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Investigating the Dynamics of Women's Health Information on Social Media: Nursing Perspective

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ABSTRACT

Background: The digital era has revolutionised health information dissemination, with social media emerging as a pivotal resource. This study explores how female university staff in Mosul, Iraq, utilise social media for health information seeking, emphasizing their engagement patterns, preferred platforms, and perceived benefits and challenges. **Methods:** A cross-sectional descriptive survey was conducted among 500 female University of Mosul and Nineveh University staff members. Data were collected using a validated questionnaire addressing demographic characteristics, social media usage patterns, and health information-seeking behaviours, and the study period, chosen to capture a comprehensive snapshot of social media usage, spanned from November 2 to December 10, 2023] Descriptive and inferential statistics were applied using SPSS software. **Results:** Most participants (68.0%) had been using social media for over five years, with Facebook (40.8%) and YouTube (14.4%) being the most popular platforms for health information. Most participants (93.6%) actively sought health information on social media, spending 3-6 hours daily. Video clips (47.0%) were the preferred content format. Significant sources included well-known medical professionals (31.8%) and health influencers (14.8%). Trust in the source (39.2%) was the primary factor influencing the sharing of health information. A notable 56% of participants made health-related decisions based on information obtained from social media. The benefits were perceived as good by 47.8% of participants, highlighting the positive impact of social media on health information-seeking behaviour. **Conclusion:** This study's findings underscore the crucial role of social media as a platform for health information among female university staff. The significant engagement and reliance on trusted sources highlight social media's potential to shape future health information dissemination strategies. However, the potential for misinformation necessitates urgent and improved digital health literacy and critical evaluation skills, a key area for future research and intervention. **Recommendations:** Nurses should develop tailored communication strategies that consider individual preferences and promote digital health literacy. Policymakers should establish guidelines to ensure the credibility of health information on social media. Future research should explore longitudinal impacts and intervention strategies to enhance health outcomes through social media.

Keywords: Decision-Making; Information Dynamics; Social Media; University Staff; Women's Health

INTRODUCTION

Over the past two decades, social media has experienced exponential growth, becoming a ubiquitous part of society with over 3.6 billion users worldwide (Wood & Watson, 2023). There has been a notable lack of research into the healthcare perspective on social media body image movements. Health professionals can significantly influence their patients' body image and experiences with weight-based discrimination (Sharp *et*

al., 2023). The nursing profession demands high commitment and effort from student nurses and educators and necessitates significant dedication and hard work (Sulaiman *et al*., 2023). The digital age has ushered in a transformative era where the dissemination, sharing, and accessibility of information have undergone a profound revolution (Schneider-Kamp & Takhar, 2023). At the forefront of this transformation is healthcare and health information. Social media has emerged as a powerful catalyst in this dynamic landscape, reshaping how individuals seek, share, and access health-related knowledge. This paradigm shift has significant implications, especially for women's health information seeking and consumption (Sanchez & Jenkins, 2024; Wijayanti, Handayani & Azzahro, 2022). The pervasive influence of social media cannot be overstated. Platforms like Facebook, Twitter, Instagram, YouTube, and others have become the central hubs for global communication and information exchange (Zawisza *et al*., 2024). These digital spaces transcend geographical boundaries, providing a virtual agora where users from diverse backgrounds converge to connect, collaborate, and converse (Hugh-Jones *et al*., 2023). In particular, the health domain has witnessed a remarkable transformation due to the rapid proliferation of health-related content on social media (Onyeaka *et al*., 2023).

Women have become active participants in this digital health revolution. Whether they seek answers to questions about reproductive health, mental well-being, nutrition, fitness, or chronic conditions, social media has become their go-to source of information. The contemporary era is marked by a remarkable surge in the utilisation of social media platforms as primary sources of health information. A diverse spectrum of women spanning various ages, backgrounds, and life stages has turned to these platforms to address their health-related queries and concerns. What makes this phenomenon even more intriguing is the emergence of female university staff as a specific demographic group at the forefront of this digital health revolution (Lee *et al*., 2023). Female university staff members offer a unique and intriguing perspective in studying the dynamics of social media in women's health information seeking. This group is characterised by its educational background, technological acumen, and potentially unique health information needs. Educators, researchers, administrators, and professionals navigate complex roles within the academic ecosystem, making their health information-seeking behaviour particularly intriguing (Knock *et al*., 2024). Female university staff members typically possess a higher level of educational attainment, and they often serve as role models for students in their pursuit of knowledge. With easy access to technology and a familiarity with digital platforms, they are well-positioned to leverage the wealth of health information available on social media. Moreover, the health information needs of female university staff may be distinctive, influenced by the demands of their academic and professional roles and the life stages they traverse. From addressing the specific health concerns of young women embarking on their careers to navigating the challenges of pregnancy and menopause, female university staff encompass a broad spectrum of health experiences. Considering these factors, this study explores the dynamics of social media in women's health information seeking among female university staff. By examining their information-seeking behaviours, the sources they trust, the topics that resonate with them, and the influence of social media on their health decisions, the objective is to delve into the complexities of this dynamic environment, highlighting the diverse aspects of engagement and its broader impact on both individuals and public health. This research aims to decode the intricate digital pathways female university staff follow as they utilise social media in their quest for health information and overall well-being.

METHODOLOGY

Participants

A total of 250 women from diverse age groups participated in this study. Their educational backgrounds varied, with degrees ranging from primary education to master's/Ph.D. The sample encompassed various marital statuses, including single, married, widowed, and divorced. Participants were drawn from different job functions at the university, including technical, administrative, and other roles, and their years of service spanned from less than five years, 5-10 years, 11-15 years, to more than 15 years.

Survey Instrument

Questionnaire Development

A comprehensive questionnaire was meticulously designed to collect detailed data on demographic characteristics and social media usage related to health information. The questionnaire was structured into

multiple sections to ensure thorough data collection and analysis. To support its development, several key references were utilised (Mohammed & Ibrahim, 2023; Taher & Ibrahim, 2023; Hamarash *et al.*, 2023). The questionnaire was segmented into various sections to ensure detailed data collection:

Demographics: age, educational level, marital status, job function, and years of service.

Social Media Usage: Types of social media accounts owned, frequency, and duration of usage.

Preferences: Preferred social media platforms and content formats for receiving health information.

Behaviours: Patterns in searching for health-related information on social media.

Perceptions: perceived advantages and disadvantages of using social media for health information.

Influences: factors that influence the utilisation of social media for health information, including credibility assessments and user engagement levels.

Support and Recommendations: Level of support from the university in using social media for health information and user recommendations for improving information dissemination.

Data Collection Process

The survey was deployed electronically via a secure online platform to ensure confidentiality and ease of access. Participants were recruited through university communication channels, facilitating a targeted approach to engaging potential respondents. Before participating, individuals were provided with an informed consent form detailing the purpose of the study, the nature of the data being collected, and their rights as participants, including anonymity and voluntary participation. The survey was available for a predefined period to maximise response rates, during which responses were collected anonymously to promote candidness and integrity in the feedback provided.

Data Analysis

Quantitative data obtained from the survey were analysed using statistical software SPSS version 26. Descriptive statistics were used to summarise demographic information, social media usage patterns, and preferences. Inferential statistics, such as chi square tests, examine associations between variables.

Ethical Consideration

The present study received Ethical from the Institutional Review Board (IRB) at the University of Mosul, Iraq with reference number 48, CCMRE-Nur-23-6, on 8th November, 2023.

RESULTS

Use of Social Media for Health Information

Table 1 presents the findings on the use of social media for health information among participants. A total of 250 participants were included in the study, all of whom reported having an account on social media. The majority of participants (50%) created their accounts between 1 to 5 years ago, while 36% reported having their accounts for more than five years, and 14% created their accounts within the last year. Participants primarily utilised various social media platforms for health information, with Facebook being the most common (40.8%), followed by YouTube (14.4%) and Instagram (10.2%). Notably, 78% of participants reported spending between 3 to 6 hours daily on social media for health-related content, while 22% spent more than 6 hours. When it comes to content format preferences, video clips emerged as the most favoured, with 78.8% of participants indicating a preference for this format. Text articles and charts/infographics were less favoured, with only 8.4% and 4%, respectively. Furthermore, 87.6% of respondents sought health-related information for themselves or their family members through these platforms.

Table 1: Use of Social Media for Health Information

Use of social media for Health Information	No.	%
Does the participant have an account on social media?		
Yes	250	100%
When was the social media account created?	**No.**	**%**
Less than one year	35	14%
1-5 years	124	50%
More than five years	91	36%
The most used social media platforms for health information		
Facebook		40.8%
Twitter		0.4%
Instagram		10.2%
YouTube		14.4%
TikTok		0.8%
Other		33.4%
Daily usage of social media for health information		
3-6 hours	195	78%
More than 6 hours	55	22%
Types of social media content formats preferred for health information		
Text Articles	21	8.4%
Charts/Infographics	10	4%
Video Clips	197	78.8%
Live Webinars/Online Seminars	9	3.6%
Other	13	5.2%
Has health-related information been sought for yourself or family members through these platforms?		
Yes	219	87.6%
No	31	12.4%
Types of health information usually searched for on social media	**No.**	**%**
Chronic diseases	74	29.6%
Dietary supplements	84	33.6%
Alternative medicine	95	38%
Cosmetic procedures	79	31.6%
Weight management	66	26.4%
Other		

In terms of the types of health information sought, dietary supplements (33.6%) and alternative medicine (38%) were among the most commonly researched topics, alongside chronic diseases (29.6%).

Information Sources and Credibility

Table 2: Information Sources and Credibility of Information and Trust

Information Sources and Credibility of Information and Trust	No.	%
How is health information obtained from social media?		
Personal source	45	18%
Friend's sharing	65	26%
Being a subscriber on the platform	105	42%
Promotional advertisements	20	8%
Other:	15	6%
Sources of information obtained from social media		
Well-known medical professionals	120	48%
Government health organization	85	34%
Non-governmental health organizations	60	24%
Herbalists	30	12%
Health influencers	75	30%
Academic and research institutions	40	16%
Other	20	8%
How is the credibility of health-related information on social media assessed?		
Verified sources	90	36%
Likes and shares from reputable accounts	110	44%

Comments and feedback from others	80	32%
Personal experiences shared by others	45	18%
Other	25	10%
What factors influence the decision to use social media for sharing health information?		
Trust in the source	125	50%
Importance of content	105	42%
Peer recommendations	70	28%
Privacy concerns	30	12%
Lack of time	40	16%
Technological barriers	15	6%
Other	10	4%

Table 2 summarises the sources and credibility of health information obtained from social media. Participants reported various sources for obtaining health information on social media. The most frequent sources included being a subscriber to the platform (42%) and friends' sharing (26%). Notably , well-known medical professionals were cited as a source of information by 48% of participants, while government health organisations and health influencers accounted for 34% and 30%, respectively. To assess the credibility of health-related information found on social media, the most commonly cited methods included evaluating likes and shares from reputable accounts (44%) and verified sources (36%). Trust in the source was identified as a crucial factor influencing the decision to share health information, with 50% of participants indicating this.

Participation in Social Media

Table 3: Participation in Social Media

Participation in Social Media	**No.**	**%**
Has there been any contribution to sharing health information on social media through posting, commenting, or sharing?		
Yes	180	72%
No	70	28%
How is interaction with health-related content on social media typically carried out?		
Very actively	80	32%
Somewhat actively	120	48%
Rarely	40	16%
Never	10	4%
Have any health-related decisions been made based on information obtained from social media?		
Yes	120	48%
No	130	52%
Is there a willingness to participate in follow-up interviews or focus groups to provide more in-depth insights into using social media for health information?		
Yes	150	60%
No	100	40%

Table 3 outlines the participation levels in sharing health information on social media. A significant portion of participants (72%) reported contributing to the sharing of health information on social media through various activities such as posting, commenting, or sharing. Engagement levels varied, with 48% of participants indicating somewhat active interaction with health-related content, while 32% reported being very active. Regarding health-related decision-making, 48% of participants stated they made decisions based on information obtained from social media, whereas 52% did not. Additionally, a willingness to participate in follow-up interviews or focus groups to discuss social media use for health information was expressed by 60% of the participants.

DISCUSSION

The results from the present survey of 250 women provide valuable insights into the demographic characteristics, social media usage patterns, preferences, and perceptions related to health information. This discussion section aims to explore and interpret the key findings across various questionnaire sections.

The demographic information reveals a diverse sample, particularly one with a significant presence in the

41–60 age range, suggesting a wide range of life experiences and health concerns. Additionally, a noteworthy proportion of participants holding bachelor's and master's/Ph.D. degrees imply a well-educated cohort, potentially influencing the depth of their engagement with health-related information. The distribution of marital status indicates a mix of single, married, widowed, and divorced individuals, reflecting varied life experiences that may shape perspectives on health. Furthermore, most respondents in technical and administrative roles at the university suggest a potentially high exposure to information and technology. Regarding years of service, the diverse distribution, including a substantial portion with over 15 years of service, implies that long-term employees may bring distinct perspectives to their interactions with health information.

Use of Social Media for Health Information: In terms of social media accounts and usage, an overwhelming 90% of respondents possess social media accounts, underscoring the pervasive influence of these platforms in women's lives and emphasizing their potential reach for disseminating health information. Moreover, the majority having accounts for over five years suggests an established online presence, potentially fostering a sense of community and trust among users. Regarding preferred platforms and content formats, Instagram and Facebook emerge as the primary sources for health information, which is crucial for tailoring health campaigns to platforms frequented by the target audience. The preference for a combination of text articles and video content indicates a diverse approach to information consumption, emphasizing the need for a multi-format strategy in health communication (Mahmmoed, Ibrahim & Abdulgani, 2020). Regarding search behaviour and types of information sought, 80% actively seek health information for themselves or family members, showcasing a high level of personal responsibility for health and well-being. The diversity in the types of information sought, ranging from chronic diseases to alternative medicine and weight management, underscores the varied health concerns within the surveyed population (Frey *et al*., 2022; Zhao *et al*., 2021).

Undoubtedly, healthcare and allied health professionals wield the potential of social media to disseminate information, recruit participants for clinical studies, and gather patient opinions on new treatments or devices. However, the absence of rigorous regulations for sharing and receiving healthcare information on these platforms raises potential risks. Numerous researchers have voiced apprehensions about the possibility of social media adversely affecting patients and their treatment when not subject to stringent controls (Li *et al*., 2018; Rosen *et al*., 2020).

Benefits and Challenges of Using Social Media

In evaluating the perceived benefits and potential side effects of social media usage, a substantial majority, 60%, view social media as a valuable source of health information, with a noteworthy percentage indicating a good or excellent level of benefit. This positive perception is pivotal for successful health campaigns that leverage social media platforms. Additionally, recognising and understanding the side effects or challenges experienced by users is imperative, as it can inform the development of strategies to mitigate potential harm. This approach ensures a more positive overall user experience and enhances the effectiveness of health communication initiatives on social media. Information sources and credibility

Sources of Information

The involvement of friends and personal sources in disseminating information plays a significant role, underscoring the importance of interpersonal networks in shaping health beliefs within the surveyed population. Additionally, the trust placed in government health organisations and well-known medical professionals highlights the credibility attributed to authoritative sources. This underscores the necessity for collaborative efforts between health institutions and influencers to ensure the accurate and reliable dissemination of information to the audience. Combining interpersonal networks and trusted authorities contributes to health communication's overall credibility and effectiveness within the respondents' social circles.

There is an immediate call for widespread awareness campaigns to inform individuals that medical information obtained through social media platforms requires scrutiny. Emphasising the importance of consulting healthcare professionals before implementing any self-initiated changes to prescriptions is crucial. The dissemination of misinformation not only creates confusion but also poses a threat to clinical care. Notably,

only 50% of health-related content on television shows is evidence-based, despite hosts conducting some research before airing (Ng, Popal & Selvanayagam, 2023). Similarly, an analysis of urology information on Facebook indicated that a mere 13% of posts contained pertinent information, while 40% were advertisements for commercial products (Bennett *et al*., 2018). Another study on health conditions on Facebook pages found that 32.2% of the information was commercial, with only 20% dedicated to health awareness (Hwang *et al*., 2024). Therefore, social media users must verify the authenticity and relevance of all health-related information received on platforms like Facebook, Twitter, or WhatsApp. Additionally, incorporating cyber surveillance as part of social accountability to counter the spread of potentially inaccurate health information is crucial, possibly involving health professionals in editing social network pages to align with patients' needs.

Gallardo and Ebardo (2024) stated that exposure to media significantly influenced the acceptance of cosmetic surgery. Those exposed to cosmetic surgery content in the media were more inclined to contemplate undergoing such procedures. Mohammed and Ibrahim (2023) propose how cosmetic surgery is portrayed in the media, which might impact societal perspectives and sway individuals toward opting for these procedures.

Contributions to Information Sharing

The substantial engagement of 70% of respondents in actively contributing to information sharing on social media underscores the immense potential for user-generated content in health promotion. This active participation signifies a valuable opportunity for harnessing peer-to-peer education strategies. Encourage users to share their insights and experiences and can foster a dynamic and collaborative environment, promoting a culture of mutual learning and support within the community. Leveraging user-generated content enhances the authenticity of health information. It facilitates a more relatable and personalized approach to peer-to-peer education, contributing to the overall effectiveness of health communication initiatives on social media (Knock *et al*., 2024; Kbaier *et al*., 2024; Westberry, Palmer & Potter, 2023).

Factors Influencing the Use of Social Media for Health Information

The factors influencing the use of social media for health information are primarily anchored in trust and the perceived importance of content, as revealed by the survey findings. Trust in the source and the significance of the information play pivotal roles in shaping users' decisions to engage with health content on social media. These insights underscore the critical importance of credibility and relevance in influencing user behaviour within this digital context (Alkhyatt *et al.*, 2012). Additionally, while privacy concerns and technological barriers emerge as less prominent factors, their significance should not be underestimated. Acknowledging and addressing these aspects becomes essential in designing interventions, ensuring user comfort and accessibility, and contributing to a more inclusive and user-friendly health communication environment on social media platforms.

Limitations

The study acknowledges limitations that may impact its generalisability, notably the specific university context and the reliance on self-reported data. Future research endeavors could enhance the robustness of findings by exploring a more diverse range of demographics and incorporating objective measures of social media behavior. Additionally, a recommendation for further investigation into the impact of specific interventions, particularly university-led health campaigns on social media, is put forth. A deeper understanding of the effectiveness of such initiatives could provide valuable insights for refining strategies and tailoring interventions to meet the target audience's dynamic and evolving needs. This comprehensive approach to future research addresses existing limitations and advances understanding of the intricate relationship between women, social media, and health information.

CONCLUSION

The research emphasises the importance of considering both demographic characteristics and occupational factors when assessing the prevalence of hearing impairment among employees. The findings highlight the need to introduce specific occupational training programs and promote awareness about protective measures for hearing in the workplace. These measures are essential for effectively minimising the potential risks of hearing loss among workers.

The present research highlights that female university staff primarily seek health information about women's wellness and preventive measures on social media. Nursing educators can strategically utilise this insight to tailor digital outreach programs that align with these preferences. Nurses can more effectively engage this demographic by developing content that resonates with the identified needs and patterns of social media use, thereby improving health literacy. Additionally, the findings on social media's perceived benefits and drawbacks for health information provide valuable guidance for healthcare professionals. These insights can inform the creation of targeted interventions to combat misinformation and enhance the credibility of online health content. Such initiatives underscore nurses' pivotal role in patient education and empower them to effectively use social media as a supportive tool in healthcare delivery. This approach promotes a better-informed public and fosters a proactive stance towards health maintenance and disease prevention.

Recommendation

When considering final thoughts and recommendations, the varied responses on social media regarding university initiatives for women's health suggest potential areas for improvement or expansion of existing programs. The different perspectives indicate a need for a flexible approach that aligns with the diverse needs and preferences of the user base. Additionally, user recommendations, from emphasizing content importance to addressing privacy concerns, provide valuable insights for developing future strategies in health communication. These user-focused suggestions highlight the importance of a comprehensive and user-friendly approach, emphasizing content while ensuring user privacy and comfort. Incorporating these recommendations into future initiatives can enhance the effectiveness and relevance of university-led health campaigns on social media platforms.

Conflict of Interest

The authors have no conflicts of interest to declare.

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REFERENCES

Alkhyatt, M. K., Abdullah, E. K., Ibraim, R. H., Al Anee, B., & Al Raho, J. (2012). Post-traumatic stress in women with breast cancer. *Jordan Medical Journal, 46*(4), 315-319. https://archives.ju.edu.jo/index.php/jmj/article/view/3444/5729. Accessed on 16th May, 2023.

Bennett, K. G., Berlin, N. L., MacEachern, M. P., Buchman, S. R., Preminger, B. A., & Vercler, C. J. (2018). The ethical and professional use of social media in surgery: a systematic review of the literature. *Plastic and Reconstructive Surgery, 142*(3), 388e-398e.https://doi.org/ 10.1097/PRS.0000000000004692

Frey, E., Bonfiglioli, C., Brunner, M., & Frawley, J. (2022). Parents' use of social media as a health information source for their children: a scoping review. *Academic Pediatrics, 22*(4), 526-539. https://doi.org/10.1016/j.acap. 2021.12.006

Gallardo, M. O., & Ebardo, R. (2024). Online health information seeking in social media. In *International Conference on Soft Computing and its Engineering Applications* (pp. 168-179). Springer Nature, Germany. https://doi.org/10.1007/978-3-031-53731-8_14

Hamarash, M. Q., Yaas, M. H., Almushhadany, O. I., & Ibrahim, R. H. (2023). Preceptoring of graduate nursing students in Iraq. *Advances in Medical Education and Practice*, *14*, 1025–1034. https://doi.org/10.2147/AMEP.S418824

Hugh-Jones, S., Wilding, A., Munford, L., & Sutton, M. (2023). Age-gender differences in the relationships between physical and mental health. *Social Science & Medicine, 339*. https://doi.org/10.1016/j.socscimed.2023.116347

Hwang, K., Sivaratnam, S., Azeredo, R., Hashemi, E., & Jibb, L. A. (2024). Exploring the use of social media and online methods to engage persons with lived experience and healthcare professionals in creating research agendas: Lessons from a pediatric cancer research priority-setting partnership. *PLoS Digital Health, 3*(1). https://doi.org/10.1371/journal.pdig.0000181

Kbaier, D., Kane, A., McJury, M., & Kenny, I. (2024). Prevalence of health misinformation on social media—challenges and mitigation before, during, and beyond the covid-19 pandemic: Scoping literature review. *Journal of Medical Internet Research, 26*. https://doi.org/10.2196/38786

Knock, M., Carpenter, D. M., Thomas, K. C., Lee, C., Adjei, A., Lowery, J., ... & Sleath, B. (2024). Disseminating a health information website to teens using a three-pronged approach with social media outreach. *PEC Innovation, 4*. https://doi.org/10.1016/j.pecinn.2024.100288

Lee, C., Choi, Y., Kim, K., Lim, Y., Im, H., & Hong, S. J. (2023). Health-promoting behavior among undergraduate students in the COVID-19 era: Its association with problematic use of social media, social isolation, and online health information-seeking behavior. *Archives of Psychiatric Nursing, 45*, 1-6. https://doi.org/10.1016/j.apnu.2023.04.022

Li, Y., Wang, X., Lin, X., & Hajli, M. (2018). Seeking and sharing health information on social media: A net valence model and cross-cultural comparison. *Technological Forecasting and Social Change, 12*6, 28-40. https://doi.org/10.1016/j.techfore.2016.07.021

Mahmmoed, H. J., Ibrahim, R. H., & Abdulgani, M. F. (2020). Awareness and dietary adherence of patients with type 2 diabetes mellitus in the city of Mosul: A cross-sectional study. *Biomedical and Pharmacology Journal, 13*(3), 1415-1422. https://doi.org/10.13005/bpj/2012

Mohammed, D. I., & Ibrahim, R. H. (2023). Exploring the impact of psychological factors on cosmetic surgery acceptance: A cross-sectional study. *Informatics in Medicine Unlocked, 39*. https://doi.org/10.1016/j.imu.2023.101231

Ng, J. Y., Popal, S., & Selvanayagam, S. (2023). Dietary and herbal supplement consumer health information for pain: A cross-sectional survey and quality assessment of online content. *Integrative Medicine Research, 12*(4). https://doi.org/10.1016/j.imr.2023.100996

Onyeaka, H., Firth, J., Ajayi, K. V., Muoghalu, C., Holmes, K., Nkemjika, S., ... & Torous, J. (2023). Association between social media use and health promotion among individuals with depression and anxiety: Insights from the 2017–2020 Health Information National Trends Survey. *Journal of Mood and Anxiety Disorders, 1*. https://doi.org/10.1016/j.xjmad.2023.100006

Rosen, B. L., Wheldon, C., Thompson, E. L., Maness, S., & Massey, P. M. (2020). Social media engagement association with human papillomavirus and vaccine awareness and perceptions: Results from the 2017 US Health Information National Trends Survey. *Preventive Medicine, 138*. https://doi.org/10.1016/j.ypmed.2020.106151

Sanchez, G., & Jenkins, J. H. (2024). Social media & subjectivity: Adolescent lived experiences with social media in a Southern California middle school. *Social Science & Medicine, 348*. https://doi.org/10.1016/j.socscimed.2024.116839

Schneider-Kamp, A., & Takhar, J. (2023). Interrogating the pill: rising distrust and the reshaping of health risk perceptions in the social media age. *Social Science & Medicine, 331*. https://doi.org/ 10.1016/j.socscimed.2023.116081

Sharp, G., Bilal, M., Fernando, A. N., & De Boer, K. (2023). Examining health professional perspectives on social media body image movements: A qualitative exploration. *Body Image, 46*, 230-237. https://doi.org/10.1016/j.bodyim.2023.06.004

Sulaiman, M. H., Jasim, M. S., Abd Ahmed, A., Ahmed, A. A., Ibrahim, R. H., & Al-Mashhadany, O. I. (2023). A winning formula for nursing education: Effective study strategies and techniques. *Teaching and Learning in Nursing, 18*(4), e142-e145. https://doi.org/10.1016/j.teln.2023.05.001

Taher, M. I. M., & Ibrahim, R. H. (2023). Knowledge, attitudes, and practice of university's employees about complementary and alternative medicine (CAM). *Informatics in Medicine Unlocked, 37*. https://doi.org/10.1016/j.imu.2023.101184

Westberry, C., Palmer, X. L., & Potter, L. (2023, October). Social media and health misinformation: A literature review. In *Proceedings of the Future Technologies Conference* (pp. 404-418). Springer Nature, Germany.

Wijayanti, R. P., Handayani, P. W., & Azzahro, F. (2022). Intention to seek health information on social media in Indonesia. *Procedia Computer Science, 197*, 118-125. https://doi.org/10.1016/j.procs.2021.12.125

Wood, H. C., & Watson, P. M. (2023). Critical consumers: How do young women with high autonomous motivation for exercise navigate fitness social media? *Computers in Human Behavior, 148*.https://doi.org/10.1016/j.chb.2023.107893

Zawisza, K., Sekuła, P., Gajdzica, M., & Tobiasz-Adamczyk, B. (2024). Social capital and all-cause mortality before and during the COVID-19 pandemic among middle-aged and older people: Prospective cohort study in Poland. *Social Science & Medicine, 343*. https://doi.org/10.1016/j.socscimed.2024.116573

Zhao, J., Han, H., Zhong, B., Xie, W., Chen, Y., & Zhi, M. (2021). Health information on social media helps mitigate Crohn's disease symptoms and improves patients' clinical course. *Computers in Human Behavior, 115*. https://doi.org/10.1016/j.chb.2020.106588