

Enhancing Health Literacy and Health Information Seeking Behaviour of University Students: A Review of the Current Global Landscape

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ABSTRACT

This review investigates the trends, challenges, and strategies related to health literacy (HL) and health information-seeking behaviours (HISB) among university students using research data published between 2020 and 2024. The primary objectives of the study include examining key patterns in health literacy, assessing the notable influence of technology advancements in HL and HISB, studying the influence of educational backgrounds in HISB, and exploring strategies to enhance health literacy. The review's overall results indicated that despite improvements in HL over time, there are still significant challenges remaining. Firstly, assessing the credibility of health information and then adjusting to quickly changing health guidelines. The accessibility of health information influences the level of HL, especially with new obstacles like misinformation and privacy concerns. Health literacy is influenced by educational backgrounds, with students in health-related sciences demonstrating superior ability to assess health information compared to their peers in other disciplines. This indicates the importance of including comprehensive HL in every field of study. Many strategies proposed in the literature suggest incorporating health literacy education into college courses and utilizing engaging educational tools to emphasize trustworthy information from credible sources. Both students and faculty members should receive appropriate training in critical reading and evaluation. Moreover, it is essential to view HL as one of the central elements in higher-education programmes due to the important role in students' academic and social life. These discoveries are extremely significant for individuals who are looking to support literacy, carry out interventions, and conduct research in the field of health literacy.

Keywords: Health information credibility, Health literacy; Health information-seeking behaviours, University students

INTRODUCTION

Due to the globalization trends, there has been a greater emphasis on improving health literacy (HL) and encouraging appropriate health information-seeking behaviours (HISB) among college students. This is common in both developing nations as well as in most developed nations where access to health information can be of great benefit to students. For instance, in third-world countries, where health care may be lacking, average students' understanding of health information may help them to reduce the chances of contracting illnesses and living a healthy life. In developed countries where there is a superflux of health information it is often confusing for the seeker. Therefore, it is important for students to have good health literacy to make informed choices about more complex systems of health care and one's health. Without a doubt, university students are seeking health-related information not only from texts but also from electronic media and other sources. This information on HISB could be helpful to identify the best way to target interventions and educational programmes in order to match the perception and behaviour of the target population. The objective of this study is to evaluate the changing patterns in the HL and, HISB of university students at global level and explore strategies to accommodate these changes.

Significance of the Study

Health information has been growing in complexity, coming from numerous sources that vary in accuracy and reliability. The intricacy of this situation may present obstacles for people looking to make well-informed choices

regarding their health. The study aims to assess how well university students can handle and comprehend the complexity of health information and whether their health literacy is progressing in line with these changes. This study can help shape public health education and intervention strategies to better address the needs of the community.

The importance of this research is emphasized by the factors shown in Figure 1:

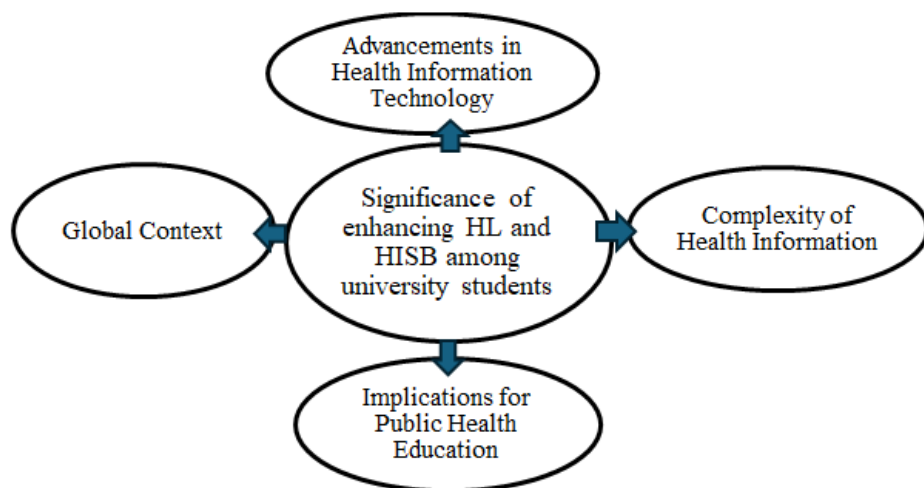


Figure 1: Significance of enhancing HL and HISB among university students

Source: Based on the published literature mentioned in the reference list

As shown in Figure 1 several factors contribute to the importance of enhancing health literacy and health information seeking behaviours among university students. In recent years there have been rapid advancements in the area of digital health tools, including Web-based health portals (“webports”), mobile apps and social networks. This has revolutionized the field of health information in its distribution and application. Examining the ways in which university students engage with these technologies and how this influences their health literacy is necessary for developing effective educational strategies. Also, health content is significantly more intricate and there are multiple sources which lead to varying degrees of acumen. This complexity is proving to be difficult for the health-conscious human’s out there. It is important therefore to conduct research into how well-equipped university students are for this complexity and whether their health literacy keeps up with these advances. Additionally, public health education and intervention strategies targeting college students may be informed by the findings of this study to accommodate for behaviours associated with these distinct needs. It also provides valuable information on how students search for health information which may help to inform the development of more targeted, effective health literacy programmes. Examining literature across the world gives a wider view of health literacy patterns and behaviours, going beyond specific localities. Having a worldwide viewpoint is essential for recognizing shared obstacles and effective tactics in various areas and societies.

Problem Statement:

Many studies focus on providing themed information and health literacy, but often overlook the barriers that prevent university students from accessing or effectively using this information. This study aims to address these gaps by improving the understanding of health literacy and information-seeking behaviour among this population.

Objectives;

1. To study health literacy trends and health information seeking behaviours among university students
2. Analyze the role of technology on the health-seeking behaviour and health literacy status of university students.

3. Examine how a student's education level and field of study impact their health information seeking behaviour.
4. Explore potential interventions and strategies to enhance health literacy and information seeking behaviours among university students in the current global context.

METHOD

Articles published between 2020 and August 2024 were considered for this study. The literature search was conducted between June and August 2024, involving an in-depth review of scholarly articles focusing on health literacy and information-seeking behaviours among university students. The search encompassed databases such as Google Scholar, PubMed, and HINARI, utilizing advanced search strategies detailed in Appendix A. Duplicate search results were identified and screened through proper keeping of search records, and using the Mendeley Reference Management software. Thematic analysis was conducted to organize, summarize, and merge essential findings from the selected studies to recognize patterns, differences, and emerging themes. Gathered publications were coded manually due to the lack of access to software like NVivo. After coding, they were categorized into themes, considering the author, publisher, and publication date of each article.

Inclusion and Exclusion Criteria:

- Inclusion Criteria:
 - Only scholarly research articles were considered for inclusion.
 - Open access and closed access
 - Year of publication 2020 – 2024 August
 - English
 - Full text
- Exclusion Criteria:
 - Insufficient data: articles lacking significant data relevant to the research objectives were excluded.
 - Non-English language: non-English articles were excluded due to potential language barriers.
 - Irrelevant study design: studies not employing suitable designs like cohort, case-control, or cross-sectional were excluded.
 - Not peer-reviewed: non-peer-reviewed articles were excluded to ensure research quality.
 - Inadequate methodology: studies with methodological flaws impacting reliability were excluded.
 - Focus on unrelated topics: articles focusing on unrelated aspects were excluded.
 - Duplicate information: articles with duplicate or overlapping data were excluded to prevent repetition.

LITERATURE REVIEW

The Institute of Medicine defines health literacy as the abilities of an individual to get, process, and use basic health information in order to make good health decisions (Nielsen-Bohlman, 2004). This involves reading skills, self-management skills and acquiring technical skills such as completing complicated health documents. The average HL among college students has been found to be better than the national average. However, despite this seemingly high level, students often lack critical practical competencies in health literacy, such as interpreting

prescriptions, which could negatively impact their health outcomes (Abdoh, 2022; Bak et al., 2022). Additionally, health literacy encompasses health information-seeking behaviours (HISB), which are particularly crucial when specific health issues arise. Engaging in health-seeking behaviours such as researching symptoms or prevention strategies is vital for promoting overall health (Akakpo & Neuerer, 2024; Bastani et al., 2022). Although access to information has become more convenient through the internet, it is essential to cultivate effective e-health literacy among individuals seeking health information. This proficiency not only ensures better health outcomes but also enhances the efficient use of health services (Bonaccorsi et al., 2023; Dashti et al., 2022; Mahmoodi et al., 2022; Nu Htay et al., 2022; Sakellari et al., 2024; Seboka et al., 2022; Tian & Chen, 2023).

Accessing health information has become increasingly diverse in today's digital age. University students, who often rely heavily on the internet, frequently use it as a primary source of health information for themselves and others. This information can be disseminated through various channels, including social media, television, books, newspapers, and healthcare providers. Factors such as personal impressions and gender significantly influence HISB, with studies indicating that women are more likely to seek confirmation of health-related queries through the internet and health services (Dadaczynski et al., 2021). While research has explored how individuals search for health-related information, there is a noticeable lack of studies examining the relationship between information-seeking behaviour and health literacy among educated populations compared to high-risk groups (Gedefaw et al., 2020; Loda et al., 2020; Nguyen et al., 2020; Nguyen et al., 2021; Rosário et al., 2020; Tangcharoensathien et al., 2020; Vaughan et al., 2020; Vrdelja et al., 2021; Zakar et al., 2021). This paper aims to fill this literature gap by investigating both HL and HISB among university students.

RESULTS AND DISCUSSION

A total of eighteen articles were collected using the method outlined earlier in detail. Table 1 presents a detailed summary of the essential attributes of the studies included in this analysis. Most of the included studies are quantitative and primarily utilized online survey questionnaires. The sample sizes of these studies vary significantly, ranging from 262 to 14,916 university students. The studies covered various regions around the world, providing a global perspective on HL and HISB in academic setting. Table 2 provides a comprehensive overview of the studies' characteristics, emphasizing the contributions of individual papers. It highlights key themes regarding HL and HISB among university students, emphasizing the importance of Digital Health Literacy (DHL) in the contemporary landscape.

The following discussion incorporates the findings of the respective studies depicted in Table 2, in order to accomplish the major aims of this review: monitoring the development of health literacy trends, the impact of the new technologies, the educational level, and mechanisms for the improvement of health literacy.

Trends and Emerging Patterns in Health Literacy:

Analyzing the themes as shown in Table 2 revealed a positive trend in DHL among university students, indicating an increased ability to access and utilize online health information, which is crucial in today's digital age (Rosário et al., 2020; Nguyen et al., 2020; Zakar et al., 2021). However, it is also noted that significant disparities persist, influenced by demographic factors such as educational background and technology access, necessitating targeted interventions to ensure equitable HL (Dadaczynski et al., 2021; Bak et al., 2022; Nguyen et al., 2020). Additionally, literature revealed that the transition to online sources underscores the need for students to develop critical navigation skills to discern reliable information, especially during health crises (Zakar et al., 2021; Bak et al., 2022; Mahmoodi et al., 2022). Further literature revealed that higher levels of DHL correlate with improved mental health outcomes, suggesting that effective HL serves as a protective factor against anxiety and uncertainty (Rosário et al., 2020; Nguyen et al., 2020).

Impact of Digital Advancements on Information-Seeking Behaviours: The widespread adoption of digital platforms has transformed how students seek health information. While technology facilitates easier access, it also presents challenges, such as the overwhelming volume of information and the prevalence of misinformation (Vrdelja et al., 2021; Bak et al., 2022). This highlights the necessity for students to develop robust digital literacy

skills, enabling them to critically evaluate online resources and navigate the digital landscape effectively (Abdoh, 2022; Seboka et al., 2022).

Role of Educational Backgrounds and Disciplines

According to Table 2 students in health-related fields typically demonstrate higher health literacy compared to their peers in other disciplines (Dashti et al., 2022; Baklola et al., 2024). This disparity underscores the importance of integrating health literacy education into non-health curricula. Gender-specific differences further highlight the need for tailored educational strategies, addressing the unique challenges faced by different groups (Nguyen et al., 2020; Sakellari et al., 2024). Comprehensive health education across various academic programme can enhance overall understanding and promote better health-seeking behaviours among diverse student populations (Dashti et al., 2022; Baklola et al., 2024).

Potential Interventions and Strategies: To enhance DHL, developing targeted educational programme is essential. These programmes should equip students with the skills to evaluate online health information and promote credible sources (Bastani et al., 2022; Akakpo & Neuerer, 2024). Engaging students in interactive training sessions can facilitate practical application of health literacy skills, making the learning process more effective (Bonaccorsi et al., 2023; Seboka et al., 2022). Additionally, leveraging online platforms for health education can expand access to reliable information (Bastani et al., 2022; Akakpo & Neuerer, 2024). A comprehensive approach that integrates curriculum development, targeted interventions, and digital literacy training is essential for improving health literacy and HISB among university students (Bonaccorsi et al., 2023; Seboka et al., 2022).

According to the Table 2, addressing the intricate relationship between health literacy, technology, education, and intervention strategies is vital for empowering university students to navigate health information effectively. A comprehensive approach that considers the diversity of student experiences will be crucial in fostering a healthier and more informed population.

Table 1. Fundamental attributes of literature included in the review

Author/s & year	Country	Research method	Target population	Data collection method	Sample size	Data Analysis
(Rosário et al., 2020)	Portuguese	Quantitative	University students	Online Survey (SurveyMonkey)	3084	Descriptive analysis
(Nguyen et al., 2020)	Vietnam	Quantitative	University students	Online survey questionnaire	5423	Descriptive analysis (IBM SPSS Version 20.0)
Nguyen et al., 2021)	Vietnam	Quantitative	University students	Online survey questionnaire	1,003	Descriptive analysis (IBM SPSS Version 20.0)
(Zakar et al., 2021)	Pakistan	Quantitative	University students	Online-based cross-sectional survey (SurveyMonkey)	1747	Descriptive analysis (IBM SPSS Version 26.0)
(Vrdelja et al., 2021)	Slovenia	Quantitative	University students	Online survey	3621	Descriptive analysis Bivariate analyses

(Dadaczynski, et al., 2021)	Germany	Quantitative	University students	Web based survey Enterprise Feedback Suite survey tool (Questback)	14,916	Descriptive analysis GENESIS database
(Bastani et al., 2022)	Iran	Quantitative	University students	Online survey questionnaire	387	Descriptive analysis (IBM SPSS Version 20.0)
(Nu Htay et al., 2022)	East and South-East Asia	Quantitative	University students	Online survey questionnaire	5302	Descriptive analysis (IBM SPSS Version 25.0)
(Bak et al., 2022)	Denmark	Quantitative	University students	Online self-administered questionnaire	1518	Descriptive analysis (IBM SPSS Version 27.0)
(Abdoh, 2022)	Saudi Arabia	Mixed method	University students	Online survey questionnaire	306	Descriptive analysis (IBM SPSS Version 28.0)
(Seboka et al., 2022)	Ethiopia	Quantitative	University students	Google survey tool (Google Forms), a semi-structured questionnaire	780	STATA version 14.2
(Mahmoodi et al., 2022)	Iran	Quantitative	University students	Online survey questionnaire	543	Descriptive analysis (IBM SPSS Version 16.0)
(Dashti et al., 2022)	Iran	Quantitative	University students	Online survey questionnaire	925	Descriptive analysis (IBM SPSS Version 16.0)
(Tian & Chen, 2023)	China	Quantitative	University students	Questionnaire using Wenjuanxing software	5151	Descriptive analysis (IBM SPSS Version 20.0)
(Bonaccorsi et al., 2023)	Italy	Quantitative	University students	Online survey questionnaire	2996	Descriptive analysis (IBM SPSS Version 28.0)
(Baklola et al., 2024)	Egypt	Quantitative	University students	Online survey questionnaire	1740	Descriptive analysis (IBM

						SPSS Version 28.0)
(Akakpo & Neuerer, 2024)	Ghana	Quantitative	University students	Questionnaire	262	Descriptive analysis (IBM SPSS Version 26.0)
(Sakellari et al., 2024)	Greece	Quantitative	University students	Questionnaire	604	Descriptive analysis (IBM SPSS Version 22.0)

Table 2: Comprehensive overview of Published Literature on Enhancing Health Literacy and Health Information-Seeking Behaviour of University Students

Author & year	Themes
(Rosário et al., 2020)	<ol style="list-style-type: none"> Vital Online Health Information: Access to accurate online health information is critical during pandemics for educating individuals and improving overall health and wellness. Importance of Digital Health Literacy (DHL): Digital health literacy is essential for effectively navigating online health resources and obtaining personalized health information. Future Focus and Validation: Future research will prioritize the validation of tools like DHL Covid to enhance assessments and reduce biases in digital health literacy studies.
(H. T. Nguyen et al., 2020)	<ol style="list-style-type: none"> Fear Assessment Tool: This tool effectively evaluates fear levels in medical students during the COVID-19 pandemic, enhancing understanding of related mental health issues. Protective Factors: Factors such as older age, male gender, stability, and higher health literacy can help shield students from fear, indicating potential areas for targeted support. Fear's Influence on Lifestyle: Elevated fear levels significantly impact lifestyle choices, highlighting the need for public health initiatives to address fear and promote healthier behaviours for improved student well-being.
(L. H. T. Nguyen et al., 2021)	<ol style="list-style-type: none"> Strengthening Digital Health Literacy (DHL): Mastering DHL is essential for effectively navigating online information about COVID-19. Satisfaction, DHL, and Information Quality: Greater satisfaction with health information is linked to strong evaluation skills, underscoring the importance of assessing information quality. DHL Mediating Subjective Well-Being: The impact of COVID-related information on satisfaction and overall well-being is mediated by DHL. Health Promotion Implications: Understanding DHL's role in health promotion is crucial for enhancing overall health and mental wellness. Future Research and Interventions: There is a need for research on how DHL influences information searching and overall well-being to improve health outcomes during the pandemic.

(Zakar et al., 2021)	<ol style="list-style-type: none"> Internet Connectivity and Associated Challenges: While online access grants independence, it also risks exposure to misleading or unreliable information. Significance of Authoritative Information: Students prioritize credible sources for COVID-19 information, highlighting the need for trustworthy data. Influence of Sociodemographic Factors on Health Literacy: An individual's background significantly impacts health literacy, necessitating improved educational resources, particularly in rural areas. Coherence and Mental Well-Being: Limited access to information negatively affects students' sense of coherence, which is vital for reducing anxiety during challenging times. Challenges in Health Literacy and Information Assessment: A survey reveals difficulties in evaluating information credibility, stressing the importance of relying on official sources to combat misinformation.
(Vrdelja et al., 2021)	<ol style="list-style-type: none"> Digital Health Literacy: Navigating health-related information effectively is crucial in today's digital landscape. Challenges in Information Evaluation: Identifying trustworthy sources and assessing the credibility of information presents significant complexities. Communication Strategies: Customized approaches are essential for enhancing critical skills in health information assessment. Infodemic Management: Strategies are needed to manage, improve, and accurately convey health information during information overload. Future Public Health Priorities: HL remains relevant beyond the pandemic, emphasizing its importance in ongoing public health efforts.
(Dadaczynski, et al., 2021)	<ol style="list-style-type: none"> Influence of COVID-19 on Information Seeking: The pandemic has shifted students' information-seeking behaviours to digital platforms due to restrictions. Assessment of Digital Health Literacy: Evaluates students' ability to navigate online COVID-19 information and assess trustworthy sources. Gender Inequities and Customized Interventions: Addresses gender disparities in digital health literacy and advocates for targeted skill enhancement. Role of Universities in Promoting Health Literacy: Universities play a key role in advancing digital health literacy through education and reliable information dissemination. Implications for Policy-Making: The study informs policymakers on the need for interventions to improve students' digital health literacy and promote healthy behaviours.
(Dashti et al., 2022)	<ol style="list-style-type: none"> Gender Differences in COVID-19 Prevention: Women show greater involvement in health behaviours due to societal expectations and responsibility. Impact of COVID-19 on Family Dynamics: Having a family member infected heightens the urgency for knowledge and preventive actions at home. Age-Related Variations in Preventive Behaviour: Older students are more likely to engage in preventive measures, likely due to increased awareness.

	<ol style="list-style-type: none"> 4. Role of E-Health Literacy in Prevention: E-health literacy is vital for improving knowledge and practices related to COVID-19 prevention. 5. Empowerment through Health Education: Educational initiatives are essential for helping students access reliable health information and promoting positive preventive behaviours.
(Bastani et al., 2022)	<ol style="list-style-type: none"> 1. Global Oral Health KAP Assessment: Evaluates oral health knowledge, attitudes, and practices in various countries, revealing worldwide variations. 2. Effective Educational Interventions: Emphasizes the need for educational programmes that improve oral health KAP using the internet and social media. 3. Educational Intervention Recommendations: Suggests internet-based strategies to raise community awareness of modern information-seeking methods. 4. Health Literacy Importance and Online Access: Advocates for enhancing health literacy through online education and encourages policymakers to develop robust online health information systems.
(Nu Htay et al., 2022)	<ol style="list-style-type: none"> 1. COVID-19 Information Satisfaction: Satisfaction levels are influenced by uncertainty, rapid changes in guidelines, and information overload during the pandemic. 2. Digital Health Literacy (DHL) Association: Students' DHL skills in information searching and evaluation are linked to their satisfaction with COVID-19 information. 3. DHL Impact on Satisfaction: Enhancing DHL skills among university students can improve satisfaction and promote well-being during the pandemic. 4. Enhancing DHL for Reliable Information: It's essential to promote trustworthy sources and strengthen DHL skills to ensure access to accurate information, supporting individuals' well-being.
(Bak et al., 2022)	<ol style="list-style-type: none"> 1. DHL Levels Among Students: More than half of students demonstrated sufficient digital health literacy, easily accessing and being satisfied with online health information. 2. Preferred Information Sources: Students favored news portals, search engines, and public websites for health information, with some using social media platforms. 3. Information Quality Challenges: Students faced difficulties in assessing the quality and reliability of information, particularly in verifying official sources. 4. Privacy Concerns and Health Literacy: Privacy issues on social media highlighted the need for health literacy to critically evaluate online information. 5. DHL Impact on Health Behaviours: Higher digital health literacy among U.S. college students was associated with greater acceptance of COVID-19 vaccinations, reflecting varying pandemic perceptions.
(Abdoh, 2022)	<ol style="list-style-type: none"> 1. Study Focus on Information Behaviour and DHL: This study examines the information-seeking behaviour and digital health literacy of undergraduate students at Taibah University during the COVID-19 pandemic. 2. Importance of Accurate Information in Emergencies: It emphasizes the necessity of understanding how students search for COVID-19 information to prevent misinformation that can negatively affect health behaviours.

	<ol style="list-style-type: none"> Use of Search Engines and Social Media: Students predominantly use search engines and social media for COVID-19 information, highlighting the need to address misinformation during crises. Enhancing Digital Health Literacy for Better Retrieval: There is a critical need to improve students' digital health literacy to combat false information and ensure effective health communication. Need for Health Education Programmes and Precise Platforms: The study underscores the importance of health education programmes and reliable public health platforms to enhance HL and support informed decision-making.
(Seboka et al., 2022)	<ol style="list-style-type: none"> Trends in Mental Health Literacy (MHL) Analysis: This study analyzes MHL trends among Ethiopian university students in 2022, noting changes from previous findings. Digital Advancements and MHL: It investigates how digital advancements positively correlate with mental health literacy and information-seeking behaviour. Education and Field Influence: The study explores how educational background and field of study affect mental health ISB, highlighting higher MHL among health-related programme students. Interventions for Mental Health Literacy Enhancement: It discusses strategies to improve MHL and information-seeking behaviour in university students, emphasizing the need for public health interventions and digital resource training.
(Mahmoodi et al., 2022)	<ol style="list-style-type: none"> Mental Health Literacy: Provides insights into Iranian students' MHL levels and awareness of mental health issues. Comparison with Norwegian Youth: Contrasts MHL levels of Iranian students with Norwegian youth, highlighting cultural and developmental influences on disparities. Positive vs. Disease-Oriented MHL: Differentiates between positive and disease-oriented MHL, advocating for targeted interventions to enhance positive MHL. Internet Role in Mental Health Information: Explores the internet's significance as a key MHL source for students, stressing the importance of ensuring online information accuracy. Trust in Information Sources: Addresses trust variations between internet-based social media and healthcare staff for MHL, prompting questions about the effectiveness of health education practices.
(Tian & Chen, 2023)	<ol style="list-style-type: none"> eHealth Literacy and Food Neophobia Among Chinese University Students Influence of Personal Variables on Food Neophobia Interactive Association of eHealth Literacy and Food Neophobia Intervention Measures for Improving eHealth Literacy and Reducing Food Neophobia
(Bonaccorsi et al., 2023)	<ol style="list-style-type: none"> Gender-Specific Models in OHISB Impact of Health Anxiety and Cyberchondria in ISB Gender-Specific Information Strategies for Health Communication Study Strengths and Limitations

(Baklola et al., 2024)	<ol style="list-style-type: none"> 1. Comparison of Mental Health Literacy Between Medical and Non-Medical Students 2. Factors Affecting Mental Health Literacy and Help-Seeking Behaviour 3. Educational Implications and Stigma Reduction Strategies 4. Cultural and Educational Contexts Shaping Mental Health Literacy
(Akakpo & Neuerer, 2024)	<ol style="list-style-type: none"> 1. Health Literacy and Healthcare Preference 2. Health Literacy and Self-Medication/Holistic Healthcare 3. Health Literacy and Health Campaign Adoption
(Sakellari et al., 2024)	<ol style="list-style-type: none"> 1. Role of Health Literacy in Health-Seeking Behaviour 2. Implications for Education and Policy Development 3. Potential for Replication and Further Research 4. Recommendations for Health Literacy Enhancement 5. Building Resilient Societies Post-COVID-19

CONCLUSION

This review looks at how university students comprehend and pursue health information in today's digital environment, from 2020 through 2024 August. The increase of health information and its multiple facets makes it important to have an insight into the dynamics of health literacy and information-seeking behaviours of the university students. The findings argues that university students have to be educated in a way where they digest health information and search for it when needed more effectively based on the realities of the 21st century. By integrating technology and addressing these issues, the education providers and policy makers could assist learners in comprehending complex health information. Educating health literacy and incorporating it into the course contents are integral to equipping the students with the ability to function autonomously regarding health matters. Nevertheless, with the continuous modification in health information, more research must be undertaken in order to be able to look into the future and help the students cope with the management of their health information more efficiently.

REFERENCES

1. Abdoh, E. (2022). Online health information seeking and digital health literacy among information and learning resources undergraduate students. *Journal of Academic Librarianship*, 48(6), 102603. <https://doi.org/10.1016/j.acalib.2022.102603>
2. Akakpo, M. G., & Neuerer, M. (2024). The relationship between health literacy and health-seeking behaviour amongst university students in Ghana: A cross-sectional study. *Health Science Reports*, 7(5), 1–9. <https://doi.org/10.1002/hsr2.2153>
3. Bak, C. K., Krammer, J., Dadaczynski, K., Orkan, O., von Seelen, J., Prinds, C., Søjberg, L. M., & Klakk, H. (2022). Digital health literacy and information-seeking behaviour among university college students during the COVID-19 Pandemic: A cross-sectional study from Denmark. *International Journal of Environmental Research and Public Health*, 19(6), 1–14. <https://doi.org/10.3390/ijerph19063676>
4. Baklola, M., Terra, M., Taha, A., Elnemr, M., Yaseen, M., Maher, A., Buzaid, A. H., Alenazi, R., Osman Mohamed, S. A., Abdelhady, D., & El-Gilany, A.-H. (2024). Mental health literacy and help-seeking behaviour among Egyptian undergraduates: a cross-sectional national study. *BMC Psychiatry*, 24(1), 202. <https://doi.org/10.1186/s12888-024-05620-7>
5. Bastani, P., Bahrami, M. A., Kapellas, K., Yusefi, A., & Rossi-Fedele, G. (2022). Online oral health

- information seeking experience and knowledge, attitudes and practices of oral health among iranian medical students: an online survey. *BMC Oral Health*, 22(1), 29. <https://doi.org/10.1186/s12903-022-02061-0>
6. Bonaccorsi, G., Gallinoro, V., Guida, A., Morittu, C., Ferro Allodola, V., Lastrucci, V., Zanobini, P., Okan, O., Dadaczynski, K., & Lorini, C. (2023). Digital health literacy and information-seeking in the era of COVID-19: gender differences emerged from a Florentine university experience. *International Journal of Environmental Research and Public Health*, 20(3). <https://doi.org/10.3390/ijerph20032611>
7. Dadaczynski, K., Okan, O., Messer, M., Leung, A., Rosário, R., Darlington, E., Rathmann, K., Angela, J., & Leung, Y. M. (2021). Digital health literacy and online information seeking in times of COVID-19. A cross-sectional survey among university students in Germany (Preprint) *Digital Health Literacy and Web-Based Information-Seeking Behaviours of University Students in Germany* *Dur. Journal of Medical Internet Research*, 23(1), 10.
8. Dadaczynski, K., Okan, O., Messer, M., & Leung, A. Y. M. (2021). Digital health literacy and web-based information-seeking behaviours of university students in Germany during the COVID-19 pandemic: cross-sectional survey study. *Journal of Medical Internet Research*, 23, 1–17. <https://doi.org/10.2196/24097>
9. Dashti, S., Abadibavil, D., & Roozbeh, N. (2022). Evaluating e-health literacy, knowledge, attitude and practice regarding COVID-19 prevention and self-protection among Iranian students: a cross-sectional online survey. *BMC Medical Education*, 22(1), 1–10. <https://doi.org/10.1186/s12909-022-03210-3>
10. Gedefaw, A., Yilma, T. M., & Endehabtu, B. F. (2020). Information seeking behaviour about cancer and associated factors among university students, Ethiopia: A cross-sectional study. *Cancer Management and Research*, 12, 4829–4839. <https://doi.org/10.2147/CMAR.S259849>
11. Loda, T., Erschens, R., Junne, F., Stengel, A., Zipfel, S., & Herrmann-Werner, A. (2020). Undergraduate medical students' search for health information online: explanatory cross-sectional study. *JMIR Medical Informatics*, 8(3), e16279. <https://doi.org/10.2196/16279>
12. Mahmoodi, S. M. H., Ahmadzad-Asl, M., Eslami, M., Abdi, M., Hosseini Kahnamoui, Y., & Rasoulilian, M. (2022). Mental health literacy and mental health information-seeking behaviour in Iranian University students. *Frontiers in Psychiatry*, 13(June), 1–6. <https://doi.org/10.3389/fpsy.2022.893534>
13. Nguyen, H. T., Do, B. N., Pham, K. M., Kim, G. B., Dam, H. T. B., Nguyen, T. T., Nguyen, T. T. P., Nguyen, Y. H., Sørensen, K., Pleasant, A., & Van Duong, T. (2020). Fear of COVID-19 scale—associations of its scores with health literacy and health-related behaviours among medical students. *International Journal of Environmental Research and Public Health*, 17(11), 1–14. <https://doi.org/10.3390/ijerph17114164>
14. Nguyen, L. H. T., Vo, M. T. H., Tran, L. T. M., Dadaczynski, K., Okan, O., Murray, L., & Van Vo, T. (2021). Digital health literacy about COVID-19 as a factor mediating the association between the importance of online information search and subjective well-being among university students in Vietnam. *Frontiers in Digital Health*, 3, 739476. <https://doi.org/10.3389/fdgth.2021.739476>
15. Nu Htay, M. N., Parial, L. L., Tolabing, M. C., Dadaczynski, K., Okan, O., Man Leung, A. Y., & Su, T. T. (2022). Digital health literacy, online information-seeking behaviour, and satisfaction of Covid-19 information among the university students of East and South-East Asia. *PLoS ONE*, 17(4 April), 1–17. <https://doi.org/10.1371/journal.pone.0266276>
16. Rosário, R., Martins, M. R. O., Augusto, C., Silva, M. J., Martins, S., Duarte, A., Fronteira, I., Ramos, N., Okan, O., & Dadaczynski, K. (2020). Associations between covid-19-related digital health literacy and online information-seeking behaviour among portuguese university students. *International Journal of Environmental Research and Public Health*, 17(23), 1–11. <https://doi.org/10.3390/ijerph17238987>
17. Sakellari, E., Okan, O., Dadaczynski, K., Koutentakis, K., & Lagiou, A. (2024). Digital health literacy and information-seeking on the internet in relation to COVID-19 among university students in Greece. *Computer Methods and Programmes in Biomedicine Update*, 5(January), 100139. <https://doi.org/10.1016/j.cmpbup.2024.100139>
18. Seboka, B. T., Hailegebreal, S., Negash, M., Mamo, T. T., Ewune, H. A., Gilano, G., Yehualashet, D. E., Gizachew, G., Demeke, A. D., Worku, A., Endashaw, H., Kassawe, C., Amede, E. S., Kassa, R., & Tesfa, G. A. (2022). Predictors of mental health literacy and information seeking behaviour toward mental health among university students in resource-limited settings. *International Journal of General Medicine*, 15(November), 8159–8172. <https://doi.org/10.2147/IJGM.S377791>

19. Tangcharoensathien, V., Calleja, N., Nguyen, T., Purnat, T., D'Agostino, M., Garcia-Saiso, S., Landry, M., Rashidian, A., Hamilton, C., AbdAllah, A., Ghiga, I., Hill, A., Hougendobler, D., van Anel, J., Nunn, M., Brooks, I., Sacco, P. L., De Domenico, M., Mai, P., ... Briand, S. (2020). Framework for managing the COVID-19 Infodemic: methods and results of an online, crowdsourced WHO technical consultation. *Journal of Medical Internet Research*, 22(6), e19659. <https://doi.org/10.2196/19659>
20. Tian, H., & Chen, J. (2023). Associations among online health information seeking behaviours, electronic health literacy and food neophobia: a cross-sectional study. *Inquiry : A Journal of Medical Care Organization, Provision and Financing*, 60, 469580231217982. <https://doi.org/10.1177/00469580231217982>
21. Vaughan, B., Fitzgerald, K., Fleischmann, M., & Mulcahy, J. (2020). Determinants of health, health behaviours and demographic profile of patients attending an Australian university student-led osteopathy clinic. *Chiropractic & Manual Therapies*, 28(1), 2. <https://doi.org/10.1186/s12998-019-0292-5>
22. Vrdelja, M., Vrbovšek, S., Klopčič, V., Dadaczynski, K., & Okan, O. (2021). Facing the growing COVID-19 infodemic: Digital health literacy and information-seeking behaviour of university students in Slovenia. *International Journal of Environmental Research and Public Health*, 18(16). <https://doi.org/10.3390/ijerph18168507>
23. Zakar, R., Iqbal, S., Zakar, M. Z., & Fischer, F. (2021). COVID-19 and health information seeking behaviour: Digital health literacy survey amongst university students in Pakistan. *International Journal of Environmental Research and Public Health*, 18(8). <https://doi.org/10.3390/ijerph18084009>

ANNEX A

Searching Strategy in PubMed

Search: ((health literacy) AND (information seeking behaviour)) AND (university students) Filters: from 2020 - 2024 (("health literacy"[MeSH Terms] OR ("health"[All Fields] AND "literacy"[All Fields]) OR "health literacy"[All Fields]) AND ("information seeking behaviour"[MeSH Terms] OR ("information"[All Fields] AND "seeking"[All Fields] AND "behaviour"[All Fields]) OR "information seeking behaviour"[All Fields] OR ("information"[All Fields] AND "seeking"[All Fields] AND "behaviour"[All Fields]) OR "information seeking behaviour"[All Fields]) AND (("universiti"[All Fields] OR "universities"[MeSH Terms] OR "universities"[All Fields] OR "university"[All Fields] OR "university s"[All Fields]) AND ("student s"[All Fields] OR "students"[MeSH Terms] OR "students"[All Fields] OR "student"[All Fields] OR "students s"[All Fields]))) AND (2020:2024[pdat])

Translations health literacy: "health literacy"[MeSH Terms] OR ("health"[All Fields] AND "literacy"[All Fields]) OR "health literacy"[All Fields]

information seeking behaviour: "information seeking behaviour"[MeSH Terms] OR ("information"[All Fields] AND "seeking"[All Fields] AND "behaviour"[All Fields]) OR "information seeking behaviour"[All Fields] OR ("information"[All Fields] AND "seeking"[All Fields] AND "behaviour"[All Fields]) OR "information seeking behaviour"[All Fields] university: "universiti"[All Fields] OR "universities"[MeSH Terms] OR "universities"[All Fields] OR "university"[All Fields] OR "university's"[All Fields]

students: "student's"[All Fields] OR "students"[MeSH Terms] OR "students"[All Fields] OR "student"[All Fields] OR "student's"[All Fields]

Google scholar and Hinari database

Health Literacy AND Information Seeking Behaviour AND University Students OR Undergraduate Students in Universities