

DIGITAL HEALTH COMMUNICATION AND YOUTH AWARENESS OF SEXUAL AND REPRODUCTIVE HEALTH IN NIGERIA

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ABSTRACT

Sexual and reproductive health (SRH) challenges among Nigerian youths persist despite rapid digital transformation and increased access to online platforms. High rates of adolescent pregnancy, unsafe abortion, and sexually transmitted infections (STIs) illustrate persistent gaps in SRH knowledge, particularly among girls who face heightened risks due to cultural norms, poverty, and stigma. This study investigates how digital health communication influences SRH awareness among Nigerian youths. Guided by the Uses and Gratifications Theory, the research adopts a qualitative, literature-based design, drawing on peer-reviewed studies, policy reports, and digital-health evidence to explore patterns of digital access, platform preferences, and comprehension outcomes. Findings reveal that although youths increasingly use digital platforms such as WhatsApp, Facebook, Instagram, TikTok, and SMS-based services, only a fraction intentionally seek accurate SRH information. Structured digital interventions—such as mobile health (mHealth) applications, online counselling, and interactive sexuality-education modules—demonstrate significant improvements in knowledge, awareness of contraception, HIV prevention, and interpretation of risky sexual situations. However, challenges such as misinformation, limited digital literacy, privacy concerns, and unequal access hinder optimal utilisation and sustained behavioural outcomes. The study concludes that digital communication offers a vital but underutilised pathway for enhancing SRH awareness in Nigeria and recommends strengthening content credibility, expanding equitable access, and integrating digital SRH strategies into youth-focused education and public-health programmes to promote safer sexual behaviours and informed decision-making among adolescents.

Keywords: Digital health communication; Nigeria; Sexual and reproductive health (SRH); Youth awareness

Introduction

Sexual and reproductive health (SRH) issues among Nigerian youths reflect a complex interplay of cultural, socioeconomic, and structural factors. Nigeria has one of the largest youth populations in Africa, yet persistent barriers limit access to accurate

SRH information and services. High rates of early sexual debut, unintended pregnancies, unsafe abortion, and sexually transmitted infections (STIs) including HIV remain documented concerns (WHO, 2020). Factors such as inadequate sexuality education, gender norms, poverty, and stigma exacerbate vulnerabilities among adolescents, particularly girls who face heightened risks of coerced sex and early marriage (UNFPA, 2022).

Inequalities across regions further deepen SRH disparities. Northern Nigeria continues to record the highest prevalence of child marriage and lowest contraceptive uptake, constraining adolescents' ability to make informed reproductive choices (UNICEF, 2021). In contrast, urban areas show relatively better access to youth-friendly services but remain affected by misinformation, peer pressure, and systemic gaps in the healthcare system. Studies consistently show that even when services exist, adolescents often avoid them due to fear of judgment from providers or community surveillance (Bankole et al., 2020). This highlights the need for confidential, youth-friendly, and culturally acceptable SRH interventions.

Digital media has become increasingly central to health communication among Nigerian youths due to rapid mobile phone penetration and expanding internet access. As of 2023, over 122 million Nigerians use the internet, with youth making up the majority of mobile and social media users (NCC, 2023). This digital shift creates new avenues for disseminating SRH information, providing timely, anonymous, and engaging content through platforms such as WhatsApp, Facebook, TikTok, and Instagram. Evidence suggests that tailored digital campaigns significantly improve knowledge of contraception, HIV prevention, and healthy relationships among adolescents (Pew Research Center, 2022).

Digital health innovations including chatbots, telemedicine services, SMS-based advisory systems, and online counseling—have also emerged as alternatives to traditional clinics that adolescents may avoid due to stigma. These platforms bridge geographic gaps, reaching youths in rural or conflict-affected regions where SRH services remain limited (GSMA, 2021). Importantly, digital spaces allow young people to seek information privately, supporting agency and autonomy in navigating sensitive SRH concerns (UNESCO, 2022). However, challenges persist, including misinformation, digital divides, and inadequate digital literacy among low-income or rural youths.

Statement of the Problem

Despite rapid growth in mobile technology and internet penetration in Nigeria, many young people still possess limited, inaccurate, or inconsistent knowledge of sexual and reproductive health (SRH). Digital health communication platforms—such as social media, SMS campaigns, mobile applications, and online youth-friendly portals—have emerged as important tools for health information delivery. However, their potential impact on Nigerian youths' SRH awareness remains underutilized. A significant proportion of adolescents continue to rely on peers, unreliable online sources, or culturally restrictive environments for SRH information, leading to misinformation, risky sexual behaviors, high rates of unintended pregnancies, unsafe abortions, and sexually transmitted infections.

Furthermore, structural barriers such as digital divides, affordability of internet data, low digital literacy, and gender disparities impede equitable access to SRH information. In addition, concerns about privacy, stigma, and trust influence whether young people engage with digital health content. Although government agencies and NGOs have introduced digital SRH interventions, there is limited empirical evidence on how effectively these tools enhance awareness, shape attitudes, or support informed decision-making among Nigerian youths. This gap in knowledge necessitates systematic investigation into the role, reach, and effectiveness of digital health communication in improving SRH awareness within this population.

Research Objectives

The main objective of the study is to examine digital health communication and youth awareness of sexual and reproductive health in Nigeria. The specific objectives are:

- i. To examine the level of exposure of Nigerian youths to digital health communication platforms related to sexual and reproductive health.
- ii. To identify the digital communication channels most commonly used by youths for accessing SRH information.
- iii. To assess the influence of digital health communication on youths' awareness and comprehension of key SRH issues.

Methodology

This study adopts a qualitative, literature-based research design to examine how digital health communication influences youth awareness of sexual and reproductive health (SRH) in Nigeria. A qualitative documentary approach is appropriate for exploring communication patterns, youth engagement, cultural dynamics, and digital health ecosystems as reflected in existing scholarship (Akinfaderin-Agarau, 2017).

Accordingly, the study relies exclusively on secondary sources, including peer-reviewed journal articles on digital health interventions in Nigeria, reports from international health organizations, government policy documents, and scholarly books discussing youth SRH literacy (Otu et al., 2021). Relevant online publications, digital communication studies, and grey literature were also consulted to capture the evolving role of social media, mobile health (mHealth), and internet-based platforms in shaping SRH awareness among Nigerian youth.

Conceptual Clarifications

Digital Health Communication

Digital health communication refers to the use of digital technologies—including mobile applications, telemedicine platforms, websites, and social media—to deliver health information, promote health behaviors, and support patient-provider engagement. It aligns with the broader World Health Organization (WHO) definition of digital health as the use of digital, mobile, and ICT-based innovations to advance health outcomes (World Health Organization, n.d.). Digital health tools help improve health literacy, facilitate timely access to information, and support preventive health strategies (Zhang et al., 2023). In this sense, digital health communication represents the intersection of health communication and digital technology, using online and mobile channels to convey strategic, evidence-based health messages (TechTarget, 2023).

Sexual and Reproductive Health (SRH)

Sexual and reproductive health (SRH) refers to a state of physical, mental and social well-being related to the reproductive system, encompassing safe sexual practices, autonomy in reproductive decision-making, access to contraception, and prevention and treatment of sexually transmitted infections (STIs). This definition aligns with international health frameworks and SRH programmatic goals in Nigeria, which

emphasize access to SRH information, contraceptive services, STI care, and safe pregnancy outcomes among adolescents (The Nigerian Health Journal, 2020). Moreover, SRH knowledge and behaviors among adolescents are frequent outcome measures in interventions aimed at improving reproductive health literacy (Odo et al., 2023).

Digital Platforms Commonly Used by Nigerian Youths

Digital platform usage among Nigerian youth is widespread and shaped by high engagement with social media and mobile technologies. As of 2025, there were approximately 38.7 million social media identities in Nigeria, with an internet penetration rate of about 45% (DataReportal, 2025). Studies indicate strong youth engagement with platforms such as Facebook, WhatsApp, Instagram, YouTube, and Twitter/X (Okoro & Eze, 2018; Global Media Journal, 2017; Cultures of West Africa, 2023). In rural youth populations, Facebook remains particularly dominant, followed closely by messaging and multimedia-sharing apps (Global Media Journal, 2017). These platforms offer critical channels for disseminating SRH information, enabling peer interaction, and expanding youth access to digital health communication initiatives.

Theoretical Framework

Uses and Gratifications Theory (U&G) proposes that media users are active, goal-directed seekers who choose particular media to satisfy specific needs—such as information, anonymity, social interaction, or entertainment so outcomes depend on users' motivations and the gratifications they obtain (Katz, Blumler & Gurevitch, 1973). Originally formulated to shift attention from "what media do to people" to "what people do with media," U&G foregrounds audience agency, motives, media choice, and perceived rewards as the core mechanisms linking media exposure to cognitive and behavioral outcomes (Katz et al., 1973).

Applying U&G to digital health communication about sexual and reproductive health (SRH) among Nigerian youth, the theory predicts that young people will select platforms (WhatsApp, Instagram, YouTube, health apps) based on motivations like seeking confidential information, peer support, or identity exploration, and that the gratifications they receive (perceived usefulness, trust, anonymity) will drive SRH awareness and intentions to seek services. Thus, U&G frames testable pathways in this study motivation → platform use/intensity → gratifications → SRH awareness while

highlighting important moderators in the Nigerian context (digital literacy, stigma, gender, urban/rural access) that may strengthen or weaken these links (Katz et al., 1973).

Digital Media and Health Communication

Digital media have transformed the landscape of health communication by expanding the reach, speed, and interactivity of health information delivery. Researchers argue that digital platforms—such as websites, social networking sites, and mobile applications—offer unique affordances that traditional media cannot match, including personalization, user engagement, and real-time feedback loops (Neuhauser & Kreps, 2010). These affordances allow public-health practitioners to adapt messages to specific audience needs, monitor engagement, and respond rapidly during health crises. As a result, digital communication has become an essential component of modern public-health strategies, particularly in low- and middle-income countries where traditional infrastructure is often limited.

The effectiveness of digital platforms in disseminating health information is well-documented in the literature. Studies demonstrate that digital channels can improve health knowledge, shape attitudes, and promote preventive behaviours when implemented with credible and culturally appropriate content (Chinn, 2011). Social media platforms, for example, allow the rapid sharing of health campaigns, enabling individuals to access and redistribute information through their networks. However, effectiveness varies according to digital literacy, message quality, and the socio-economic context of users. This means that while digital media can enhance health awareness, these benefits are unevenly distributed across populations, especially in developing contexts.

In Nigeria, the widespread adoption of social media has significantly influenced health-communication practices. A growing body of evidence shows that platforms such as WhatsApp, Facebook, and Instagram are increasingly used by Nigerians to access and share health information (Maureen & Ngantem, 2024). These platforms support interactive communication between health professionals and the public, improving opportunities for engagement and clarification. At the same time, challenges such as misinformation, low trust in online sources, and the viral spread of unverified content threaten the effectiveness of digital-health messaging. Despite these risks, social

media remain central to health communication due to their affordability and accessibility.

Mobile health (mHealth) technologies have also gained momentum in Nigeria, driven by high mobile-phone penetration rates. mHealth solutions—including SMS reminders, telemedicine services, and health-monitoring apps—offer valuable opportunities for extending healthcare access to underserved communities (Otu et al., 2021). Research indicates that mHealth interventions can improve service delivery, support self-management of health conditions, and facilitate communication between patients and providers. Nonetheless, adoption remains limited due to infrastructural barriers, inconsistent internet access, and low awareness of available digital-health tools. These constraints highlight the need for improved policy support and investment in digital-health ecosystems.

Several structural and socio-economic factors influence the growth of digital media and mHealth technologies in Nigeria. Persistent gaps in electricity supply, high data costs, and limited broadband connectivity contribute to a significant digital divide that restricts equitable access to digital-health resources (Egwudo et al., 2025). Additionally, cultural norms and variations in digital literacy affect how individuals engage with online health information. Women and rural populations are disproportionately affected, often lacking opportunities to fully benefit from digital-health advancements. Addressing these barriers requires targeted interventions that strengthen digital capacity and expand infrastructure.

Youths' Awareness and Knowledge of SRH

Young people's awareness and knowledge of SRH in Nigeria is uneven: while many adolescents can name HIV/AIDS and some contraception methods, deeper knowledge about prevention, consent, rights, and where to obtain youth-friendly services remains limited (Envuladu, 2022). Studies of in-school and out-of-school youths report gaps in accurate SRH literacy—misconceptions about STI transmission, incorrect beliefs about contraception side effects, and limited understanding of legal and safe abortion options—suggesting that "awareness" often does not translate into comprehensive, actionable knowledge (Amanu et al., 2023).

Among the common SRH challenges facing Nigerian youths, HIV/AIDS and other sexually transmitted infections (STIs) remain prominent: adolescent girls and young

women experience disproportionately higher HIV prevalence and incidence compared with their male peers, a pattern repeatedly documented in national analyses (UNAIDS, 2019; Nwachinemere et al., 2025). Low condom use, age-disparate relationships, and limited access to adolescent-targeted prevention services amplify vulnerability to STIs and new HIV infections among 15-24-year-olds (UNAIDS, 2019).

Teenage pregnancy is a critical, widespread SRH problem: national surveys and systematic reviews report high adolescent fertility and large regional variation, with many states especially in the North showing substantially higher rates of early childbearing (DHS Program, 2024; Alukagberie et al., 2023). Early pregnancy compounds risks for school dropout, maternal morbidity, and socio-economic marginalization; it is driven by factors such as early marriage, low school completion, and limited access to contraception and adolescent health services (Alukagberie et al., 2023).

Unsafe abortion and its complications are another major SRH challenge for Nigerian youths: because abortion is legally restricted, a large proportion of pregnancy terminations are performed clandestinely and unsafely, contributing markedly to maternal morbidity and mortality among young women (Guttmacher Institute, 2015; Bankole et al., 2015). Research and service data show that young women often resort to unsafe methods due to stigma, cost, poor knowledge of legal exceptions, and lack of confidential, youth-friendly care (Bankole et al., 2015).

Key determinants of SRH awareness and knowledge among Nigerian youths include education level, socio-economic status, and access to information channels (school curricula, clinics, digital platforms). Higher formal education and comprehensive sexuality education in schools are consistently associated with better SRH knowledge and safer behaviours, while poverty, lower parental education, and out-of-school status predict poorer awareness (UNFPA, 2021; Adione et al., 2023). Increasingly, digital access (social media, mobile phones, online platforms) shapes what youths know offering rapid information but also spreading misinformation so equitable access to reliable digital SRH resources is emerging as a critical determinant of accurate, actionable awareness (Adione et al., 2023; Envuladu, 2022).

Digital Communication and SRH Behavioural Outcomes

Digital communication such as SMS reminders, mobile health (mHealth) apps, social media campaigns, and interactive web-based tools—has increasingly shaped sexual and reproductive health (SRH) behavioural outcomes. Research shows that digital SRH interventions are effective at improving knowledge, attitudes, intentions, and, in many cases, preventive behaviours (Bennett et al., 2023; Dowling et al., 2025). Although behavioural outcomes such as increased condom use or HIV testing vary across populations and platforms, the evidence generally supports digital communication as a viable mechanism for influencing youth SRH behaviours globally.

Online health campaigns and targeted digital interventions influence SRH behaviours through several mechanisms. These include wide geographical reach, personalization and tailoring of SRH messages, interactive learning, anonymity, and social-norm reinforcement through peer-based engagement (Wadham et al., 2023). Social media-based interventions have been especially successful in reaching adolescents, while structured mHealth applications using two-way communication or gamification elements report higher engagement and improved knowledge outcomes compared to one-directional messaging (Johnson et al., 2022). Behavioural impact tends to be stronger when digital communication is integrated with pathways to care, such as clinic referrals or appointment booking.

Evidence from countries outside Nigeria shows positive and often significant effects of digital interventions on SRH knowledge and behaviours. Systematic reviews demonstrate that many digital SRH programmes contribute to improved condom use, higher rates of HIV and STI testing, and greater uptake of modern contraception (Bennett et al., 2023; Wadham et al., 2023). However, these reviews emphasize that effect sizes depend on intervention design, population characteristics, and whether digital tools are blended with physical service delivery. Stand-alone digital interventions tend to influence cognitive outcomes more strongly than direct behavioural change, underscoring the importance of multi-component strategies.

Empirical Review

Digital health communication platforms related to sexual and reproductive health

Nwaogwugwu & Isara (2022) examined digital-media use for sexual and reproductive health (SRH) information among in-school adolescents in Benin City, Nigeria. In a cross-sectional survey of 630 adolescents (mean age 14.9 ± 1.3 years), 81.6% reported access to the internet but only 35.4% actually utilized digital media to obtain SRH information; among those users, 54.9% had what the authors rated as "good utilization." The study identified easy internet accessibility as the commonest reason for use and slow network as a major barrier.

Akande et al. (2024) implemented a cluster randomized controlled trial of an mHealth-based comprehensive sexuality education (CSE) intervention among 1,280 in-school adolescents in Ilorin, north-central Nigeria. The intervention produced statistically significant improvements in SRH knowledge and attitudes from baseline to 3 months post-intervention, though reductions in risky sexual behaviour were not statistically significant over the short follow-up. High uptake/completion of the mHealth curriculum ($\approx 95\%$ at immediate follow-up) shows feasibility and acceptability of digital SRH delivery in a Nigerian school setting.

Otu et al. (2021) reviewed Nigeria's mobile-health landscape for SRH and argued that high mobile penetration makes mHealth a pragmatic channel for expanding SRH access, but documented limited scale-up and uneven adoption especially outside urban areas caused by infrastructure, policy, and equity barriers. The paper emphasizes that access $\neq$ use: infrastructural reach exists in many areas, yet SRH content uptake remains partial.

Broader evidence syntheses (umbrella / systematic reviews) find that digital strategies for adolescent SRH are feasible and acceptable in low- and middle-income countries, improve knowledge and attitudes, but produce mixed and sometimes short-lived behaviour change; reviews call for improved targeting, governance of content, and measurement of long-term outcomes. These reviews also highlight heterogeneity in exposure metrics (internet access vs. active SRH-content use) across studies.

Digital communication channels most commonly used by youths for accessing SRH information.

L'Engle et al. (2016) reviewed mobile phone interventions for adolescent SRH and examined the types of mobile channels used (SMS, interactive voice response, and simple apps). The review found that SMS-based programs and simple mobile apps were

among the earliest and most commonly studied channels; these were linked to improved SRH knowledge and appointment uptake but showed mixed results on behaviour change. Limitations included short follow-up, variable message quality, and limited smartphone penetration in lower-income groups.

Feroz et al. (2021) investigated how adolescents use mobile phones to seek SRH information across several low- and middle-income settings. Their empirical synthesis showed youths commonly use search engines, SMS services, and health apps to find SRH answers; mobile phone interventions were valued for privacy and convenience but constrained by literacy, airtime/cost, and inconsistent content quality. The study emphasized mobile phones (both basic and smartphones) as primary access tools in settings where clinic access is stigmatized.

Rea et al. (2022) examined adolescent perceptions of technology-based SRH and reported that social media (Facebook, Instagram), YouTube, and peer groups online were central channels for SRH content. Adolescents preferred platforms that allowed anonymity and quick, visual answers (videos, reels). They consistently highlighted confidentiality concerns and a need for trustworthy sources integrated into familiar social apps.

Banounin et al. (2023) analyzed associations between mobile phone use and SRH behaviour in South African youth and found high use of WhatsApp, YouTube, and Google search to locate SRH information. WhatsApp groups and broadcasts were commonly used for peer-to-peer sharing of contraceptive and STI information; however, accuracy varied and peer misinformation circulated widely. The authors reported that private messaging channels (WhatsApp) were preferred when stigma was high.

Benoit et al. (2022) reviewed mobile delivery of SRH and found that short messaging (SMS) and interactive web/apps were effective for delivering education and appointment reminders. Youths reported SMS as accessible even on non-smartphones and helpful for discrete reminders; apps and web portals were preferred when multimedia (videos/FAQs) and interactivity were available. Implementation barriers included language, limited internet data, and platform moderation.

Alhassan et al. (2025) conducted cross-sectional surveys in Sub-Saharan contexts and reported that WhatsApp, YouTube, Google search, and Facebook were the most-used

channels in order of popularity among adolescents seeking SRH information. Respondents favored video (YouTube) and chat-based formats (WhatsApp) for perceived clarity and peer relatability; researchers cautioned about platform algorithms amplifying sensational or inaccurate content.

Zettergren et al. (2024) explored health workers' perceptions of digital SRH provision in youth clinics and found telehealth, chatbots, and clinic websites were increasingly used to triage and provide confidential SRH information. Midwives noted that online booking, secure messaging, and clinic websites improved access, but staff capacity and digital literacy shaped uptake. The study flagged policy/regulatory gaps around advertising and content moderation on major platforms.

Nagata et al. (2024) synthesized the health benefits and harms of social media use and noted that TikTok and Instagram had rapidly become prominent sources for contraceptive and pregnancy-related content among young people. While social media can lower barriers to information, high-reach posts often lacked clinical accuracy and sometimes promoted risky or non-evidence-based practices. The authors urged active engagement by qualified health professionals on these platforms to improve signal-to-noise.

Influence of digital health communication on youths' awareness and comprehension of key SRH issues

Onukwugha et al. (2022) conducted a meta-analysis of mHealth interventions targeting adolescents' sexual and reproductive health (SRH) knowledge across low- and middle-income countries. The review showed that youths who received structured digital content—particularly two-way SMS reminders and app-based modules—demonstrated substantially higher SRH awareness than control groups. The authors noted that interactive features, such as quizzes and feedback loops, were strongly associated with deeper comprehension of contraception, STI prevention, and service navigation. They concluded that digital communication can effectively close knowledge gaps among hard-to-reach youths, but emphasized the need for quality control and contextual tailoring to sustain comprehension gains over time.

Borji-Navan et al. (2024) synthesized global evidence on digital SRH interventions for adolescents and found that mobile apps, web-based learning platforms, and moderated social media channels consistently improved young people's understanding of safer

sexual practices. Youths exposed to structured digital modules showed higher comprehension of consent, contraception options, and STI transmission pathways. However, the review highlighted wide variability in program quality and delivery styles, noting that interventions lacking interactivity produced weaker comprehension outcomes. The authors stressed that digital health communication is most effective when it incorporates behavior-change techniques and locally relevant content that addresses cultural norms and gendered barriers to SRH learning.

Isaacs (2024) reviewed emerging mHealth programs aimed at improving SRH knowledge and attitudes among young people worldwide. The analysis revealed that digital channels especially mobile apps offering private, stigma-free learning spaces significantly increased awareness of SRH risks and prevention strategies. Nevertheless, the review also noted that comprehension outcomes were inconsistent when information was delivered in one-directional or overly technical formats. Isaacs argued that comprehension improves when interventions allow youths to ask questions anonymously, receive personalized guidance, and engage in scenario-based problem solving. The author recommended stronger integration of digital tools with school-based or community SRH education for more durable learning.

A recent cluster-randomized trial in Nigeria (2024) evaluated a phone-based comprehensive sexuality education (CSE) program among in-school adolescents. The study demonstrated that participants exposed to the digital CSE modules scored significantly higher on factual SRH awareness such as condom effectiveness and menstrual health than students in the control arm. Importantly, the intervention also enhanced comprehension, reflected in improved ability to interpret risky sexual situations and identify appropriate responses. The researchers found notable gender differences, with girls benefiting more from the privacy and confidentiality of mobile-based learning. They concluded that digital CSE platforms can effectively complement traditional teaching, especially in contexts where cultural norms restrict open discussion of SRH topics.

Studies on social media exposure (2020-2025) across Nigeria, Ghana, and other LMICs revealed that platforms such as TikTok, Instagram, and WhatsApp have become major sources of SRH content for youths. These studies consistently reported that exposure to SRH-related posts increased awareness of contraception, STI symptoms, and available services. However, comprehension outcomes were mixed: while some youths

gained better understanding of risk and prevention, others encountered misleading or non-evidence-based content. High-reach posts often prioritized entertainment over accuracy. Researchers warned that although social media can democratize access to SRH information, the absence of rigorous content moderation may amplify misinformation. They recommended embedding qualified health professionals and verified organizations within these digital spaces to enhance content credibility and improve comprehension outcomes.

Discussion of Findings

The findings indicate that Nigerian youths occupy a complex SRH landscape characterized by high digital connectivity but persistent gaps in SRH literacy. Although national and regional studies show widespread awareness of issues such as HIV/AIDS and contraception, this awareness is often shallow and does not translate into comprehensive understanding of consent, STI prevention, service access, or legal rights (Envuladu, 2022; Amanu et al., 2023). Persistent SRH challenges—including high STI prevalence, adolescent pregnancy, and unsafe abortion—remain prominent among adolescents, particularly girls and young women (UNAIDS, 2019; Alukagberie et al., 2023; Bankole et al., 2015). These gaps are shaped by socio-economic factors, cultural restrictions on open SRH discussion, and inequities in access to formal sexuality education (UNFPA, 2021; Adione et al., 2023). As such, youths' SRH background in Nigeria reflects substantial unmet informational needs and vulnerability, reinforcing the importance of innovative, youth-friendly communication channels.

Digital health communication emerges as a promising but inconsistently utilized avenue for addressing these SRH knowledge gaps. Despite high internet penetration and widespread use of platforms such as WhatsApp, Facebook, Instagram, TikTok, and YouTube among Nigerian youths (DataReportal, 2025; Okoro & Eze, 2018), only about one-third intentionally seek SRH information online (Nwaogwugwu & Isara, 2022). Even when digital engagement occurs, comprehension outcomes vary considerably depending on the interactivity, credibility, and contextual fit of the content (Borji-Navan et al., 2024; Isaacs, 2024). Structured mHealth and web-based interventions such as two-way SMS programmes, app-based modules, and mobile CSE tools have been found to significantly improve SRH knowledge and interpretation skills (Onukwugha et al., 2022; Akande et al., 2024). However, these gains do not always translate into immediate or

sustained behavioural change, especially in settings where infrastructural barriers, privacy concerns, and misinformation persist (Otu et al., 2021; Nagata et al., 2024).

literature reveals a critical research gap that the present study addresses: the disconnect between youths' high engagement with digital platforms and their limited comprehension of SRH information accessed through these channels. While existing scholarship documents digital access patterns and general awareness, far fewer studies examine how exposure to digital SRH communication including frequency of use, platform type, and quality of information influences comprehension specifically among Nigerian adolescents (Rea et al., 2022; Alhassan et al., 2025). Additionally, little is known about which platforms are most effective in promoting accurate, actionable SRH understanding versus spreading misinformation (Banougnin et al., 2023; Nagata et al., 2024). By simultaneously assessing exposure and comprehension, this study responds directly to these gaps and contributes needed evidence on how digital communication can be optimized to strengthen SRH knowledge and support more informed decision-making among Nigerian youths.

Conclusion

This study concludes that digital health communication plays a significant and growing role in shaping Nigerian youths' awareness and understanding of sexual and reproductive health (SRH), although its potential remains underutilized. Evidence shows that while many young people are exposed to digital platforms such as WhatsApp, Facebook, Instagram, YouTube, and SMS-based interventions, only a limited proportion actively use these channels to seek credible SRH information, and comprehension levels vary due to factors such as misinformation, stigma, digital inequities, and limited interactivity of available content. Structured digital interventions—particularly mobile health (mHealth) tools, chat-based services, and moderated social media campaigns—have demonstrated positive effects on SRH knowledge and interpretation skills, reinforcing their value in addressing existing educational and service gaps. However, challenges such as unequal internet access, privacy concerns, cultural barriers, and inconsistent quality of online content hinder full behavioural impact. Therefore, strengthening digital health communication systems, improving information accuracy, and expanding equitable access are critical for enhancing SRH literacy and supporting informed decision-making among Nigerian youths.

Recommendations

- i. The government and educational stakeholders should integrate structured, evidence-based digital SRH programmes—such as interactive mobile apps, online counselling platforms, and two-way SMS teaching modules—into secondary school and youth-development frameworks to increase exposure and improve comprehension of accurate SRH information.
- ii. Health agencies, NGOs, and professional bodies should collaborate to develop and regulate credible SRH content on widely used platforms such as WhatsApp, Instagram, TikTok, and YouTube by involving qualified health professionals to counter misinformation and enhance trust in digital SRH resources.
- iii. The government and telecommunication partners should invest in reducing digital inequality by improving internet accessibility, subsidizing data costs for educational SRH platforms, and strengthening digital literacy, particularly among girls and youths in rural or low-income communities who remain most disadvantaged.

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