

Original Article

DIGITAL DEPENDENCY AND COGNITIVE BIAS: IMPLICATIONS FOR ONLINE HEALTH INFORMATION SEEKING BEHAVIOR

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ABSTRACT

In this digital era, people increasingly depend on technology in all aspects of life. The rapid growth of digital media and online platforms has drastically transformed the way individuals seek, access, and interpret health information. At the same time, digital technologies empower users by providing easy access to information on health-related issues. However, increased digital dependency and the intensive use of online platforms may distort understanding and decision-making through cognitive biases. This paper explores digital dependency and cognitive bias in online health information seeking. Using a qualitative analysis method supported by a literature review, the study examines the reliability of digital platforms and their influence on individuals' health-related decisions. The paper emphasises the need for e-health literacy and critical evaluation skills to reduce the negative effects of online health information-seeking behaviour. Furthermore, it addresses health anxiety and the influencing factors in e-health communication to understand the depth of digital dependency, its consequences, and associated cognitive biases.

Keywords: Digital Dependency, E-health Literacy, Health Anxiety

INTRODUCTION

The digital revolution of the world has deeply changed how people access or interpret information, especially in the aspect of health. The fast growth of technology brought everything under a single fingertip. The increased use of the internet has made everything easier, especially health information. Online health information seeking has become a routine and a global behaviour among individuals. This has been driven by the ease of access to health information, which is immediate and affordable. As people don't want to spend their money, time, and energy on day-to-day minor illnesses (Pew Research Centre, 2013). And, due to the wide availability of health information, people check out every digital platform for the symptoms they have. This may create health awareness or health anxiety, depending on the frequency of use of these platforms. As people depend on this digital platform to check symptoms for various treatments or prevention methods.

Lifestyle changes have also contributed to the rise of chronic health conditions, prompting individuals to stay updated about their health. The growing demand for digital platforms, due to their immediate access to a wide range of health information, has made people less likely to prefer traditional sources such as newspapers, radio, television, or even direct consultation. This has revolutionised online health information-seeking behaviour. Even though there are many sources, the issue is that they are not uniform. People who lack health literacy blindly believe treatment methods or conform to symptoms without authentic assurance. However, these can lead to cognitive bias. This increased exposure leads to information overload, misinformation, or sometimes

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Received: 19 July 2026; Accepted: 24 August 2026; Published 30 September 2026

DOI: [10.29121/ShodhVichar.v2.i2.2026.137](https://doi.org/10.29121/ShodhVichar.v2.i2.2026.137)

Page Number: 202-208

Journal Title: ShodhVichar: Journal of Media and Mass Communication

Journal Abbreviation: ShodhVichar J. Media & Mass Commun.

Online ISSN: 3107-6408, Print ISSN: 3108-270X

Publisher: Granthaalayah Publications and Printers, India

Conflict of Interests: The authors declare that they have no competing interests.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Authors' Contributions: Each author made an equal contribution to the conception and design of the study. All authors have reviewed and approved the final version of the manuscript for publication.

Transparency: The authors affirm that this manuscript presents an honest, accurate, and transparent account of the study. All essential aspects have been included, and any deviations from the original study plan have been clearly explained. The writing process strictly adhered to established ethical standards.

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misinterpreted information. The credibility of health information may badly affect health decision-making. This leads to cognitive bias. This background reinforces the need to study online health information-seeking behavior in relation to digital dependency and cognitive bias in this contemporary era.

The study focused on the concept of digital dependency and cognitive bias in the online health information processing. Also, to examine the user's perception and decisions in the digital health context.

OBJECTIVES

- To examine the digital dependency in the aspects of online health information seeking behavior.
- To discover the general characteristics of online health information seeking practices and relating it to cognitive bias.
- To identify the factors that influence online health information seeking behaviour.

METHODOLOGY

This study is grounded in Cognitive Behavioural Theory, which explains how cognitive distortions influence individuals' emotional responses and behavioural patterns, particularly in the context of seeking health information online.

The research adopts a qualitative approach, using a systematic literature review method to examine the relationship between digital dependency and cognitive bias in online health information seeking. Relevant studies were identified through an electronic database search, primarily using Google Scholar, covering publications from 2021 to 2025.

The review focused on key themes such as online health information-seeking behaviour, AI-assisted self-diagnosis, cognitive determinants, digital health engagement, and e-health communication. A purposive sampling technique was employed to select research articles that were most relevant to the objectives of the study.

INCLUSION CRITERIA

The selected research papers met the following criteria:

- Studies addressing digital dependency in the context of online health information seeking
- Research examining cognitive biases or cognitive processes influencing health-related decision-making
- Articles focusing on behavioural intention, digital reliance, and demographic predictors
- Peer-reviewed papers published between 2021 and 2025

EXCLUSION CRITERIA

The following studies were excluded:

- Articles not aligned with the objectives of the study
- Studies lacking relevance to cognitive or behavioural aspects of online health information seeking
- Non-scholarly sources or publications outside the specified time frame

This systematic selection process ensured that the reviewed literature is both relevant and reliable for analysing the impact of digital dependency and cognitive bias on online health information-seeking behaviour.

RESULT ANALYSIS

Table 1 summarises the details of the articles reviewed, including research design, methods used, targeted locations and Findings.

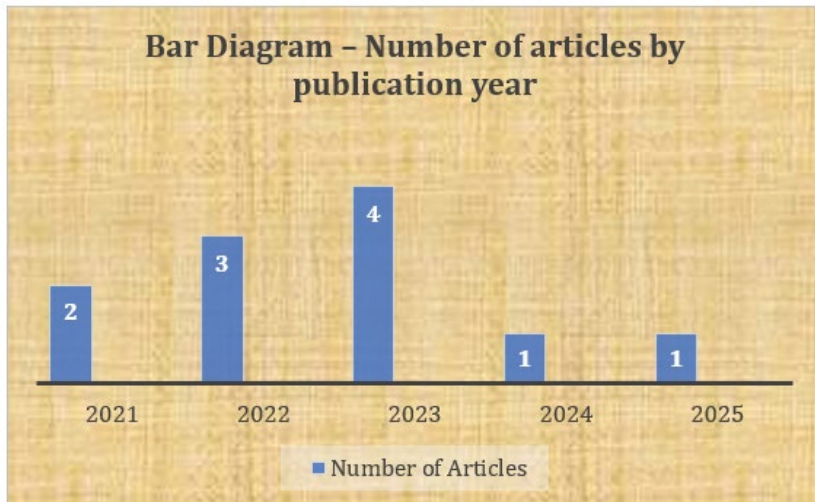
Table 1

Table 1 Details of the Articles Reviewed							
Author	Publication Year	Title	Research Design	Data Collection Method	Location	Data Analysis	Findings
Link et al.	2021	Influencing Factors of Online Health Information Seeking in Selected European	Quantitative	Online surveys	Germany, Switzerland, the Netherlands, and Austria	Regression Analysis with Stratified Samples	Online health information seeking varies across European countries and is strongly

Countries: Analysis of Country Specifics							influenced by education level, internet access, and health awareness.
Schenkel et al.	2021	Conceptualisations of Cyberchondria and Relations to the Anxiety Spectrum: Systematic Review and Meta-analysis	Quantitative	N/A	Germany	Random-effects model with Meta-Regression analysis.	Frequent online health searches are linked with higher anxiety levels and contribute to the development of Cyberchondria.
Bak et al.	2022	Digital Health Literacy and Information-Seeking Behaviour among University College Students during the COVID-19 Pandemic: A Cross-Sectional Study from Denmark	Quantitative	Cross-sectional survey	Denmark	Multivariate Logistic Regression	Students with stronger digital health literacy are better able to locate and evaluate health information during the COVID-19 pandemic.
Amin et.al	2022	Cognitive Determinants of Health Information Seeking Behaviour	Quantitative	Cross-sectional survey	Malaysia	Multiple Linear Regression	Cognitive perceptions such as usefulness, confidence, and trust significantly shape health information seeking through social media platforms.
Shahsavari et.al	2023	User Intentions to Use ChatGPT for Self-Diagnosis and Health-Related Purposes: Cross-sectional Survey Study	Quantitative	Cross-sectional survey	United States	Descriptive Statistics and Partial Least Squares Structural Equation Modelling	Many users show willingness to use AI tools like ChatGPT for health guidance, although concerns about reliability and accuracy remain.
Xiumei Ma et al.2023	2023	Understanding online health information seeking behaviour of older adults: A social cognitive perspective	Quantitative	Survey	China	Structural Equation Modeling	Older adults' online health information seeking is largely influenced by self-efficacy, perceived benefits, and digital competence.
Han Zheng.et.al	2023	How does health information seeking from different online sources trigger cyberchondria? The roles of online information overload and information trust	Quantitative	Cross-sectional survey		Factor analysis	Information overload and low trust in online sources increase anxiety and intensify cyberchondria during health searches.
Bertolazzi. et.al	2023	I KnowThatIKnow: Online Health Information Seeking, Self-Care and the Overconfidence Effect	Quantitative	Cross-sectional survey	Italy	Univariate linear regression and multiple linear regression analysis	Extensive online health searching can create overconfidence in individuals' health knowledge and influence self-care decisions

Hua Pang et al.	2024	Untangling the effect of cognitive trust and perceived value on health-related information seeking, sharing and psychological well-being: Motivations sought perspective.	Quantitative	Survey	China	Structural Equation Modeling & Confirmatory Factor Analysis	Cognitive trust and perceived value encourage users to seek and share health information, which can improve psychological well-being.
Hongmin et al.	2025	Associations among Online Health Information Seeking Behaviour, Online Health Information Perception, and Health Service Utilisation: Cross-Sectional Study	Quantitative	Survey	China	Multivariate Regression and Mediation Effect Analysis	Online health information seeking affects how people perceive digital health content and may influence their use of healthcare services.
Jialu Qin	2025	Digital area: A Study on the Association of Health Information Exposure, Media Dependency and Social Adaptation of Audience.	Quantitative	Survey	China	Structural Equation Modelling (SEM)	Exposure to digital health information and media dependency shapes audience awareness and supports social adaptation to health issues.

ANALYSIS AND INTERPRETATION



COGNITIVE AND SOCIAL FACTORS INFLUENCING ONLINE HEALTH INFORMATION SEEKING BEHAVIOUR

As the digital dependency in the aspect of Health has increased, the online health information- seeking behavior among people has also increased. This was due to the expansion of digital technologies and the accessibility of the internet. People relied on internet platforms for almost every aspect of their needs. They depended on the internet to get to know about the information regarding diseases, symptoms, home remedies, treatments, and health-related practices. Moreover, the process of seeking and interpreting health information online is influenced by certain factors like cognitive, psychological and social aspects. This led to biased decisions through excessive information from repeated searches. Examining these determinants is important in explaining how people interact with online health information.

- [Link et al. \(2021\)](#) examined the determinants of online health information seeking behavior in European countries like Switzerland, Germany, the Netherlands, and Austria. The researcher took a sample size of more than six thousand (n=6106) who depended on the internet for medical information. The study focused on demographic characteristics, Internet access, and motivations for seeking online health information. Factors like age, education, and e-literacy influenced how people continued to rely on these digital platforms.

- The people who experienced uncertainty about health issues tended to repeatedly search online for that information. This concept, known as Cyberchondria, is an excessive search for health information that leads to health anxiety. The systematic review done by [Schenkel et al. \(2021\)](#) showed a strong association between health anxiety and cyberchondria, indicating that people who experienced greater uncertainty about their health were more likely to engage in repeated online searches. This repetitive behavior increased anxiety and amplified the negative cognitive patterns.
- [Bak et al. \(2022\)](#) examined the digital health literacy and how university students searched for health information online during the period of the COVID-19 pandemic in Denmark. By collecting data from the sample (n=5533), the researcher studies whether higher digital literacy influenced the quality of health information seeking. The results indicated that students with strong digital expertise were able to identify the reliable sources.
- [Amin and Nazan \(2022\)](#) focused on cognitive factors in online health information seeking Behavior among Malaysian adults. The researcher examined the responses from a few samples (n= 705) by focusing on perceived usefulness, personal motivation, and reliability. The findings indicated that cognitive perceptions influenced people's engagement with online health information-seeking platforms.
- The digital revolution has significantly influenced the health sector, where artificial intelligence-based tools are increasingly utilized to obtain information about health concerns. [Shahsavar and Choudhury \(2023\)](#) explored people's intentions to use AI tools like ChatGPT for health-related inquiries and for self-diagnosis. The researcher collected data from the United States (n=607) to examine how users perceive AI technology in the health sector. The finding indicated that perceived usefulness and ease of access make users depend on digital technologies to access health information.
- Technical proficiency and self-efficacy significantly influenced users' engagement with online health information. Research adopting a social cognitive perspective indicated that individuals with higher levels of IT self-efficacy and technological awareness were more likely to seek out online health information [Ma et al. \(2023\)](#). This study was conducted among elderly participants in China.
- Han Zheng examined the online health information seeking (OHIS) from different platforms that could cause cyberchondria. The study explored the survey responses (n= 654), using the Stimulus-Organism-Response (SOR) model, in China to understand cognitive reactions and cyberchondria related to OHIS. The researcher particularly investigated information overload and reliability or trust in online resources. The result revealed that online platforms significantly increased perceived information overload, but still, people do trust these platforms, which in turn increased health-related anxiety.
- [Bertolazzi et al. \(2023\)](#) explored the relationship between online health information seeking, self-diagnosis, and the overconfidence effect among university students in Italy. The study involved 783 participants and was conducted using a cross-sectional survey design. The findings indicated that extensive online searches for health information may lead individuals to believe that they have enough knowledge in health care. Thus, they avoid professional health care. This phenomenon is explained through the Dunning-Kruger effect. In this context of online health information seeking, the cognitive bias encouraged dependence on digital information rather than direct medical advice.
- [Pang and Liu \(2023\)](#) examined the influence of cognitive trust and perceived value on health information. The researcher surveyed 898 participants in China to understand the driving force behind online health information seeking. The findings indicated that people perceived online information as reliable and beneficial; hence, they relied on digital platforms for the same.
- The connection between online health information-seeking behavior, perception of information, and the use of health services was analyzed by [Hongmin \(2025\)](#). Using the sample (n=1475), the researcher examined how people interpreted online health information and how it influenced their health decision-making. The study aimed to understand whether online information seeking affected medical service utilization or not. The result ended with a positive perception that online health information can still encourage people to consult healthcare professionals.
- [Qin \(2025\)](#) found that greater exposure to online health information was associated with higher levels of media dependency. The researcher examined survey data from the samples (n=3697) to understand how people depended on media for health information. The findings indicated that excessive reliance on online sources and cognitive biases may result in information overload and emotional distress.

COGNITIVE BEHAVIOURAL THEORY PERSPECTIVE

COGNITIVE VARIABLES

Based on the cognitive behavioural theory, most of the studies highlighted the role of cognitive factors in defining the online health information-seeking behavior. [Link et al. \(2021\)](#) and [Bak et al. \(2022\)](#) examined the demographic characteristics and E-health literacy influence and how individuals process and interpret the information. Likewise, [Amin and Nazan \(2022\)](#), [Pang and Liu \(2023\)](#), and [Shahsavar and Choudhury \(2023\)](#) highlight that perceived usefulness, trust or reliability biases, and motivation factors shape users' cognitive perceptions towards digital platforms. Moreover, the cognitive biases such as the Dunning-Kruger effect [Bertolazzi](#)

et al. (2023) identified how users overestimate their knowledge with inefficient information. These findings demonstrated that perceptions, belief, and cognitive evaluation played a vital role in influencing users to depend on online health information.

BEHAVIOURAL VARIABLES

The act of seeking online health information itself depicts the key behavioral response driven by cognitive factors. Research studies by Link et al. (2021), Qin (2025), and Hongmin (2025) suggested that users actively depend on online health information seeking due to perceived benefits and beliefs. The frequent searching behavior, especially during uncertain health conditions, is emphasized by Schenkel et al. (2021), in which the users repetitively search for information on symptoms or treatment, reinforcing their dependence on online platforms. Moreover, the advancement of AI tools and media dependency, as reviewed by Shahsavar and Choudhury (2023) and Qin (2025), further illustrates how the behaviors are shaped over time.

EMOTIONAL VARIABLES

Emotional responses also played a major role in the cognitive behavior theory, in the context of online health information seeking. The review paper by Schenkel et al. (2021) and Zheng et al. (2023) examined health anxiety as a key emotional trigger that led the user to seek online information. This behavior is often associated with cyberchondria, where repeated searching increases anxiety and reinforces negative cognitive patterns. Also, the information overload, as identified by Han Zheng and Qin (2025), created the emotional imbalance and confusion. These emotional factors further led to the cognitive interpretation, which triggers more anxiety about health.

FINDINGS

The research articles emphasized many key observations. Cognitive perceptions such as perceived usefulness, credibility or trust, and ease of accessibility - all these strongly influence people's motivation to seek online health information. E-health literacy determined the user's ability to evaluate the credibility of online information. The psychological factors, such as health anxiety, led to repeated searching behavior. Moreover, cognitive biases, particularly overconfidence, adversely affected users' interpretation of health information.

DISCUSSION

The literature claims that the demand for online health information has increased along with the growth of digital technologies. Individuals frequently use online platforms to obtain information about health conditions, treatments, and preventive care. However, the way users interpreted this information was influenced by cognitive perceptions such as usefulness, trust, and ease of access. Limited digital health literacy may prevent users from accurately evaluating the reliability of online information, which can lead to misinformation or misunderstanding.

Psychological factors also play an important role in shaping this behavior. Anxiety and uncertainty about health conditions encouraged individuals to repeatedly search for information online, sometimes leading to cyberchondria. In addition, cognitive biases such as overconfidence emerged when individuals believed they had sufficient knowledge after reading online information. This tendency was explained by the Dunning-Kruger effect, where individuals with limited expertise may overestimate their understanding and rely less on professional medical advice.

CONCLUSION

The results were from 11 review articles that were found via Google Scholar and were published between 2021 and 2025. The articles clearly indicated that online health information seeking had become quite common in this era of digital dependency. Moreover, users' cognitive perceptions, psychological responses, and technological innovations influenced how this information was interpreted and consumed through digital platforms. The studies also revealed that cognitive biases and lower E-health literacy affected users' health decision-making. Therefore, it was thought to be crucial for the responsible use of online health resources to increase e-health literacy and foster a sense of critical evaluation.

ACKNOWLEDGMENTS

None.

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