



INFLUENCE OF SOCIAL MEDIA AWARENESS AND PERCEPTION OF RHESUS FACTOR AMONG WOMEN IN OKENE LOCAL GOVERNMENT AREA

BY

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Abstract

This study investigates the influence of social media awareness on the knowledge and perception of the Rhesus factor among women in Okene Local Government Area of Kogi State, Nigeria. The Rhesus factor, a critical component in maternal and child health, remains under-discussed in many rural and semi-urban communities, contributing to preventable complications during pregnancy. With the proliferation of social media platforms, particularly among young and reproductive-age women, this research explores how digital information dissemination shapes awareness, attitudes, and preventive practices concerning Rhesus incompatibility. Using a mixed-methods approach, data were collected through structured questionnaires and in-depth interviews with 300 women aged 18–45. Findings reveal a significant correlation between social media engagement and improved awareness of the Rhesus factor, though gaps persist in understanding medical implications and access to appropriate interventions. The study recommends enhanced use of targeted social media campaigns by health authorities and NGOs to bridge knowledge gaps and improve maternal health outcomes. These findings hold implications for public health communication strategies across similar socio-cultural contexts globally.

Keywords: Rhesus factor, social media awareness, women, Okene local government area, maternal health, perception, Rh incompatibility.

Introduction

Human health is profoundly shaped by the interplay between biological, social, and environmental factors. Genetic traits such as the Rhesus (Rh) factor play a



significant role in determining compatibility during blood transfusion and pregnancy (Waheed et al., 2024). The Rhesus factor an antigen found on the surface of red blood cells has been recognized as a determinant of compatibility in medical procedures since its discovery in 1937 (Irimwinuwa et al., 2023). Its clinical relevance is especially critical among women of reproductive age, as Rh incompatibility between a mother and her foetus can result in haemolytic disease of the newborn, miscarriage, or stillbirth (Arora et al., 2022). Despite the medical importance of Rhesus factor testing, awareness and understanding of its implications remain limited in many parts of Nigeria, particularly among rural and semi-urban populations (Olanrewaju et al., 2023). This gap underscores the need for targeted health communication strategies that effectively disseminate information and correct misconceptions. The increasing ubiquity of digital media platforms presents an opportunity to improve awareness. Social media has emerged as a transformative tool for health education and community engagement, enabling the spread of vital medical information to large audiences at minimal cost (Anwar et al., 2020).

In Okene Local Government Area, located in Kogi State, maternal health outcomes have historically been affected by limited access to antenatal education, cultural misconceptions, and inadequate public health infrastructure. Social media platforms such as WhatsApp, Facebook, and TikTok are, however, increasingly accessible among women, particularly the youth demographic. These platforms can influence perceptions, attitudes, and health-seeking behaviors (Saei et al., 2021). Understanding how women use and interpret social media information regarding the Rhesus factor is, therefore, essential for designing effective interventions that promote safe maternal health practices. Previous research has established that awareness of Rh factor testing among Nigerian women is still suboptimal and often mediated by informal information sources (Opeyemi et al., 2024). Social media can play a dual role, serving as both an enabler of accurate medical information and a conduit for misinformation (Albanna et al., 2022). The perception of the reliability of such content influences how women internalize and act upon health messages (Melki et al., 2022). As such, understanding the relationship between awareness (through social media) and perception (in terms of trust, accuracy, and relevance) becomes vital to improving maternal and neonatal health.

This study, therefore, seeks to investigate the influence of social media awareness and perception of the Rhesus factor among women in Okene Local Government Area. It explores the extent to which social media contributes to knowledge about Rh factor testing, the nature of women's perceptions regarding its importance, and the behavioral implications for maternal health decisions. The research draws from health communication and behavior change theories to frame its inquiry,



emphasizing the role of mediated communication in shaping health awareness and action.

Literature Review

The Rhesus Factor and Its Clinical Relevance

The Rhesus (Rh) blood group system is the second most important blood classification system after the ABO system and comprises over fifty known antigens, of which D, C, c, E, and e are most significant (Christian et al., 2024). The Rh(D) antigen determines whether an individual's blood type is Rh positive or negative. Rh incompatibility occurs when an Rh-negative mother carries an Rh-positive foetus, leading to maternal sensitization and the production of antibodies that attack foetal red blood cells. This immune reaction can result in haemolytic disease of the newborn (HDFN), causing severe anaemia, jaundice, or even foetal death (Okolo et al., 2024). Although the condition is preventable through early diagnosis and administration of Rh immunoglobulin, lack of awareness remains a major barrier to prevention. Arora et al. (2022) noted that cases of erythroblastosis fetalis continue to occur in developing regions where routine Rh testing and prophylaxis are not well institutionalized. In Nigeria, socio-cultural beliefs, economic challenges, and limited access to health education contribute to low awareness about Rh incompatibility (Olanrewaju et al., 2023). The problem is particularly acute among women in rural and peri-urban areas, where antenatal services are underutilized and informal communication networks dominate.

Social Media as a Tool for Health Awareness

Social media platforms have transformed the health communication landscape by providing interactive, real-time channels for information exchange. Unlike traditional mass media, social media allows users to both consume and share information, creating participatory spaces for dialogue and peer influence (Anwar et al., 2020). Studies have shown that social media campaigns can significantly increase public awareness of health issues, particularly when content is credible, engaging, and culturally relevant (Deuze, 2021). Platforms such as Facebook, Instagram, and WhatsApp are widely used in Nigeria and have proven effective in mobilizing awareness around public health topics including vaccination, HIV testing, and maternal health (Ogbodo et al., 2020). However, social media is also a source of misinformation, especially in low-resource settings where media literacy is limited. Albanna et al. (2022) cautioned that misleading or sensationalized content can distort public understanding of medical facts, leading to anxiety, stigma, or risky behaviours. Consequently, the perception of credibility becomes a



crucial determinant of whether social media information translates into positive health actions (Saei et al., 2021).

Perception and Health Behaviour

Perception plays a central role in shaping health-related behaviours. According to the Health Belief Model, individuals' actions are influenced by their perceived susceptibility to a health problem, perceived severity of its consequences, perceived benefits of action, and perceived barriers to taking that action (Sargent & Newman, 2021). When applied to the context of Rhesus factor awareness, women who perceive Rh incompatibility as a serious but preventable condition are more likely to seek testing and counselling.

In Okene, as in many Nigerian communities, women's health decisions are shaped not only by biomedical information but also by social and cultural contexts. Myths about blood group compatibility, reproductive destiny, and divine intervention can hinder health-seeking behaviour (Anwár et al., 2020). The perception of Rh testing as optional or irrelevant, often reinforced by misinformation or lack of exposure, can contribute to preventable pregnancy complications.

Social Media Use Among Women in Nigeria

Nigeria has witnessed a rapid increase in internet penetration and social media usage, with women constituting a significant portion of active users (Muluálem et al., 2024). For many women, particularly those in semi-urban areas like Okene, platforms such as WhatsApp and Facebook have become primary sources of health and lifestyle information. These digital communities often provide emotional support and facilitate knowledge exchange among peers. Yet, as Melki et al. (2022) observed, exposure to health-related content does not automatically guarantee comprehension or correct interpretation. Factors such as education level, digital literacy, and prior beliefs mediate how messages are received and acted upon.

Furthermore, Opeyemi et al. (2024) emphasized that while awareness of Rh factor testing is increasing among Nigerian women, understanding remains superficial, and practical uptake of testing services is limited. This disconnect highlights the need for strategic digital interventions that combine accessibility with verified medical accuracy.



Empirical Studies on Media Influence and Rhesus Awareness

Earlier studies (Chukwudalu et al., 2021; Deebom & Taylor, 2020) demonstrated that targeted media campaigns can significantly raise awareness of Rhesus factor testing among young adults. However, these studies predominantly focused on mass media channels such as television and radio, with limited exploration of digital and social media's role. In contrast, Waheed et al. (2024) and Okolo et al. (2024) argue that digital platforms, given their interactive nature, can achieve greater behavioural impact if properly harnessed. Despite these advantages, most rural women in Nigeria still rely on interpersonal communication and community networks for health information. The challenge lies in integrating social media-based awareness into existing social structures to ensure inclusivity and cultural relevance (Asohma, 2021). For instance, combining online campaigns with local health outreach can enhance both reach and credibility. The literature underscores that awareness of the Rhesus factor is essential to maternal and child health, yet knowledge gaps persist due to inadequate communication and socio-cultural barriers. Social media presents an opportunity to bridge these gaps by amplifying credible health messages, though its impact is contingent on perception, trust, and accessibility. This study, therefore, situates itself within the intersection of health communication and digital media studies, focusing specifically on how social media influences awareness and perception of the Rhesus factor among women in Okene LGA.

Methodology

The study employed a descriptive survey design to investigate the influence of social media awareness and perception of the Rhesus factor among women in Okene Local Government Area (LGA), Kogi State, Nigeria. This design was considered appropriate because it enables the collection of quantitative and qualitative data from a defined population to describe existing conditions and relationships (Nwachukwu et al., 2023). The focus was on how social media exposure shapes women's awareness, perception, and health-seeking behaviour concerning Rhesus factor testing and Rh incompatibility. Okene LGA, located in Kogi Central Senatorial District, is predominantly inhabited by the Ebira ethnic group. The area has a growing population of young women of reproductive age, many of whom are active users of mobile internet platforms. Despite improvements in access to maternal health services, local reports indicate that awareness of Rhesus factor testing remains low. Social media usage, however, is high, with WhatsApp, Facebook, and Instagram being the most used platforms among women. The target population for this study consisted of women of reproductive age (18–45 years) residing in Okene LGA. Using the formula for finite population sampling and a



95% confidence level, a sample size of 380 respondents was selected through multi-stage sampling. The LGA was stratified into urban and rural wards, and respondents were proportionately drawn to ensure representation across socio-economic backgrounds. A combination of purposive and simple random sampling techniques was applied, particularly targeting women who actively engage on social media platforms. A structured questionnaire was designed to elicit information on four key variables:

1. Demographic characteristics (age, education, marital status, parity);
2. Level of exposure to social media health content.
3. Awareness of the Rhesus factor and related complications.
4. Perception and attitude toward Rh testing and prevention.

The instrument was validated by experts in health communication and public health at Kogi State University, Anyigba, and its reliability tested through a pilot study in neighboring Adavi LGA, yielding a Cronbach's alpha of 0.81, indicating good internal consistency. Data was collected over a three-week period through both online and in-person administration of questionnaires, complemented by focus group discussions (FGDs) with 24 participants. Quantitative data were analysed using descriptive statistics (frequencies, means, percentages) and inferential analysis (Pearson correlation and regression) to test relationships between social media exposure, awareness, and perception. Qualitative responses from FGDs were thematically analysed to enrich interpretation.

Ethical approval was obtained from the Kogi State Ministry of Health Research Ethics Committee, and informed consent was sought from all participants. Respondents were assured of confidentiality and voluntary participation.

Results

Social Media Exposure and Health Information Access

Findings revealed that **93%** of respondents use at least one social media platform daily, with WhatsApp (87%) and Facebook (72%) being the most used. Approximately 68% of the respondents reported encounters with health-related messages online at least once a week. However, only 36% recalled seeing posts specifically related to blood group or Rhesus factor awareness. This suggests that while social media has high penetration, specific reproductive health topics such as Rh incompatibility are underrepresented in online discussions. These findings corroborate earlier studies by Saei et al. (2021) and Anwar et al. (2020), who found that the ubiquity of social media in Nigeria does not necessarily translate to proportional health awareness. The challenge lies in content focus and credibility.



Many respondents indicated that they rarely verify health claims shared on WhatsApp or Facebook, highlighting a potential risk of misinformation.

Awareness of the Rhesus Factor

Overall, 58% of respondents demonstrated basic awareness of the term “Rhesus factor,” but only 29% could correctly explain its significance in pregnancy. A majority associated it vaguely with “blood group differences” without understanding its clinical implications. This pattern mirrors national findings (Waheed et al., 2024; Opeyemi et al., 2024) that reveal persistent gaps in maternal health knowledge despite growing access to information technologies. The results also support the assertion of Olanrewaju et al. (2023) that misconceptions surrounding Rh incompatibility continue to hinder preventive behaviour. Women in Okene often learned about Rh testing only after pregnancy complications, a finding consistent with Arora et al. (2022), who linked poor awareness to higher rates of neonatal morbidity.

Perception of Rhesus Factor Testing

Perception analysis revealed that 74% of respondents regarded Rhesus factor testing as “important,” yet less than half (46%) had ever undergone the test. Some expressed doubts about its necessity unless advised by a healthcare professional. A recurring theme in focus group discussions was the belief that “God determines the outcome of every pregnancy,” reflecting deep-seated cultural and religious influences on health-seeking behaviour. These perceptions underscore the theoretical framework of the Health Belief Model (Sargent & Newman, 2021), which posits that individuals’ preventive actions depend on perceived susceptibility and perceived severity of a health threat. In Okene, perceived susceptibility was low because many women had never experienced visible complications, leading to complacency. Moreover, perceived barriers such as cost, limited health literacy, and mistrust in digital health information reduced proactive behaviour.

Influence of Social Media on Awareness and Perception

Regression analysis revealed a positive and statistically significant correlation ($r = 0.63$, $p < 0.05$) between social media exposure and awareness of Rhesus factor testing. Similarly, a moderate correlation ($r = 0.47$, $p < 0.05$) was found between awareness and positive perception of testing. This implies that increased exposure to credible social media health content can enhance both understanding and favourable attitudes toward Rh testing. These findings align with the work of Deuze (2021) and Ogbodo et al. (2020), who emphasized that well-structured digital



campaigns can promote community-level behavioural change. However, the qualitative data in this study revealed a cautionary dimension, many participants cited “fear,” “confusion,” or “contradictory messages” from online sources. As Albanna et al. (2022) noted, misinformation often circulates faster than verified medical facts, underscoring the need for digital health literacy initiatives.

Cultural Context and Communication Barriers

Cultural and religious beliefs emerged as significant mediators in how women interpret social media health messages. In Okene, patriarchal family systems often influence women’s medical decisions, and topics related to reproductive health are considered private or sensitive. Consequently, women may hesitate to discuss Rh compatibility openly or seek testing independently. This finding echoes Chukwudalu et al. (2021), who highlighted socio-cultural constraints as major impediments to effective health communication in Nigeria. It also supports Asohma (2021), who stressed that communication interventions must align with community norms and values to be effective. For social media to serve as a transformative tool, local health educators and influencers must contextualize messages in culturally resonant ways.

Implications for Public Health and Digital Communication

The results indicate that social media can be a potent mechanism for health awareness among women if harnessed responsibly. However, the absence of institutional coordination in online health communication perpetuates uneven knowledge dissemination. Integrating verified Rhesus factor education into existing social media health campaigns could bridge this gap. As Muluálem et al. (2024) argued, public health communication in the digital era must combine accessibility with accuracy. Partnerships between healthcare institutions, women’s groups, and online influencers could enhance message credibility. Moreover, employing local languages and culturally sensitive storytelling may further strengthen engagement and comprehension.

Conclusion

This study established that social media platforms significantly influence awareness and perception of the Rhesus factor among women in Okene Local Government Area. Most respondents demonstrated moderate awareness but limited comprehension of the medical implications of Rh incompatibility. Social media serves as both an opportunity and a challenge while it provides access to health information, it also facilitates the spread of misinformation. The study concludes



that social media's influence on health awareness is substantial but underutilized in structured public health communication. Effective integration of digital media into maternal health education programs can enhance preventive practices, improve early testing rates, and ultimately reduce Rh-related complications in pregnancy.

Recommendations

1. To effectively enhance awareness and understanding of the Rhesus factor among women of reproductive age, a multifaceted approach is recommended. First, the Kogi State Ministry of Health, in collaboration with relevant non-governmental organizations, should design and implement culturally sensitive digital campaigns.
2. These campaigns, disseminated through popular social media platforms, would promote Rhesus factor testing and counselling, ensuring that messages resonate with local beliefs and communication styles.
3. In addition, health literacy initiatives should be prioritized. Organizing workshops and webinars focused on digital health literacy would empower women to identify credible health information online, thereby reducing misinformation and fostering informed health decisions. Collaborations between healthcare providers and social media influencers also hold significant promise. By partnering with trusted voices who communicate in local dialects, healthcare institutions can ensure that accurate, relatable, and accessible health content reaches diverse audiences effectively.
4. Furthermore, Rhesus factor education should be systematically integrated into antenatal care programs. Embedding such information within routine maternal health services and promoting it through both online and offline channels would reinforce awareness and encourage timely testing and intervention. Finally, further research is essential to sustain and improve these efforts. Future studies should employ longitudinal research designs to examine the long-term behavioural impacts of targeted social media interventions on women's health practices and outcomes.

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