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Netnographic Analysis in Healthcare-Related Research and Education

Nursyuhadah Othman[1,2], Roz Azinur Che Lamin[1], Azwandi Ahmad[3], Mohd Shahezwan Abd Wahab[4,5], Syarifah Ab Rashid[6]

[1]*Faculty of Pharmacy, Universiti Teknologi MARA Cawangan Pulau Pinang, Bertam Campus, Pulau Pinang, MALAYSIA*

[2]*Telehealth and Remote Patient Care Research Interest Group, Universiti Teknologi MARA, Puncak Alam Campus, Selangor, MALAYSIA*

[3]*Department of Pharmacology and Pharmaceutical Life Science, Faculty of Pharmacy, Universiti Teknologi MARA, Puncak Alam Campus, Selangor, MALAYSIA*

[4]*Department of Clinical Pharmacy, Faculty of Pharmacy, Universiti Teknologi MARA, Puncak Alam Campus, Selangor, MALAYSIA*

[5]*Elderly Medication and Safety Research Interest Group, Faculty of Pharmacy, Universiti Teknologi MARA, Puncak Alam Campus, Selangor, MALAYSIA*

[6]*School of Biological Sciences, Universiti Sains Malaysia, Pulau Pinang, MALAYSIA*

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ABSTRACT

Netnography is often described as part of 'techno culture' and stands as an adaptation of ethnographic research for digital environments. It provides unique opportunities for medical professionals and educators to understand these digital interactions, particularly in disease management and overall well-being. This commentary highlights online health sharing and its challenges, outlines key steps in netnographic analysis, and delineates future research directions. In conclusion, netnography offers a promising avenue for health research, particularly in medical education, as individuals' growing freedom to discuss health-related issues on social media provides valuable opportunities for educators and healthcare professionals to gain insights into societal perspectives on emerging health topics. Moreover, netnography findings may serve as a powerful tool for improving health literacy and shaping evidence-based healthcare communication in an increasingly digital world.

Keywords: *Netnography, Healthcare research, Medical education, Qualitative analysis, Online communities*

CORRESPONDING AUTHOR

Nursyuhadah Othman, Faculty of Pharmacy, Universiti Teknologi MARA Cawangan Pulau Pinang, Bertam Campus, 13200 Kepala Batas, Pulau Pinang, Malaysia

Email: syu3010@gmail.com

INTRODUCTION

The digital transformation of healthcare has prompted the proliferation of online health communities, social media discussions, and virtual support networks, hence shaping how patients, caregivers, and healthcare professionals (HCPs) engage with medical information. As a result, netnography has emerged as a powerful qualitative tool for studying these digital

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interactions (1). Researchers have used the method to explore online communities and digital interactions across multiple disciplines (2–4). Like its antecedent (i.e., ethnography), netnography investigates cultural behaviours in the digital realm, where social interactions occur beyond physical spaces. It interprets meanings within online interactions, expressions, and engagements, which collectively contribute to the term 'techno culture' (5). This conceptualisation includes symbolic vocabularies, digital gestures, and social media affordances that define virtual interactions.

Understanding digital interactions within social media networks, such as Facebook, Reddit, Twitter, and TikTok, aligns with broader geographical and sociological theories of spaces and places (1,6). Virtual environments, including online patient forums, social media, and professional networks, also serve as dynamic spaces where individuals engage, share their experiences, and seek medical guidance. These platforms can be conceptualised as places where digital support and self-care practices occur, closely resembling traditional patient gatherings in community settings. While some platforms provide essential emotional and informational support for patients (7–9), others raise concerns about misinformation and unverified medical advice (10,11).

To date, more members of the public, including patients and caregivers, are accessing online platforms for health information exchange, peer support, and decision-making. This trend offers valuable opportunities for netnographic analysis. A previous mapping review reported a rising trend of published netnographies in nursing research, with 34% of the sample released in 2021 (6). Furthermore, a netnographic analysis of Twitter discussions on the evolution of Spanish perceptions and behaviours towards telemedicine during coronavirus 2019 (COVID-19) indicated that the pandemic influenced emotions and topics of interest associated with telemedicine (12). Another netnographic investigation of self-care practices among older individuals with chronic diseases found that online communities serve as a significant source of peer support and knowledge, potentially offering a cost-effective way to enhance conventional care (13). These findings underscore the need to adopt innovative approaches, including integrating telemedicine and peer support, in managing infectious and chronic diseases. It is also imperative to incorporate such interventions into the training of future healthcare professionals.

Despite the growing recognition of netnography as a valuable research tool, its application in healthcare studies remains scarce. Its current use largely centres on fields like marketing and tourism (14), while overlooking other important sectors, such as health or disease management, as well as medical education and practice. This commentary aims to address such gaps by exploring the relevance of netnography in healthcare research and education, with a particular focus on (a) the current situation and challenges of online health information sharing, which may contribute to the needs of netnography; (b) the steps involved in netnographic analysis; and (c) the future of netnography research in medical education.

ONLINE HEALTH INFORMATION SHARING AND ITS CHALLENGES

Online platforms (e.g., Facebook groups, Reddit communities, and disease-specific forums) provide valuable spaces where individuals with shared health concerns can discuss issues, offer support, and seek medical advice (15). A key advantage of online health communities is their accessibility and inclusivity. In contrast, traditional healthcare settings are often limited by geographical barriers; online communities allow users from different backgrounds and

locations to exchange experiences and knowledge (16). This is particularly beneficial for those with rare diseases, chronic illnesses, or mental health conditions who may struggle to identify local support groups or healthcare providers with specialised knowledge. Moreover, digital platforms offer anonymity, enabling users to discuss sensitive health issues without fear of stigma or judgement (3). A scoping review on online support for those with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) revealed that online support groups serve as platforms for individuals to seek informative or emotional help (17).

While the internet provides a wealth of health-related information, its unregulated nature raises questions about accuracy, reliability, and credibility. Many online discussions are driven by patient anecdotes and layperson experiences, which, while valuable, may lack scientific validation. A significant concern is the proliferation of health misinformation and the application of unproven treatments, particularly in areas like cancer treatments, management of chronic illness, and alternative medicine (18–20). Studies have indicated that individuals often turn to online sources for self-diagnosis and treatment advice, sometimes leading to delayed medical care, inappropriate self-medication, or the adoption of unproven therapies (21). Therefore, netnography research is crucial for understanding patients' concerns, identifying cultural and social influences that may affect their treatment regimens, and providing valuable insights that can enhance medical education and clinical practice.

Aligned with the educational applications of netnography, recent evidence from medical education has underscored the urgency of integrating digital-health literacy and online discourse into curricula. A survey among students at Dutch medical schools found that the growth of digital-health sites also calls for medical educators to create awareness regarding the risks of unprofessional online behaviour among medical students (22). Similarly, a systematic review of social-media usage in graduate medical education showed mixed effects on education, recruitment, and professionalism, signalling the need to actively guide, teach, and scaffold digital-professional behaviour (23). Research has also highlighted how online health communities drive patient empowerment and reflect complex dynamics of peer-support, misinformation, and patient-provider relations, all of which are conversational data that can be analysed via netnography (24). These findings align with the present argument: netnographic insights into public sentiment, misinformation patterns, patient-peer discourse, and cultural influences provide evidence for updating educational content. By aligning netnography-derived findings with documented gaps in digital-health training, educators can better calibrate curricula around health communication, peer-driven support systems, digital professionalism, and community engagement, ultimately turning online community data into meaningful teaching and training strategies.

STEPS IN NETNOGRAPHIC RESEARCH

Netnography follows a systematic, structured approach that ensures rigour and credibility when studying online health communities (1,3). While traditional ethnography relies on physical engagement, netnographic research involves planning the study, gaining access to the community (entrée), collecting data, interpreting findings, upholding ethical standards, and presenting the research outcomes (1,25). Researchers must carefully assess community dynamics, member interactions, and thematic patterns while adhering to established qualitative research standards (26). The procedures for netneographic analysis are outlined in Figure 1.

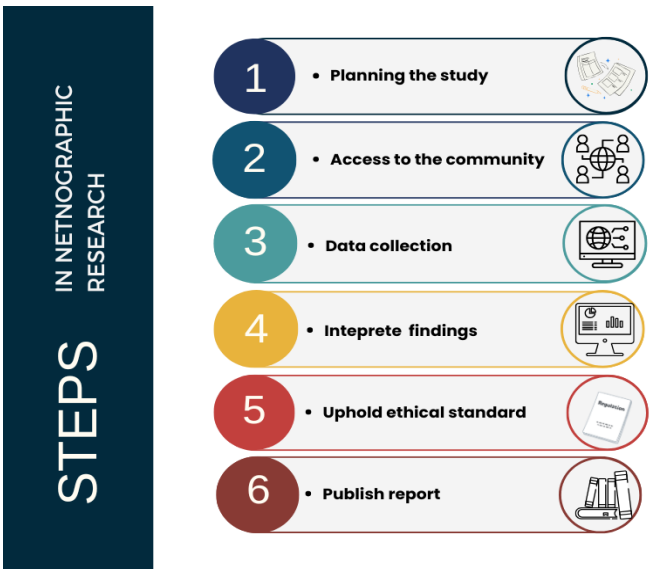


Figure 1: Six steps in netnographic research.

A fundamental aspect of netnography is its ethical framework, which prioritises the protection of participant anonymity, data confidentiality, and research integrity. Information on the internet is often seen as public domain and therefore requires no informed consent (27). Given the characteristics of online communities and the fact that traditional ethical rules fail to encompass the intricacies of the distinctive netnographic research framework, researchers must use a 'negotiated ethics' strategy. Convery and Cox delineated seven fundamental concerns for conducting internet-based research: the level of intrusiveness; the privacy status of the group (whether public or private); the vulnerability of the community being studied; the potential for the research to cause harm; the extent to which anonymity can be protected; the intellectual property rights belonging to the group; and whether informed consent is necessary in light of these considerations (27). This suggests that negotiated ethics requires ongoing ethical evaluation to balance academic inquiry with participant privacy (28).

THE FUTURE OF NETNOGRAPHY IN HEALTHCARE RESEARCH AND MEDICAL EDUCATION

As online health discourse continues to shape patient behaviours, netnographic research can inform HCPs' healthcare decision-making. Medical educators can use netnography outcomes to help medical students better understand patients' lived experiences, the influence of culture on health behaviours, and the unspoken concerns shared in online communities. This will foster greater empathy, cultural sensitivity, and patient-centred care in clinical practice.

In the age of big data, artificial intelligence (AI) and machine learning-based sentiment analysis in netnographic research can support extensive investigation of online health discourse (15). Automated topic modelling and text analysis may enhance the efficiency and depth of digital health research. For example, the growing use of the internet to express personal opinions and beliefs supports the social natural language processing (NLP) research community's ability to identify and verify correlations between social media postings and mental health status (29,30).

The increasing use of telemedicine and virtual healthcare services also highlights the need for netnographic research to understand patient experiences, digital literacy, and accessibility challenges. These evolving digital healthcare practices underscore the importance of incorporating insights from netnographic analysis into medical education and equipping future healthcare professionals with the skills to evaluate health behaviours, engage with virtual patient narratives, and help them in decision-making.

CONCLUSION

Netnography offers a lens for comprehending how individuals engage with digital health spaces, but its contributions to healthcare research and medical education are fundamentally distinct. In healthcare research, netnography illuminates the lived realities of patients and communities by capturing real-time narratives, misinformation trajectories, and culturally shaped interpretations of illness that are often inaccessible through traditional methods. These findings deepen understanding of patient behaviour, inform public health communication design, and guide strategies to address misinformation and strengthen health literacy.

Nonetheless, netnography in medical education and the health professions adds value by bringing authentic digital discourse into the learning environment. Online patient narratives and clinician–patient interactions provide rich materials for developing communication skills, empathic practice, and cultural competence. Analysing digital behaviours among medical students and clinicians also supports teaching digital professionalism and cultivating reflective, ethically grounded practitioners. Ultimately, netnographic insights can drive more responsive curriculum development, deepen case-based learning, and equip learners to navigate the increasingly complex digital dimensions of contemporary healthcare.

As digital ecosystems and AI-enabled analytic tools continue to evolve and expand the possibilities of digital ethnography, netnography stands as a dual-purpose methodology that meaningfully advances both research and education. When applied with careful attention to ethics and privacy, it enables educators and researchers to align training, practice, and policy with the realities of a digitally mediated health landscape. This will help prepare a future workforce capable of engaging critically, compassionately, and competently with the public in spaces where health knowledge is created, contested, and shared.

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REFERENCES

1. Kozinets RV. Netnography: doing ethnographic research online. London: SAGE Publications; 2009.

2. Alarcon G, Eschleman KJ, Bowling NA. Relationships between personality variables and burnout: a meta-analysis. Work and Stress. 2009;23(3):244–63. https://doi.org/10.1080/02678370903282600

3. Bartl M, Kannan VK, Stockinger H. A review and analysis of literature on netnography research. Int J Technol Mark. 2016;11(2):165–96. https://doi.org/10.1504/IJTMKT.2016.075687

4. Conti E, Lexhagen M. Instagramming nature-based tourism experiences: a netnographic study of online photography and value creation. Tour Manag Perspect. 2020;34:1–11. https://doi.org/10.1016/j.tmp.2020.100650

5. Gambetti RC, Kozinets R V. Agentic netnography. New Trends Qual Res. 2022;10:1–15. https://doi.org/10.36367/ntqr.10.2022.e519

6. Salzmann-Erikson M, Eriksson H. A mapping review of netnography in nursing. Qual Health Res. 2023;33(8–9):701–14. https://doi.org/10.1177/10497323231173794

7. Baker B, Yang I. Social media as social support in pregnancy and the postpartum. Sex Reprod Healthc. 2018;17:31–4. https://doi.org/10.1016/j.srhc.2018.05.003

8. Boursier V, Gioia F, Musetti A, Schimmenti A. Facing loneliness and anxiety during the COVID-19 isolation: the role of excessive social media use in a sample of Italian adults. Front Psychiatry. 2020;11:1–10. https://doi.org/10.3389/fpsyt.2020.586222

9. Selkie E, Adkins V, Masters E, Bajpai A, Shumer D. Transgender adolescents' uses of social media for social support. J Adolesc Health. 2020;66(3):275–80. https://doi.org/10.1016/j.jadohealth.2019.08.011

10. David JL, Powless MD, Hyman JE, Purnell DM, Steinfeldt JA, Fisher S. College student athletes and social media: the psychological impacts of Twitter use. Int J Sport Commun. 2018;11(2):163–86. https://doi.org/10.1123/ijsc.2018-0044

11. Zhu C, Huang S, Evans R, Zhang W. Cyberbullying among adolescents and children: a comprehensive review of the global situation, risk factors, and preventive measures. Front Public Health. 2021;9:1–12. https://doi.org/10.3389/fpubh.2021.634909

12. Gaitán JA, Ramírez-Correa PE. COVID-19 and telemedicine: a netnography approach. Technol Forecast Soc Change. 2023;190:1–19. https://doi.org/10.1016/j.techfore.2023.122420

13. Lawless MT, Hunter SC, Pinero de Plaza MA, Archibald MM, Kitson AL. "You are by no means alone": a netnographic study of self-care support in an online community for older adults. Qual Health Res. 2022;32(13):1935–51. https://doi.org/10.1177/10497323221124979

14. Tavakoli R, Wijesinghe SNR. The evolution of the web and netnography in tourism: a systematic review. Tour Manag Perspect. 2019;29:48–55. https://doi.org/10.1016/j.tmp. 2018.10.008

15. Lawless MT, Archibald M, De Plaza MAP, Drioli-Phillips P, Kitson A. Peer-to-peer health communication in older adults' online communities: protocol for a qualitative netnographic study and co-design approach. JMIR Res Protoc. 2020;9(9):1–13. https://doi.org/10.21 96/19834

16. Adnan WNAW. Advice and information sharing: a netnographic study on Facebook cancer support groups. In: Rahim M, Aziz, AA, Mearaj IS, Kamarudin NA, Chong OL, Zaini N, Bidin A, Ayob NM, Sulaiman ZM, Chan YS, Saad NHM, editors. Proceedings of International Conference of Research on Language Education (I-RoLE 2023). London (UK): European Publisher; 2023. p. 922–9. https://doi.org/10.15405/epes.23097.83

17. Coulson NS, Buchanan H. The role of online support groups in helping individuals affected by HIV and AIDS: scoping review of the literature. J Med Internet Res. 2022;24(7):1–19. https://doi.org/10.2196/27648

18. Fridman I, Boyles D, Chheda R, Baldwin-SoRelle C, Smith AB, Lafata JE. Identifying misinformation about unproven cancer treatments on social media using user-friendly linguistic characteristics: content analysis. JMIR Infodemiology. 2025;5:1–18. https://doi.org/10.2196/62703

19. 1Ng JY, Liu S, Maini I, Pereira W, Cramer H, Moher D. Complementary, alternative, and integrative medicine-specific COVID-19 misinformation on social media: a scoping review. Integr Med Res. 2023;12(3):1–11. https://doi.org/10.1016/j.imr.2023.100975

20. Treadgold BM, Coulson NS, Campbell JL, Lambert J, Pitchforth E. Quality and misinformation about health conditions in online peer support groups: scoping review. J Med Internet Res. 2025;27:1–17. https://doi.org/10.2196/71140

21. Gün CS, Şenol S. How parents of children with cancer seek information through online communities: a netnography study. J Pediatr Res. 2019;6(2):141–7. https://doi.org/10.4274/jpr.galenos.2019.48378

22. Pronk SA, Gorter SL, van Luijk SJ, Barnhoorn PC, Binkhorst B, van Mook WNKA. Perception of social media behaviour among medical students, residents and medical specialists. Perspect Med Educ. 2021;10(4):215–21. https://doi.org/10.1007/S40037-021-0660-1

23. Sterling M, Leung P, Wright D, Bishop TF. The use of social media in graduate medical education: a systematic review. Acad Med. 2017;92(7):1043–56. https://doi.org/10.1097/ACM.0000000000001617

24. Johansson V, Islind AS, Lindroth T, Angenete E, Gellerstedt M. Online communities as a driver for patient empowerment: systematic review. J Med Internet Res. 2021;23(2):1–18. https://doi.org/10.2196/19910

25. Bowler Jr. GM. Netnography: a method specifically designed to study cultures and communities online. Qual Rep. 2010;15(5):1270–5.

26. Kozinets R V. Marketing netnography: prom/ot(Ulgat)ing a new research method. Methodol Innov Online. 2012;7(1):37–45. https://doi.org/10.4256/mio.2012.004

27. Convery I, Cox D. A review of research ethics in internet-based research. Pract Res High Educ. 2012;6(1):50–57.

28. Lehner-Mear R. Negotiating the ethics of netnography: developing an ethical approach to an online study of mother perspectives. Int J Soc Res Methodol. 2020;23(2):123–37. https://doi.org/10.1080/13645579.2019.1634879

29. Garg M. Mental health analysis in social media posts: a survey. Arch Comput Methods Eng 2023;30(3):1819–42. https://doi.org/10.1007/s11831-022-09863-z

30. Timakum T, Xie Q, Lee S. Identifying mental health discussion topics in social media community: subreddit of bipolar disorder analysis. Front Res Metr Anal. 2023;8:1–15. https://doi.org/10.3389/frma.2023.1243407