

IN VITRO FERTILIZATION, SOCIAL NETWORKS, AND MISINFORMATION: IMPACT ON MENTAL HEALTH

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Abstract: In the contemporary digital environment, characterized by the rapid dissemination of information, women undergoing in vitro fertilization (IVF) treatments increasingly rely on social media platforms for emotional support and health-related information. This paper examines the interaction between IVF-related content shared on platforms such as Facebook, Instagram, TikTok, YouTube, and AI-based tools, and users' perceptions, with particular emphasis on the risks of misinformation. The study analyzes the psychological consequences associated with exposure to inaccurate or misleading content, including anxiety, depression, and feelings of guilt. Furthermore, it explores the dual role of emerging technologies, such as large language models, in both mitigating and potentially contributing to misinformation. To address these challenges, the paper proposes strategies focused on developing digital critical literacy, implementing safe online practices, and integrating evidence-based communication interventions. These approaches are essential for safeguarding the mental health and well-being of women undergoing IVF treatments in the digital age.

Keywords: in vitro fertilization, social media, misinformation, mental health, digital literacy

1. INTRODUCTION

The rapid evolution of digital communication technologies has fundamentally transformed the ways in which individuals access, interpret, and engage with health-related information. Social media platforms, in particular, have become central spaces for the dissemination of medical knowledge, peer support, and experiential narratives. For women undergoing in vitro fertilization (IVF), these platforms often function as both informational resources and emotional support networks during a highly complex and emotionally demanding medical process. The immediacy and accessibility of online communication enable users to connect with others facing similar challenges, thereby reducing feelings of isolation and fostering a sense of community.

However, this digital ecosystem is characterized by a critical tension between accessibility and reliability. While social media democratizes information sharing, it simultaneously facilitates the rapid spread of misinformation, unverified claims, and anecdotal experiences that may be perceived as authoritative. The algorithm-driven nature of platforms such as Facebook, Instagram, TikTok, and YouTube prioritizes engagement over accuracy, often amplifying emotionally charged or sensational content. In the context of IVF, where outcomes are uncertain and deeply personal, such content can significantly shape users' perceptions, expectations, and decision-making processes.

The concept of health misinformation has gained increasing attention in recent years, particularly in relation to its impact on vulnerable populations. Women undergoing IVF represent a uniquely sensitive group, as they navigate not only the physical demands of treatment but also profound psychological stressors, including uncertainty, hope, and fear of failure. Within this context, exposure to misleading or inaccurate information may exacerbate existing emotional burdens, leading to heightened anxiety, self-doubt, and maladaptive coping strategies. Moreover, the blending of scientific terminology with personal narratives in online spaces can blur the distinction between evidence-based guidance and subjective opinion, making it difficult for users to critically evaluate the credibility of information.

In addition to traditional social media platforms, the emergence of artificial intelligence-based tools has further complicated the informational landscape. While these technologies offer new opportunities for enhancing digital health literacy and providing accessible explanations of complex medical concepts, they also introduce risks related to the generation and dissemination of inaccurate or oversimplified content. As such, the contemporary digital environment requires users to navigate an increasingly complex interplay of information sources, each with varying degrees of reliability.

Given these challenges, it is essential to adopt a multidimensional perspective that considers not only the informational dynamics of social media but also their psychological implications. This paper aims to explore how IVF-related content is produced, circulated, and interpreted within digital platforms, with a particular focus on the role of misinformation in shaping users' mental health outcomes. Furthermore, it seeks to identify strategies that can enhance digital critical literacy, promote safe engagement with online content, and support the psychological well-being of women undergoing IVF treatments. By integrating insights from health communication, psychology, and

digital media studies, this research contributes to a deeper understanding of the opportunities and risks associated with social media use in reproductive health contexts.

2. SOCIAL MEDIA AND MISINFORMATION IN IVF CONTEXTS

In recent years, social media platforms have emerged as primary channels for sharing health-related information, including IVF treatments. According to Bekalu et al. (2023), more than 60% of users seeking health information online encounter unverified or misleading claims, which may influence their medical decisions. The architecture of these platforms—driven by engagement metrics such as likes, shares, and comments—facilitates the rapid spread of emotionally charged and often inaccurate content.

Research by Laforet et al. (2022) highlights the prevalence of incomplete or misleading medical information in online video content, demonstrating that even widely viewed educational materials may lack scientific accuracy. Although their study focuses on BRCA mutations, the findings are transferable to IVF-related content, where complex medical procedures are often simplified or misrepresented. Similarly, Morris et al. (2023) emphasize that digital health tools, while accessible, can lead to misinterpretation when users lack adequate guidance or reliable sources.

In the IVF context, personal testimonies frequently dominate online discourse. While these narratives provide emotional resonance, they may inadvertently promote misconceptions about treatment success rates, lifestyle factors, and medical interventions. As a result, patients may develop unrealistic expectations or adopt practices that are not supported by clinical evidence.

3. PSYCHOLOGICAL IMPACTS OF MISINFORMATION EXPOSURE

Exposure to misinformation in the context of IVF has significant psychological consequences. Women undergoing fertility treatments are already in a vulnerable emotional state, and the constant influx of conflicting or sensationalized information can exacerbate stress and uncertainty.

One of the most prominent effects is increased anxiety. Continuous exposure to alarming or contradictory advice may lead individuals to obsessively monitor their behaviors and treatment outcomes. This heightened vigilance often disrupts daily functioning and contributes to chronic stress.

Moreover, misinformation can foster feelings of guilt and self-blame. Online discussions frequently promote the notion that successful IVF outcomes are contingent upon strict adherence to specific behaviors or “hidden” strategies. When treatments fail, women may internalize these narratives, believing that they are personally responsible for the outcome. This dynamic significantly undermines self-esteem and emotional resilience.

Empirical studies support these observations. Bekalu et al. (2023) note that exposure to health misinformation is associated with increased psychological distress and maladaptive coping mechanisms. Similarly, Shafaghi et al. (2024) report that the dominance of “success stories” on social media can lead to social comparison, reduced self-esteem, and feelings of isolation among women who experience unsuccessful IVF cycles. In some cases, these emotional burdens may even contribute to the decision to discontinue treatment.

Additionally, the curated nature of social media content reinforces unrealistic expectations. Influencers and content creators often present idealized narratives, omitting the complexities and uncertainties inherent in IVF treatments. This selective representation can intensify feelings of inadequacy and hopelessness among users.

4. THE ROLE OF ARTIFICIAL INTELLIGENCE AND DIGITAL TOOLS

The emergence of artificial intelligence (AI), particularly large language models, introduces both opportunities and challenges in addressing misinformation. Tools such as AI-based chat systems can enhance access to information by providing clear explanations of complex medical concepts and summarizing scientific research. This capability has the potential to improve digital health literacy and empower users to make informed decisions.

AI can also assist in identifying misleading content by flagging inconsistencies and recommending credible sources. In online communities, such tools may support moderation efforts by responding to frequently asked questions and correcting inaccurate claims in real time.

However, these technologies are not without limitations. AI systems may generate inaccurate or fabricated information, commonly referred to as “hallucinations,” which can further contribute to misinformation if not critically evaluated. Iqbal et al. (2025) emphasize that the integration of AI in healthcare requires careful oversight and user education to ensure reliability and ethical use.

Therefore, while AI represents a promising tool for combating misinformation, it must be implemented alongside robust verification mechanisms and user training.

5. STRATEGIES FOR PROTECTING MENTAL HEALTH

Given the complex interplay between social media use and psychological well-being, the development of targeted strategies is essential. The following approaches, supported by recent research, aim to mitigate the negative effects of misinformation and enhance resilience among women undergoing IVF treatments.

Improving users' ability to critically evaluate online content is a fundamental step. This includes training in identifying credible sources, recognizing sensationalist language, and understanding the peer-review process. Chen et al. (2022) propose comprehensive frameworks that combine educational interventions with automated detection tools to address health misinformation effectively.

Establishing clear guidelines for online engagement can reduce exposure to harmful content. These include managing privacy settings, limiting time spent on potentially distressing platforms, and actively reporting misinformation or abusive interactions. Structured moderation within online communities can further enhance the quality of shared information.

Multimedia interventions, such as short educational videos featuring healthcare professionals and psychologists, have shown promise in improving mental health outcomes. Jankowski et al. (2023) demonstrate that such interventions can reduce stigma and promote emotional well-being. Adapting these approaches to the IVF context may help balance expectations and counteract misinformation.

Healthcare providers should actively engage with patients regarding their use of social media. Encouraging open discussions about online information can help identify misconceptions and reinforce evidence-based practices. This collaborative approach strengthens trust and supports informed decision-making.

6. CONCLUSION

The findings presented in this paper underscore the complex and often paradoxical role of social media in the context of in vitro fertilization. On one hand, digital platforms provide essential spaces for connection, emotional support, and the exchange of experiences among women undergoing IVF treatment. These virtual communities can alleviate feelings of isolation, normalize the challenges associated with infertility, and offer practical insights into navigating medical procedures. The psychological implications of this duality are profound. Exposure to misleading or sensationalized information contributes to increased levels of anxiety, depression, and emotional distress, particularly among individuals already experiencing the uncertainties and pressures of fertility treatment. The internalization of unrealistic expectations and the tendency toward social comparison further exacerbate feelings of inadequacy, guilt, and self-blame. In this sense, misinformation is not merely an informational problem but a significant public health concern with tangible effects on mental well-being.

Addressing these challenges requires a comprehensive and interdisciplinary approach. Enhancing digital critical literacy emerges as a central strategy, enabling individuals to more effectively evaluate the credibility of online content and distinguish between evidence-based information and anecdotal claims. At the same time, the implementation of structured guidelines for safe social media use can help mitigate exposure to harmful content and foster healthier patterns of engagement.

The integration of evidence-based digital interventions, including professionally designed multimedia content, represents another promising avenue for supporting mental health. Such interventions can counteract misinformation by presenting accurate, accessible, and empathetic information tailored to the needs of IVF patients. Furthermore, the responsible incorporation of artificial intelligence tools offers potential benefits in terms of information accessibility and moderation, provided that their limitations are clearly understood and addressed through appropriate safeguards.

Importantly, healthcare professionals have a critical role to play in bridging the gap between digital information and clinical practice. By engaging in open dialogue with patients about their online information-seeking behaviors, practitioners can help contextualize and clarify potentially misleading content. This collaborative approach not only strengthens trust but also empowers patients to make informed decisions grounded in reliable evidence.

In conclusion, the digital age presents both unprecedented opportunities and significant challenges for women undergoing IVF treatment. While social media can serve as a valuable source of support, its impact on mental health is deeply influenced by the quality and reliability of the information it disseminates. Ensuring the well-being of this population requires coordinated efforts across technological, educational, and healthcare domains. Only through the synergistic implementation of these strategies can the benefits of digital connectivity be fully realized while minimizing the risks associated with misinformation.

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