaches may boost its impact.

Poster 5



The successful integration of visual, verbal, spatial, colour, and symbolic resources in raising awareness of maternal healthcare is revealed by the multimodal analysis of Poster 5. The poster's authenticity and relatability are enhanced by the center photographic image of a healthcare expert tending to a pregnant woman, which communicates professionalism, trust, and collaborative care. In terms of language, using standard Hausa improves accessibility and understanding for Katsina State's rural audiences. A cohesive information structure that leads readers through important themes like privacy, dignity, and high-quality healthcare is created by the prominent title, thoughtfully placed callout circles, and clearly divided layout. While institutional logos add to the poster's legitimacy and authority, the blue and maroon colour palette strengthens visibility and thematic focus. Collectively, these multimodal components strengthen the poster's communicative and persuasive power by presenting maternal health as a shared responsibility of community members and healthcare professionals.

Poster 6



The multimodal study of the "STOP CHOLERA" poster 6 demonstrates the successful integration of visual, verbal, spatial, colour, and symbolic resources in communicating cholera prevention measures. To simplify complex health information and stimulate audience engagement, the poster employs a hierarchical structure, bright pictograms, and strategically organised sections. Visual aids for environmental cleanliness, correct food preparation, water purification, and handwashing promote comprehension, particularly among individuals with limited literacy. While institutional logos contribute to the poster's validity and authority, the use of orange, green, and red emphasises urgency, safety, and attention. In terms of language, the message is concise, instructive, and action-oriented, with key terms highlighted to grab attention and facilitate comprehension. However, the poster's restricted accessibility to rural Hausa-speaking residents of Katsina State due to its sole use of English may reduce its communicative efficiency. Adding Hausa translations would thereby improve audience comprehension and the efficiency of cholera prevention messaging in remote communities, despite the poster's strong multimodal design aspects.

Poster 7



The multimodal analysis of Poster 7 demonstrates how visual, verbal, spatial, colour, and symbolic resources are successfully integrated to promote the use of the HelpMum Vaccination Tracker for child vaccination management. The prominent image of a woman using the application establishes the target audience while also symbolising the connection between digital technology and moms' caregiving tasks. The poster's spatial organization, which combines visual material and comprehensive instructions, allows for easy navigation and comprehension. While QR codes and app store symbols provide instant access to the digital platform, the intentional usage of teal, white, and dark blue boosts readability, trust, and professionalism. Because it incorporates both Hausa and English, the poster is more inclusive and accessible to a broader audience. The multilingual presentation will help both literate English speakers and Hausa-speaking community members grasp critical information about immunisation schedule, reminders, and record-keeping. Overall, the poster's communicative effectiveness is enhanced by the mix of visual and linguistic elements, which also raise health awareness and encourage the use of digital health technologies to improve child vaccination practices.

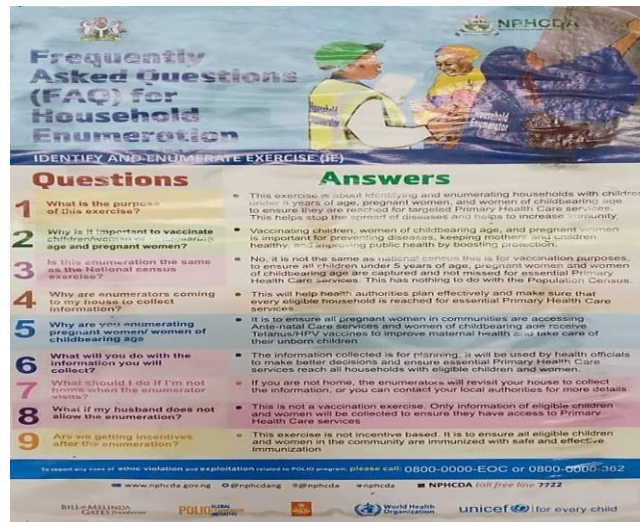
Poster 8



According to a multimodal analysis, the AFP (Polio) awareness poster successfully communicates the symptoms of acute flaccid paralysis in children by combining visual, linguistic, spatial, colour, and symbolic resources. Using a genuine photo of a child with the condition adds authenticity, builds emotional connection, and emphasises the importance of the health message. The poster's spatial layout follows a clear hierarchical structure that leads readers from the headline to the descriptions of symptoms and reporting guidelines. Purple, dark blue, and yellow are examples of strategically chosen colours that increase visibility, authority, and urgency. Additionally, institutional symbols enhance the poster's legitimacy and credibility. Linguistically, employing solely standard *Hausa* increases accessibility and comprehension for Katsina State's rural consumers. The language's simplicity, directness, and absence of complicated medical vocabulary enable effective communication of key symptoms and reporting procedures. In general, combining multimodal and linguistic resources improves the

effectiveness of polio prevention and control efforts, boosts community awareness, and encourages active participation in disease surveillance.

Poster 9



Poster 9's multimodal analysis demonstrates the successful integration of visual, linguistic, spatial, colour, and symbolic resources in encouraging home enumeration for mother and child immunisation programs. The main image of a community health worker interacting with mothers and children not only humanises the enumeration process, but also shows the healthcare system as approachable, helpful, and community-focused. The spatial organization of the poster, which includes a clear headline, an illustrative image, organised Q&A sections, and contact information, aids in logical information flow and audience interaction. The poster's authoritative tone is strengthened, readability is improved, and visual complexity is reduced by the intentional use of colour, particularly in the light-blue header and pastel-colored question boxes. In terms of vocabulary, the poster employs plain, uncomplicated language presented in a question-and-answer style, making the material accessible to a large audience. Incorporating institutional logos strengthens public confidence and legitimacy even more. Overall, the combination of language and multimodal components effectively communicates the aim of

home enumeration, encourages community participation, and increases trust in public health activities.

Poster 10



The above poster 10's multimodal analysis demonstrates the successful integration of visual, linguistic, spatial, colour, and symbolic resources in transmitting diarrhoeal sickness prevention techniques. The poster provides health information in a comprehensible and accessible manner by employing simple imagery, intelligent colour combinations, and a well-organised layout. Visual depictions of hygiene procedures such as handwashing, water treatment, food cleaning, and basic sanitation help audiences with limited literacy abilities understand preventive messaging. The logical arrangement of text and graphics guides readers spatially through the process of identifying the causes of diarrhoeal diseases and learning the correct preventive measures. Also, in rural Katsina State, using solely mainstream *Hausa* significantly improves audience engagement and accessibility. The use of bullet points enhances readability and clarity, and the language is simple, direct, and free of technical jargon. The poster's dependability and persuasive appeal are bolstered by institutional branding and prominent health messaging. Overall, the combination of multimodal and linguistic components effectively

improves health awareness, stimulates preventive health behaviours, and portrays diarrhoea prevention as a collaborative social responsibility.

6. Discussion of Findings

The multimodal analysis of ten selected public health posters used in Katsina State's rural communities yielded several significant findings about the linguistic, educational, and sociocultural factors that influence how rural populations understand and accept health messages conveyed in a combination of visual and verbal modes.

1. The effect of linguistic accessibility on message comprehension

According to the findings, language is critical to the success of public health communications. Because of their use of well-known language and clear grammatical patterns, Hausa posters were often easier for rural audiences in Katsina State to access and understand, even those with limited formal education. Posters in English, on the other hand, were less effective in disseminating health information since many rural residents, particularly women and the elderly, may have difficulty understanding them due to language barriers. This study highlights the need of include regional languages in public health communication materials to promote audience comprehension, participation, and knowledge of health-related programs.

2. Visual Components Help Low-Literacy Audiences Understand

The study also found that visual components are critical for increasing the effectiveness of public health communication, particularly for audiences with low literacy skills. Pictures, pictograms, and visual illustrations of health routines such as meal preparation, vaccination, handwashing, and environmental hygiene help to simplify complex health information. These graphic aids help people understand and apply health messaging by transforming abstract medical concepts into actionable steps. This finding is consistent with multimodal communication theory, which states

that when textual literacy is low, visual aids can significantly improve message comprehension and that meaning is formed through the interaction of many semiotic modes.

3. Educational simplicity increases the effectiveness of the message.

Furthermore, the study revealed that posters with fewer instructional formats and a clear structural arrangement are more effective at communicating public health information. Bold headlines, numbered steps, bullet points, and well-defined sections help to present information rationally and guide readers through health messages methodically. These posters boost audience comprehension and reduce cognitive overload by dividing information into digestible visual bits. The findings show that a logical information hierarchy, instructional simplicity, and a clear layout design improve rural audiences' understanding and retention of public health messages.

4. Sociocultural Representation Enhances Message Acceptance

According to the findings, cultural relevance has a significant impact on how public health messages are perceived. Posters featuring traditional dress, familiar family situations, local cultural symbols, and community interactions are more likely to engage rural audiences because they connect health information to everyday experiences. These portrayals encourage healthy habits, reduce stigma and fear, and normalise medical procedures. Also, the usage of insignia from reputable governmental and health agencies also contributes to the validity and dependability of the messaging. However, the findings suggest that many posters fail to incorporate influential local cultural figures, such as religious and community leaders, whose inclusion could boost audience acceptance, confidence, and involvement in public health campaigns.

5. Symbolism and Colour Encourage cognitive and emotional involvement.

Another important discovery is the intentional use of colour and symbols to assist meaning and emotional connection. Colours such as orange (alertness), blue (trust and authority), red (danger

or urgency), and green (health and safety) are widely used in posters to focus attention and underline key messages. Furthermore, symbols such as the crossed-out bug for malaria prevention, the red ribbon for HIV awareness, and vaccine images serve as visual shortcuts, allowing viewers to quickly understand the intended message. These multimodal aspects improve the posters' overall communicative effect and message retention.

6. Integration of several modes improves communication in public health.

Finally, the study found that posters that effectively incorporate visual, linguistic, spatial, colour, and symbolic elements are the most successful. When these modes work together effectively, communications become more understandable, culturally relevant, and emotionally captivating. Clear language, culturally suitable imagery, structured layouts, and symbolic hints make posters more effective at educating rural audiences and promoting healthy behaviours. However, the efficacy of the overall communication effort may be reduced if one component, particularly language, is not properly suited to the local circumstances.

7. Conclusion

This study looked at how multimodal components of public health posters affected health awareness in rural Katsina State populations. The findings show that the way language, imagery, layout, colour, and symbolic elements interact influences how effective these posters are. Rural audiences, particularly those with little literacy, found it simpler to read posters written in Hausa and supported by simple layouts and clear visuals. The study also found that culturally relevant images, credible institutional symbols, and effective visual demonstrations improve the acceptability and credibility of health information. To improve comprehension and encourage healthy behaviours, effective public health communication in rural areas must have multimodal elements that are linguistically accessible, visually clear, and culturally relevant.

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