

ASSESSING WHATSAPP COMMUNITY GROUPS AS INFORMAL HEALTH COMMUNICATION CHANNELS FOR PRIMARY HEALTHCARE COMMUNICATION IN OSUN AND KWARA STATES, NIGERIA

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Abstract

This is a descriptive-analytical narrative review exploring the use of WhatsApp community groups to disseminate primary healthcare information and strengthen utilization of primary healthcare services in Osun and Kwara States. It makes a case for using WhatsApp-based health communication to improve community engagement and health information dissemination, while also highlighting the challenges of misinformation, digital literacy, information trustworthiness, and user privacy. Using a narrative review methodology, the authors developed a critical synthesis of literature on WhatsApp in Health communication, primary healthcare service delivery, digital health, and community ICT use, selecting materials relevant to the study objectives. The review emphasizes the neglect of community-based digital forums in primary healthcare communication in Nigeria, data cost, privacy concerns, and makes recommendations on integrated WhatsApp health communication, stakeholder collaboration, digital literacy, ethical use, health-worker training, information validation, localized messaging, and research.

Keywords: Diffusion of Innovations, Digital literacy, health communication, primary healthcare, WhatsApp community groups, health misinformation.

Introduction

Health communication is crucial for enhancing health-enhancing behaviours, disease prevention, and access to healthcare resources. It provides individuals and communities with efficient and useful health knowledge at the proper time

to facilitate them in making smart and timely decisions about health (Lateef et al., 2025). In the past, the ways information was passed included hospitals, community health care, mass media, and open campaigns by governments, which were the avenues used to provide health information. Recently, the proliferation and use of new communication tools and mobile technologies have significantly changed health communication patterns, in which social networks are a significant channel for acquiring information on health information among many groups (Chiweta-Oduah, 2024).

This leads to a new phase in which WhatsApp has become one of the leading social media platforms used in communication by Nigerians due to its low cost of usage, availability, and simplicity in application (Rosenzweig et al., 2026). Aside from one-on-one interaction on this platform, there are WhatsApp group communities, which serve as channels where information on matters about health, education, security, and development is made known by group members. In most places where people come together on common and shared matters, the community WhatsApp group is created on collective interests that include residents, faith-based organizations, traders' groups, youth organizations, etc., and they all provide an avenue for fast sharing of information to all members, which could be a mass group that helps to speed up information dissemination (Makinde, 2024).

Healthcare delivery begins at the primary care level, which is the first point of contact for an individual to receive comprehensive and integrated healthcare, which promotes prevention of disease, protection and promotion of sound health, and basic medical services (Elechi et al., 2025). Successful implementation of primary healthcare depends on the supply of personnel and infrastructure, but is dependent on adequate communication that will motivate an individual to utilize appropriate health services. Abah (2025) contends that health information like immunization programmes, maternal services, health campaigns, and outbreak information circulate to members through WhatsApp groups and affects their behaviour and choices regarding health.

Inobemhe and Modeyin (2025) posit that WhatsApp community groups have numerous positive effects on health communication; nevertheless, some concerns have also been raised regarding the authenticity and validity of the health information disseminated via these channels. The ease with which unverified news, rumors, and disinformation can spread may cause potential patients to hesitate in seeking or utilizing health care services and/or adopting health-promoting measures advised by health workers and public health institutions. On the other hand, dissemination of correct and timely information via reliable community groups can promote public understanding, improve

participation in health programmes, and reinforce delivery of effective primary health care.

WhatsApp community groups are frequent avenues where information, including health messages, regarding their respective communities is shared by residents in Osun and Kwara states. But there is a lack of empirical study which can assess how such non-formal channels of communication impact the health and/or health-seeking and health decisions of primary health care beneficiaries. The study of the impact of WhatsApp community groups on primary health care delivery could help provide data that may guide public policy decisions and information communication professionals engaged in the promotion of community health in both states (Thakur et al., 2025).

Although the potential of social media for health communication has been researched, little empirical evidence exists regarding the function of WhatsApp community groups as unofficial health communication channels for delivery of primary health services in Osun and Kwara states. There is little understanding of how these platforms can shape health consciousness, healthcare-seeking behaviours, the spread of health information, and engagement in the primary healthcare agenda. The lack of such information hinders the formulation of adequate strategies for health workers and policymakers to leverage these platforms towards enhancing public health. Thus, this paper analyses the implications of WhatsApp community groups on the delivery of primary healthcare services in Osun and Kwara States with a view to providing explanations towards enhancing community-based health communications and health outcomes.

This study investigated the nature and impact of using WhatsApp community groups as an informal communication medium for the actualization of primary health care delivery in Osun and Kwara States. In specific terms, the paper critically assessed the contributions of WhatsApp community groups in health information dissemination and health promotion in primary healthcare service delivery in Osun and Kwara States. It also explores the implications of WhatsApp community groups on primary healthcare service delivery and the policy impact in Osun and Kwara States.

Literature Review

Health communication refers to all the efforts involved in producing, conveying, using, and disseminating health information to individuals to improve individual and community health (Niwasasira, 2025). It is an essential part of public health as it improves knowledge, changes attitudes, and influences behaviour for the

purposes of preventing disease, reducing risk-taking behaviours, and promoting timely seeking of medical care and services. It aims to help people in making an appropriate choice about disease treatment, control, and adoption of a healthy lifestyle. A well-developed health communication strategy can contribute to the success of various health interventions through the appropriate delivery of accurate messages and information to the target communities (Erim et al., 2026).

Primary healthcare, being the first point of access to health services for anyone, is the first referral facility to contact first. Primary health services cover immunisation, mother and child health care, communicable disease control and surveillance, health promotion and education, diagnosis and treatment of commonly occurring diseases, referral, and provision of basic essential drugs (Gbekeloluwa et al., 2026). Public health success relies on efficient communication of messages, ideas, skills, and support, which promote population health. Information delivery, with regard to the primary health care system, will strengthen community involvement and promote community care utilization, and increases the demand for better care and prompt treatment of disease, and improve seeking behaviour in communities.

Kinuthia (2025) posited that the introduction of social media has revolutionized health communication by providing an interactive medium through which health information can rapidly and widely be transmitted. Through the use of social media platforms, individuals and organizations have the opportunity to not only passively receive health information, but also to create, spread, debate, and interact around health-related material in a real-time context, thereby enhancing citizen engagement in health care. They have become critical sources of health information and are used as vital resources for public health promotion, health awareness, especially during emergencies, and disease outbreaks or natural disasters.

However, the open architecture of social media networks opens them to the dissemination of health-related rumours, misinformation, and health advice (Chisholm, 2025). WhatsApp is the most extensively used social media tool that allows free transmission of text, images, video, documents, and voice files between users either through private chats or groups, and it is used widely in developing countries for dissemination of information for education, business, government, and health (Bidla, 2025). WhatsApp group chats could facilitate timely sharing of information amongst group members and may lead to improved interactions, which in turn could affect the health-related knowledge and practices of the members.

However, the spread of such harmful misinformation via WhatsApp and other forms of social media poses a threat to public perception and engagement with public health initiatives (Kingsley-Omadudu et al., 2025). Rumors and other forms of mischaracterized health information shared via social media could have an impact on patient behaviour by lowering health-related confidence and thus health utilization. Misinformation has also been identified as a fundamental obstacle to public health outcomes during epidemic outbreak situations. These results suggest the need for approaches that can help ensure accurate, evidence-based health information is readily available for dissemination across community communication networks.

Social media in relation to health communication has been widely investigated by scholars, but there has been insufficient research on the functioning of WhatsApp community groups as informal health communication structures, with particular emphasis on the impact on primary health care delivery in Osun and Kwara States. Much research in this domain has concentrated more broadly on social media, with a scarcity of evidence pertaining to community WhatsApp groups in influencing community engagement and awareness on health as well as health-seeking behaviours. Therefore, there is a need for an empirical study that can inform the development of digitally-supported health communication strategies and enhance primary healthcare delivery in the study area.

Theoretical Model

The paper adopted Diffusion of Innovations (DOI) theory by Everett M. Rogers, developed in 1962, as the basis for explanation. First published in Rogers's *Diffusion of Innovations* in book form, which is currently in its fifth edition published in 2003. Rogers improved upon the theory by synthesizing disciplines of sociology, communication, anthropology, rural development, and marketing to understand the diffusion of a new idea, product, process, or practice through a social system over time (Owie & Ojeaga, 2025). The diffusion process described in DOI theory has five stages: knowledge, persuasion, decision, implementation, and confirmation, while adopters can be described by their position within the social system: innovators, early adopters, early majority, late majority, and laggards (Yugi et al., 2025). Similarly, five attributes have been shown to influence the adoption of innovations: relative advantage, compatibility, complexity, trialability, and observability.

Wolf (2026) contends that diffusion theory asserts that the choice of communication channels can impact awareness, attitude formation, and ingenuity of people towards the adoption of innovation. In other words, the rate

of diffusion will accelerate if there is access to trusted communication channels like interpersonal and social networks for innovation, for example, health and preventive information. The application of innovation in health can take place through communication channels. WhatsApp community groups provide a readily available medium for transmitting health information, prevention, and accessing of healthcare services among the group members. Diffusion of Innovations Theory proposes that a continued transmission of trustworthy, health-related information in those trusted channels would result in increased awareness and facilitate adoption of healthy lifestyles and seeking health services. On the other hand, a common drawback of innovation theory is the generalisation of the positive nature of innovations, without considering barriers such as misinformation, technological access inequalities, cultural values, and socioeconomic dissimilarity (Yugi et al., 2025).

The Diffusion of Innovations Theory is appropriate for this study as it helps explain how health information distributed via the WhatsApp community groups spreads within the community and shapes health behaviour decisions among the community dwellers (Azlina, 2025). The theory illuminates how health information is communicated to the members, the rate at which the information is utilized, and eventually leads to the adoption or discarding of healthy behaviours and primary health services. The Diffusion of Innovation Theory further stresses the importance of an organization considering how innovations spread using digital means, as this accelerates ingenuity. As this paper analyses WhatsApp community groups as an unofficial channel for health communication and its implications for primary health care service provision within Osun and Kwara states, Diffusion of Innovation Theory is the perfect guide on how such informal communications on a social-media-mediated platform promote dissemination and impact on health-seeking behaviours.

Methodology

This research uses a descriptive research design employing both survey data and secondary data to investigate the role of WhatsApp community groups in the delivery of informal health communication and primary healthcare services in Osun and Kwara States of Nigeria. The selection criteria for these two states were based on the growing significance of digital communication channels in health information access for the community, and the level of smartphone penetration among the population, coupled with the prevalent use of primary healthcare services. For the primary data analysis, the population of the study comprised community members in Osun and Kwara States who belonged to at least one community WhatsApp group. Since the population was unknown, the sample size was determined using the Cochran method. The formula for

determining the sample size is stated as: $n_0 = Z^2 * P(1-P) / e^2$. Where: n_0 is the sample size estimate, Z is a z-value or confidence level where $z = 1.96$, p is equal 5% and e is the margin of error, which represents 0.05. Thus, $n_0 = 1.96^2 * 0.5(1-0.5) / 0.05^2 = 384.16$. The questionnaire was distributed to the respondents in 384 copies. 350 of these were correctly completed and deemed appropriate for analysis, yielding a 91.1% usable response rate. The 350 valid surveys served as the basis for the analysis. Frequency distribution tables, percentages, mean, standard deviation, and p-value were used to arrange and display the responses from the respondents. The answers to the research questions were succinctly summarized using these descriptive statistical methods.

Data Analysis

Analysis of Socio-Demographic Information

The table below represents the personal demographic details of the community members sampled for the study. The personal information is presented as follows:

Table 1: Descriptive Statistics/ Socio-Demographic Information

Items	Frequency	Percentage	Cumulative
Gender of Respondents			
Male	189	54.0	54.0
Female	161	46.0	85.9
Total	350	100	100.0
Age Distribution			
18–24 years	40	11.4	11.4
25–34 years	97	27.8	39.2
35–44 years	89	25.3	64.5
45–54 years	124	35.5	85.7
55+	0	0	0
Total	350	100	100.0
Educational Qualification			
No Formal	50	14.3	14.2
ND/NCE	129	36.9	51.0
HND/BSC	160	45.7	96.8
Tertiary	11	3.1	100.0
Total	350	100	
States of Residence			
Osun	141	40.2	40.2
Kwara	209	59.8	100
Total	350	100	
Occupation			
Apprentice	89	25.4	25.3
Student	137	39.2	64.5

Lawyer/Teachers/ Medical Experts	56	16.1	80.6
Others	68	19.4	100.0
Total	350	100	
Senatorial Districts			
Osun East	56	16	16
Osun West	35	10	26
Osun Central	4	1	27
Kwara Central	61	17	44
Kwara North	175	50	94
Kwara South	19	5.4	99.8
Total	350	100	

Source: SPSS Output (2026).

Males make up 54.0% of the respondents, while females make up 46.0%, according to the demographics. Mature individuals predominated in the sample, as evidenced by the majority of respondents (35.5%) being 45 years of age or older. Respondents with HND/B.Sc. levels made up the largest percentage (45.8%), followed by those with ND/NCE (36.8%), indicating a reasonably educated populace. Geographically, Kwara State accounts for 59.8% of respondents, whereas Osun State accounts for 40.2%. 39.2% of the respondents were students, and 25.3% were apprentices, which represents a reasonable percentage. Regarding the respondents' senatorial district, Kwara North accounts for 50.1% of the respondents, followed by Kwara Central (17.4%) and Kwara South (5.2%). The rest 27.3% are from Osun Senatorial Districts.

Table 2: Summary statistics on WhatsApp Group Membership and Usage

S/N	STATEMENT	MEAN	STD
1	I am a member of WhatsApp community groups	4.29	0.877
2	I am a member of one or more health-related WhatsApp groups in	4.32	0.740
3	I often see health messages in our community WhatsApp group	4.32	0.713
4	Members usually post health information on the community WhatsApp platform	4.39	0.677
Overall: N=350, Mean = 4.33; STD = 0.70; df = 3 ; Sig = 0.000			

Source: SPSS Output (2026).

The descriptive statistics indicated a strong community WhatsApp group for health-related information dissemination. All mean scores were high (4.29–4.39), showing respondents generally agree that they belong to one or more community WhatsApp groups, receive health messages on those platforms from the admins and members of the WhatsApp platform. The highest-rated item (Mean = 4.39) indicated that members usually post health-related WhatsApp messages, which have significantly exposed members to a number of health-

related messages and information, while the lowest mean score ($M = 4.29$) still reflects membership or association with town/villages/religious health-related WhatsApp groups. The relatively low standard deviations ($0.677\text{--}0.877$) indicate consistency in responses. The overall mean (4.33 , $SD = 0.70$) confirms a strong positive effect, and the significant value ($p = 0.000$) suggests statistical reliability.

Table 3: Types and Trust of Health Information

S/N	STATEMENT	MEA	STD
1	The health messages I see cover PHC topics like immunization, maternal health, malaria, family planning, and nutrition	4.33	0.751
2	I trust health information shared in my WhatsApp community	4.26	0.835
3	I verify health information from the group with a health worker before acting on it	4.36	0.584
4	Misinformation or rumors about health are common in my group	4.30	0.865
5	Health workers in the group respond to questions from members	4.33	0.751
6	Information is usually shared in a language I understand: English, Yoruba, or simple terms	4.35	0.716
Overall: N=350, Mean = 4.321; STD = 0.76; df = 3 ; Sig = 0.000			

Source: SPSS Output (2026)

The results indicate a strong positive perception among respondents regarding the trust in health information received from the WhatsApp groups. All items recorded high mean scores ranging from 4.26 to 4.36, suggesting that health messages cover immunization, maternal health, malaria, family planning, and nutrition. It also indicated the level of trust in the health information, extent of misinformation about health and their level of understanding of health related information shared on the platforms. The highest mean (4.36) shows that members of the WhatsApp verify health information from health experts before acting on it. The low standard deviations ($0.584\text{--}0.865$) indicate relatively close agreement among respondents. The overall mean of 4.321 ($SD = 0.76$) further reveal a strong agreement. With significance at $p = 0.000$, the findings imply a statistically significant relationship between trust in health information and members' reactions to the health information.

Table 4: Implications for Primary Health Care Delivery

S/N	STATEMENT	MEAN	STD
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1	Because of WhatsApp group messages, I have visited a PHC for immunization, sought treatment, and participated in health outreach	4.55	0.535
2	WhatsApp group discussions make me more aware of services available at my nearest PHC	4.52	0.533
3	Messages in the group have helped reduce my transport cost/time to seek health information.	4.50	0.546
4	I feel more comfortable asking health questions in the group than at the PHC.	4.56	0.507
5	Health workers use the group to announce outreach, drug availability, or closures.	4.56	0.545
Overall: N=350, Mean = 4.538; STD = 0.530; df = 3 ; Sig = 0.000			

Source: SPSS Output (2026).

The descriptive statistics indicate the implications of a community health-related WhatsApp group for primary health care delivery (N = 350). All the implications/indicators recorded strong mean scores above 4.50, suggesting general agreement on implication of community health related WhatsApp group on primary health care delivery (M = 4.538, SD = 0.530), Awareness of health services (M = 4.52, SD = 0.533), cost reduction in health information (M = 4.50, SD = 0.546), and health information outreach approach (M = 4.56, SD = 0.507). The health information outreach approach slightly leads, while cost reduction in health information shows the lowest mean but still remains highly rated. The low standard deviations indicate minimal variation in responses, showing agreement among participants. The overall mean (M = 4.338, SD = 0.530, p = 0.000) confirms a statistically significant and strong implication of a community health-related WhatsApp group for primary health care delivery

Table 5: Barriers, Challenges and Recommendations

S/N	STATEMENT	MEAN	STD
1	Data costs, lack of time to respond, the challenge of giving wrong advice, members' failure to take advice, language barriers, cultural beliefs, privacy concerns, neglect of community-based digital forums	4.28	0.802
2	Capacity building, digital literacy, ethical use, health-worker training, information validation, localized messaging and research	4.32	0.666
3	The state ministry of health should be part of group admins for PHC messages	4.26	0.711
4	Group admins should moderate health content in community groups	4.28	0.839
Overall: N=350, Mean = 4.29; STD = 0.7642; df = 3 ; Sig = 0.000			

Source: SPSS Output (2026).

The descriptive statistics indicate that respondents generally agreed on the following: data cost, language barriers, cultural beliefs, capacity building, health staff welfare, and moderation of health information content by the group admins as the challenges and the way out for effective PHC messages, as shown by high mean scores ranging from 4.28 to 4.32. The highest-rated recommendation is capacity building ($M = 4.32$), suggesting that capacity building strongly affects dissemination and actions on health-related information. Other key recommendations include State Ministry of Health should be part of group admins for PHC messages ($M = 4.26$), and group admins should moderate health content in community groups ($M = 4.28$). The overall mean of 4.29 confirms a strong perceived presence of these constraints and the workability of these recommendations. The standard deviation (0.764) shows moderate response consistency, while the significant p-value (0.000) indicates statistical relevance of the findings.

Discussion of findings

WhatsApp Community Groups in the Health Information Dissemination and Health Promotion in Primary Healthcare Service Delivery

WhatsApp communities serve as ideal platform for transmitting crucial health information that facilitates implementation of primary healthcare and intervention health strategies (Nwankwo et al., 2026). Healthcare organisations, community elders, and health professionals use WhatsApp groups to inform about vaccination periods and schedules; mother and child care messages, alerts for epidemics, promoting safe environment initiatives, and general preventive information messages about illness. The WhatsApp groups serve as key channels for broadcasting immediate symptoms, preventive measures, and assistance available for individuals having cholera, COVID-19, Lassa fever, and monkeypox (Folarin, 2026). In most communities in Osun and Kwara States, messages related to Routine Immunization (RI), Antenatal care (ANC), Family Planning (FP), malaria control, nutrition, etc. are widely circulated within community and family chat groups of residential organizations to expedite effective and rapid flow of information to large populations (Ibrahim et al., 2025).

One significant contributor to enhancing health awareness is WhatsApp community group(s), which have widely enabled the dissemination of relevant and timely health information among the people (Chiweta-Oduah, 2024). Regular interaction with health education content, health tip messages, disease awareness interventions, and expert opinions, this makes people familiar with many aspects of day-to-day health tips, which include: disease prevention methods, lifestyle modifications for healthier living, personal hygiene practices,

balanced nutrition; immunization, utilization of health care facilities and so on (Ajayi & Nurudeen, 2025). Interactions among participants enable them to discuss and clarify doubts, clear misconceptions, and exchange individual experiences that, in turn, enrich community health literacy (Adejumo & Godwin, 2025). Moreover, medical behavioural change communication interventions are disseminated using WhatsApp to guide the targeted people to act in healthy manners by improving their knowledge about positive attitudes to prevent diseases, early diagnosis, lifestyle-modifying methods to practice healthy habits, regular medical checkup attendance, and supporting public health strategies (Alao et al., 2025).

Through medical information provided to community groups via WhatsApp, the health-seeking behaviour of the community members may be positively changed, with people making choices on issues relevant to their health and that of their families (Gordon et al., 2025). The timely reminders regarding immunization, antenatal clinic, child health clinic, health screening, environmental sanitation campaigns, etc., act as a stimulus to seek health care services rather than waiting till a condition has progressed beyond initial treatability. Peer support group information through the stories shared in the community groups has been reported to build trust in health professionals and diminish health-seeking fear (Giwa, 2026). Awareness created through this communication system has therefore been found to influence the acceptance and coverage of childhood immunization, access to and use of maternal health care services, earlier use of primary health services, and an increase in uptake of practices influencing health outcomes (Shekarau et al., 2024).

The Implications of WhatsApp Community Groups on Primary Healthcare Service Delivery and the Policy Effect in Osun and Kwara State.

Community WhatsApp groups, on the other hand, have brought considerable benefits to primary healthcare service delivery, not only by making communication and exchange of health information instantaneous between health workers and community members, but these have been useful in increasing community awareness of immunization programmes, antenatal care, child health services, preventive disease measures, environmental hygiene, and overall community health issues (Babatunde, 2026). The mass-sharing capability of WhatsApp messages allowed the health agencies and community leaders to communicate within a wide network to reach numerous participants within a limited period, resulting in greater participation in public health programmes (Oladigbolu et al., 2025). The health groups have also assisted in empowering communities by fostering interactive discussions, instant feedback, peer-to-peer

learnings, and fostering a collective responsibility to take ownership of health promotion. All these have assisted to complement standard health communication channels in the communities and contributed to better organized, faster, easier and community oriented delivery of primary healthcare services (Erokosima et al., 2025).

In addition to these potential benefits, WhatsApp community groups also present some challenges that could decrease its overall effectiveness in promoting informal health communication (Arije et al., 2023). A large challenge facing WhatsApp community groups is unequal access to smartphone devices and internet access as well as poor digital literacy (Obiora & Agbachukwu, 2026). This can be particularly an issue amongst the elderly community members as well as less economically advantaged and rural populations, restricting dissemination of health information amongst certain community groups, and subsequently health information inequality.

The fast propagation of information over WhatsApp community groups leads to the issues of misinformation, ethical guidelines, privacy and responsible use in public health communication (Popoola et al., 2025). Unverified, misleading or completely false medical advice and rumours about health problems circulating in electronic communities have the ability to affect decisions to forgo or seek medical help and even endanger individuals to carry out unsafe public health activities and practice (James & Olurotimi, 2026). Misinformation spread through community-based WhatsApp groups during epidemic periods, vaccine campaigns, health promotion campaigns and other health related emergencies resulted in fears and panic among users of these platforms (Diri et al., 2025). There are issues of unauthorized use of personal health information, confidentiality breach, lack of monitoring for fact-checking, while on these platform. There needs to be some effort on ethical conduct, social responsibility and access to credible and truthful health information over WhatsApp groups' communities.

Wider usage of WhatsApp community groups has policy implications on public health policy and healthcare communication practices in Osun and Kwara States of Nigeria (Oseni, 2024). Policymakers need to appreciate these technological platforms as supplementary channels that can facilitate public health primary care systems to enhance community participation, improve health education, and ensure public involvement in health programmes.

Conclusion

This paper examined how WhatsApp communities serve as a tool for informal health communication and their role and impact in the delivery of primary healthcare services in Osun and Kwara States. From the review, it was concluded that the increased use of WhatsApp as a tool for health communication at the community level has revolutionized health communication by enabling quick sharing and interaction for the dissemination of health information and promoting both health-seeking behaviour and awareness. Within these informal networks, information about immunization, maternal and child health issues, preventive medicine, sanitation, and various other issues surrounding the delivery of primary health care services could be rapidly disseminated at the community level. This is viewed as building upon the traditional approach to health communication. Also, the study found that WhatsApp community groups could be utilized to increase community participation, public health awareness, as well as the utilization of primary health care facilities with appropriate sources of health information and active participation of stakeholders.

Also reported was that even with the available platforms of community engagement on WhatsApp groups, there are some challenges affecting efficient WhatsApp-based health group engagement. These include misinformation, limited and uneven access to digital technologies, perceived data-privacy issues, and low levels of digital literacy among users, as well as a lack of consistent and effective regulation of health information available online. Such constraints necessitate a more robust framework on public health within Nigeria as well as strengthened digital health, policy frameworks and synchronized communication to ensure that the right health messages disseminated are evidence-based and socio-culturally relevant. Guided by the Diffusion of Innovations Theory, authors asserted that WhatsApp-based groups served as an excellent medium of communication; thus, they are useful informal information forums for strengthening primary healthcare services if integrated well into national health communication systems. Hence, efforts to build collaborative relationships among various stakeholders such as government institutions and agencies, healthcare providers, health policy makers, digital-health advocates and service providers to promote trust and confidence in WhatsApp communication will result in increased public confidence in health information shared among members through WhatsApp.

Recommendations

In line with the results of this study, the following recommendations are suggested for optimum utilisation of WhatsApp community groups in informal health communication as a tool for strengthening the utilization of primary healthcare services in Osun State and Kwara States, Nigeria:

- Fortify the synergy and cooperation between governmental institutions, health centres, community and civic leaders, religious groups, civil society organisations (CSOs), and group administrators of community WhatsApp groups for the dissemination of verified health information through their platforms.
- Facilitate increased digital literacy, with special focus on strengthening members' competence in evaluating the authenticity of information shared, source-validation techniques, and developing resilience to malicious content on social media.
- Train health workers to build competence in digital health communication, community engagement, risk communication, and how to use social media effectively for public health education.

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