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Effectiveness of Social Media-Based Telemedicine Approach in Treating Patients with Postpartum Depression in Imo State

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Abstract

Postpartum depression (PPD) is a prevalent but underdiagnosed maternal mental health condition, particularly in low-resource settings such as Imo State, Nigeria. This study examined the effectiveness of social media-based telemedicine in diagnosing, treating, and managing PPD among postpartum women in Imo State. It explores the extent of user exposure levels, alongside the effectiveness of social media-based telemedicine practice and challenges encountered during implementation. This study adopted the survey research design. Findings indicate a high engagement rate among digitally literate mothers, especially those residing in urban centers, with notable improvements in emotional wellbeing, peer interaction, and access to expert support. However, challenges such as misinformation, digital health literacy disparities, cultural stigma, and infrastructural limitations persist, affecting overall impact and sustainability. The study underscores the need for culturally tailored, moderated, and policy-backed social media-based telemedicine programs. It further highlights the significance of improving digital health literacy and expanding infrastructure to bridge rural-urban disparities. Ultimately, the research provides empirical evidence to support the integration of digital health tools into Nigeria's maternal healthcare system, offering actionable insights for policymakers, healthcare providers, and community organisations committed to improving maternal mental health outcomes in under-resourced settings.

Keywords: Social Media, Telemedicine, Patients, Postpartum Depression, Imo State

Introduction

After childbirth, many women experience a common mental health issue called postpartum depression, which includes feelings of emotional ups and downs, worry, tiredness, and unhappiness. Worldwide,



roughly 10-15% of women suffer from major depression following childbirth, but many cases go unreported because of societal judgment (Uwakwe et al., 2020; O'Hara & McCabe, 2013). In Nigeria, the weight of postpartum depression is significantly heavy, particularly in Imo State southeast Nigeria, where the availability of good mental health services is scarce (Ebigbo & Izuora, 2020). Old ways of helping people are usually hard to get, costly, or looked down upon, leading experts and health workers to think about new digital methods like online doctor visits such as Aproko doctor, Nigeria health blog handle by *Dr greetings* as he is fondly called, My midwife and I handled by Joy Eluagwu among others. Telehealth is the provision of medical care using online communication tools like video chats, text messages, or mobile apps (World Health Organization [WHO], 2020). As more people in Nigeria use mobile phones and the internet, using telemedicine instead of face-to-face doctor visits is a good option, particularly for mental health care where privacy and adaptability are important (Online networks like Facebook, WhatsApp, and Telegram have become casual aids for remote healthcare by linking patients with doctors via instant messaging, support communities, and educational material (Akintunde & Ilesanmi, 2022; Olowookere et al., 2018). Naslund et al., (2016) noted that this new method—healthcare via social networks—is more commonly being added to programmes for mothers and children in areas with limited resources.

In the situation of postpartum depression, using social networks for remote healthcare is especially hopeful. Mothers with depression signs might prefer to get help and talk about their lives on social platforms instead of clinics where judgment and money issues can stop them. These services also offer chances for therapists to contact people who might be in danger proactively using questionnaire automated conversations, and video talks. In Imo State, where the facilities for maternal mental healthcare are not well-established, these methods could be revolutionary. Nonetheless, even with some success stories and trial initiatives, the practical impact of this method in places like Imo State has not been thoroughly studied. It is essential to assess if telemedicine via social media is meeting its goals regarding early detection of postpartum depression, ease of access, user involvement, and effectiveness of treatments. Additionally, it's crucial to grasp how much users are exposed to, how they accept it, and how satisfied they are, since these aspects decide the long-term success and effect.

Postpartum depression continues to be a neglected mental health issue in many Nigerian communities. The state is linked to unfavorable results for mothers, including less self-care, weak mother-child connection, and in extreme situations, thoughts of ending one's life (Gureje et al., 2015). The lack of mental health services and skilled workers in Imo State worsens the problem, leaving many mothers without prompt diagnosis or help. Societal false beliefs and prejudice make it harder for people to get help, resulting in a large unmet need for treatment (Ebigbo & Izuora, 2020). Traditional healthcare systems in the area frequently ignore mental health checks in prenatal and after-birth clinics. This mistake has led to finding the illness too late or not finding it at all. Additionally, the limited mental health services are focused in city areas, neglecting those in the countryside. Mothers who want to talk to mental health experts are frequently stopped by how far away they are, money issues, and not knowing enough about it.

The emergence of online healthcare via social networks provides a different route. With the common use of smartphones and growing digital knowledge, platforms like WhatsApp, Facebook, and YouTube are already being used to spread information about maternal health (Nasir et al., 2021). Some charity groups and medical workers have started testing initiatives that offer mental health treatment, mutual aid, and expert advice through social media platforms. Despite this, the blending of these online instruments into official plans for maternal mental health is still irregular. Even with this new development, there is not much research showing how well these services work for identifying and managing postpartum depression. Are women engaging with the content and services provided through social media-based telemedicine? Are these services accessible to mothers in remote areas? Is there a measurable improvement in mental health outcomes following their use?



This research is a reaction to these areas of ignorance. It examines the extent, adoption, and effect of online healthcare via social media for addressing postpartum depression in Imo State. This research aims to address this void by evaluating the success of online healthcare methods via social media in managing postnatal depression among women in Imo State.

Objectives of the Study

The specific objectives of this study are to:

1. examine the extent of exposure of postpartum women in Imo State to social media-based telemedicine interventions;
2. assess the effectiveness of these digital approaches in treating postpartum depression among the target population and
3. identify the various challenges in using social media-based telemedicine in Imo State.

Theoretical Framework

This study adopted the Technological Determinism Theory as its theoretical framework. The main tenet of the theory is that the nature of any society is defined by its technology. According to Oladele and Asemah (2022), technology is the main factor that shapes a society's culture and its historical trajectory. The idea that a society's technological capabilities dictate its social structure, historical trajectory, and cultural values is known as technological determinism (Mediawiki.edu, 2008, cited in Aboh et al., 2021). The emergence of telemedicine can be attributed to the transformation of communication brought about by technological advancements.

American sociologist and economist Thorstein Veblen (1857–1929) first used the phrase "technological determinism." Among American thinkers of the twentieth century, Clarence Ayres—a disciple of Thorstein Veblen and John Dewey—was arguably the most extreme technical determinist. Radical technological determinism was another area in which William Ogburn excelled (Technological Determinism, 2016). Karl Marx, a German philosopher and economist, laid the groundwork for what would become known as a technological determinist theory of socioeconomic development. According to Marx, changes in technology—and more especially, productive technology—have a profound impact on human social relations and organisational structure. In turn, this, causes cultural practices and social relations to revolve around a society's technological and economic foundation. Modern society has internalised Marx's stance, with the widespread belief that people's lives are impacted by rapidly evolving technologies (Technological Determinism, 2016).

The core tenet of the theory is that technological development in any particular society is what ultimately defines that society. This is because technological advancement is considered as the primary factor shaping a society's culture and its historical trajectory.

Thus, TDT provides a robust framework to examine how exposure to social media-based telemedicine influences postpartum mothers' behaviour, emotional outcomes, and help-seeking patterns in Imo State.

Method

This study adopted the survey research design to systematically assess the effectiveness of social media-based telemedicine interventions for postpartum depression (PPD) among women in Imo State. The descriptive survey design was selected to allow the collection of primary data from a representative sample of postpartum women, focusing on their exposure to, usage patterns of, and perceived effectiveness of such digital interventions (Onyebuchi et al., 2026). The target population comprised postpartum women who had delivered a child within the past 12 months and were residing in Imo State at the time of the study. This population was selected because women in this category are at a high risk of



experiencing postpartum depression and may be more inclined to use mobile phones and social media for health-related information and support. The estimated **population** of postpartum women in Imo State, based on hospital delivery records and local health directories, was approximately 20,000 (Imo State Ministry of Health delivery records, 2024).

A total of 300 respondents were selected using **multi-stage sampling**. In the first stage, three major local government areas (LGAs) — Owerri Municipal, Mbaitoli, and Orlu — were purposively chosen based on their high urbanisation levels, internet penetration, and availability of maternal health services. In the second stage, simple random sampling was used to select five public health centres and five private maternity clinics in each LGA. In the final stage, systematic sampling was applied to recruit eligible postpartum women attending postnatal care services at these centres. **The sample size** of 300 was considered statistically adequate to represent the population and ensure generalisability of findings, following Cochran's formula for sample size determination.

The instrument used was a structured questionnaire was used for data collection. The questionnaire was divided into two sections. Section A covered demographic characteristics such as age, parity, education, and marital status. Section B assessed psychographic data from respondents. The items were structured in a 5-point Likert scale ranging from "Strongly agree" to "Strongly disagree." The instrument was pre-tested on 20 postpartum mothers outside the study areas to ensure clarity and reliability, yielding a Cronbach's alpha of 0.84, indicating good internal consistency. Data were collected by researcher via physical contacts. Respondents were given sufficient time and privacy to complete the forms. The data collected were analysed using the Statistical Package for the Social Sciences (SPSS) version 26.0. Descriptive statistics such as frequencies, means, were used to summarize demographic characteristics and general patterns of usage.

This study adhered strictly to ethical research practices. Participants were informed of the objectives of the study, and written consent was obtained prior to data collection. Confidentiality and anonymity were assured, and respondents were informed of their right to withdraw at any point without any consequences. Special care was taken to avoid any psychological harm, and referrals were made available for participants who exhibited signs of moderate to severe PPD during the course of the study.

Findings

TABLE 4.1: Demographic Representation

Question	Most Frequent Response	Percentage(%)
Gender	Female	98%
Age Range	26-39	87%
Education	Bachelor's degree/HND	50%
Residence	Owerri Municipal	70%

Source: Field Survey, 2025.

The demographic representation of respondents above, reveals (98%) women. The dominant age group was between 26 and 39 years constituting (87%). Most respondents possessed tertiary education (85%) with (50%) holding B.Sc/HND, (88%) live in the 3 selected L.G.A(Orlu, Mbaitoli and Owerri Municipal) with 70% in Owerri municipal alone.



TABLE 4.2: Social Media Usage

Platforms	Frequency	Percentage
Facebook	109	36.3
Instagram	71	23.6
Youtube	53	17.6
X (Twitter)	35	11.6
Tiktok	32	10.6
Total	300	100

Source: Field Survey, 2025.

Facebook remains the most widely used platform, followed closely by Instagram and YouTube. The high usage of visual platforms like YouTube and Tiktok indicate that video-based storytelling may be a preferred mode for receiving telemedicine content. These findings suggest a promising channel for engaging individuals through narrative that resonate emotionally.

RQ.1: To what extent are postpartum women in Imo State exposed to postpartum telemedicine on social media?

TABLE 4.3: Respondents' view on Accessibility and Usage of Social Media-Based Telemedicine

Item Statement	SA	A	N	D	SD	$\bar{X}$	Decision
I find it easy to access antenatal or postnatal services via social media.	120	90	60	20	10	4.0	Accepted
Social media health platforms are available 24/7 for postpartum consultations.	130	100	50	15	5	4.1	Accepted
I often consult midwives or doctors through social media platforms	40	55	50	75	85	2.6	Rejected
Grand Mean						3.5	Accepted

Source: Field Survey, 2025.

Decision rule: Given that the benchmark of a 5-point Likert scale is stated at 3.0, this means that when the calculated mean is above 3.0, then the item in question is accepted. However, if the calculated mean is below 3.0, then the item is rejected.

The findings indicate that postpartum women generally find it easy to access antenatal and postnatal services via social media platforms, with a mean score of 4.0. Similarly, the perception that social media health platforms are available 24/7 for consultations was widely accepted (mean = 4.1). However, the statement regarding the frequent consultation with midwives or doctors through social media was rejected, with a low mean score of 2.6. The overall average mean of 3.5 shows that while accessibility is not a major issue, actual engagement with healthcare professionals via social media is relatively low.



RQ.2. How effective are social media telemedicine in improving the mental health of postpartum women?

TABLE 4.4: Respondents' view on Effectiveness of Social Media Telemedicine on Postpartum Depression

Item Statement	SA	A	N	D	SD	$\bar{X}$	Decision
Social media consultations help me manage postpartum anxiety.	110	100	60	20	10	3.9	Accepted
Telemedicine via Facebook/WhatsApp has improved my emotional health	125	95	50	20	10	4.0	Accepted
The health information provided online is reliable and effective.	95	105	70	20	25	3.8	Accepted
I feel supported emotionally through online midwife communities.	115	90	70	15	10	3.9	Accepted
Grand Mean						3.6	Accepted

Source: Field Survey, 2025.

The data reveal positive perceptions of the effectiveness of social media telemedicine in managing postpartum mental health. Respondents acknowledged that consultations via social media help manage anxiety (mean = 3.9) and improve emotional health (mean = 4.0). Furthermore, the reliability of online health information (mean = 3.8) and emotional support through online midwife communities (mean = 3.9) were also affirmed. With an average mean of 3.6, the responses suggest a moderately high level of perceived effectiveness of social media-based telemedicine in supporting mental health.

RQ.3: What are the challenges faced by social media telemedicine practice?

TABLE 4.5 Respondents' view on Challenges in Using Social Media-Based Telemedicine

Item Statement	SA	A	N	D	SD	$\bar{X}$	Decision
I am concerned about the privacy of my health information online.	130	90	50	20	10	4.0	Accepted
Network issues sometimes limit access to online care.	145	85	40	20	10	4.1	Accepted
I prefer in-person care because of limited trust in online services.	100	95	60	30	15	3.7	Accepted
I feel supported emotionally through online midwife communities.	120	85	65	20	10	3.9	Accepted
Grand Mean						3.9	Accepted

Source: Field Survey, 2025.

Participants reported significant concerns regarding privacy (mean = 4.0), network issues (mean = 4.1), and a preference for in-person care due to limited trust in online services (mean = 3.7). Interestingly, emotional support from online communities also received a relatively high mean score (3.9), even though it appeared under challenges. Overall, the average mean of 3.9 indicates that despite recognising the benefits, postpartum women in Imo State face notable barriers to optimal utilisation of social media-based telemedicine.



Discussion

The findings from this study indicate that social media-based telemedicine is a promising yet underutilised tool for supporting postpartum women in Imo State, particularly in managing depression and anxiety. The technological determinism theory's core constructs provide a useful lens to interpret the impact of social media interventions on maternal mental health. Firstly, high levels of accessibility and 24/7 availability of social media health platforms point to a conducive environment that supports health-seeking behaviour which is in line with the findings of (Ebigbo & Izuora, 2020). According to TDT, environmental enablers such as resource accessibility and positive reinforcement can facilitate behaviour change. The data show that most women find it easy to access antenatal and postnatal services online, suggesting that the platforms serve as effective enablers for those in need of support, especially within urbanized areas like Owerri Municipal.

However, the relatively low rate of actual consultations with healthcare providers via social media (mean = 2.6) suggests a gap in translating potential into action. This gap may indicate low self-efficacy among postpartum women regarding online consultations, possibly due to unfamiliarity, lack of trust, or digital literacy limitations. In terms of effectiveness, respondents generally perceived social media telemedicine as helpful in managing emotional health challenges. Improvements in anxiety and emotional well-being, as well as the reliability of health information and online community support, align with TDT's concept. Women may be observing peer experiences and role models within virtual communities, which in turn enhances their confidence and encourages coping behaviours (Abba et al., 2023).

Nevertheless, the persistent challenges of privacy concerns, network limitations, and trust issues highlight potential deterrents within the TDT framework. These concerns act as negative outcome expectations and barriers to behavior change. For example, if women expect that their personal data might be compromised or that the quality of care is subpar, they are less likely to adopt the service fully. Also, infrastructural issues such as poor internet connectivity reduce the efficiency of environmental enablers, creating a hostile atmosphere for telemedicine to thrive.

In summary, the integration of TDT into these findings provides a nuanced understanding of how social media-based telemedicine influences postpartum mental health. While environmental and cognitive enablers exist, their impact is limited by psychological and systemic constraints. Addressing self-efficacy, privacy protection, trust-building, and digital infrastructure could significantly enhance the effectiveness and adoption of these interventions in Imo State and beyond.

Conclusion and Recommendations

This study set out to explore the accessibility, effectiveness, and challenges of using social media-based telemedicine to treat postpartum depression among women in Imo State. Drawing on empirical data and grounded in technological determinism theory, the findings revealed that postpartum women are largely aware of and have access to social media platforms for healthcare purposes. The most frequently used platforms—Facebook, Instagram, and YouTube—highlight a preference for visual and interactive digital communication, which supports TDT's emphasis on technology determining behaviour. The research revealed moderate-to-high engagement with available digital health services, particularly regarding informational support and emotional community interaction. However, direct engagement with healthcare professionals via social media was relatively low. Despite this, respondents acknowledged that these platforms helped manage postpartum anxiety, improved emotional well-being, and provided reliable information—indicating a favorable perception of the effectiveness of social media-based interventions.

Nonetheless, significant challenges were identified. Issues such as data privacy concerns, unreliable internet access, and limited trust in the quality of online consultations were consistently reported. These barriers affect self-efficacy and user confidence, thus inhibiting wider adoption and effective utilisation of



digital health interventions. In conclusion, social media-based telemedicine holds substantial potential in addressing postpartum depression among women in Imo State. While the foundation for digital health engagement exists, particularly in urban centers, its full effectiveness is contingent upon improving user trust, data protection, healthcare professional engagement, and digital infrastructure.

1. Public health institutions should invest in targeted awareness campaigns to inform postpartum women about the availability and benefits of using social media for antenatal and postnatal mental health care.
2. Develop user-friendly telemedicine applications and provide digital literacy training to improve women's ability to engage confidently and effectively with social media-based health interventions.
3. Integrate Certified Healthcare Providers into Platforms: Employ licensed midwives, nurses, and psychologists within these platforms to offer real-time, personalised consultations that enhance perceived trust and medical reliability. Leverage platforms like Facebook, Instagram, and YouTube to deliver short, relatable video narratives and testimonials that educate and motivate users—capitalizing on the principles of observational learning from SCT.

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