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The Impact of Digitization of Hospital Health Promotion (PKRS) on Patient Health Literacy in Indonesian Hospitals: Literature Review

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Abstract

Hospital health promotion (Promosi Kesehatan Rumah Sakit, PKRS) in Indonesia has increasingly incorporated digital platforms, including social media, hospital websites, educational videos, and mobile applications. However, the contribution of digital hospital health promotion to patient health literacy has not been systematically examined. This review aimed to examine how the digitalization of hospital health promotion influenced patients' abilities to access, understand, appraise, and apply health information. A structured narrative literature review was conducted using 30 relevant national and international articles published between 2018 and 2026, retrieved through Google Scholar, PubMed, Scopus, the Science and Technology Index (SINTA), and the Garuda portal. Data were extracted into a synthesis matrix and analyzed thematically, considering the methodological designs and strength of evidence of the included studies. The findings indicated that digital hospital health promotion improved patients' access to health information and facilitated their understanding of health-related content. Several studies also reported benefits in patients' abilities to navigate and utilize digital health information and services, although the evidence supporting these outcomes was less consistent than that concerning information access and comprehension. Meanwhile, evidence regarding patients' abilities to critically appraise health information, make informed health decisions, and adopt healthier behaviors remained limited. The effectiveness of digital hospital health promotion was influenced by digital literacy, access to technology, healthcare professionals' readiness, health information system integration, and data privacy considerations. These findings suggested that digital hospital health promotion initiatives should incorporate patient-centered educational content, appropriate guidance and support, and evaluation frameworks that prioritize patient-level outcomes rather than relying solely on digital content reach and engagement metrics.

INTRODUCTION

Hospitals play a crucial role not only in providing curative and rehabilitative services but also in implementing health promotion and disease prevention initiatives. In Indonesia, these responsibilities are fulfilled through Hospital Health Promotion (Promosi Kesehatan Rumah Sakit, PKRS). Indonesian Minister of Health Regulation No. 44 of 2018 establishes the regulatory framework for hospital health promotion, requiring hospitals to provide health education and promotion services to patients, families, visitors, and surrounding communities. Through these initiatives, PKRS supports patients in understanding their health conditions, making informed healthcare decisions, and managing their health more independently (Anisa et al., 2025). This educational function is also closely associated with patient safety, as patients

who understand their treatment processes are better equipped to participate actively in their care (Putri, 2023).

Over the past decade, the communication channels used to deliver hospital health promotion services have undergone substantial changes. Hospitals have increasingly adopted websites, social media platforms, educational videos, mobile applications, and other online services to disseminate health information and engage with patients. The COVID-19 pandemic further accelerated this digital transformation (Amallia, 2024; Julianti et al., 2022). These developments have transformed not only how health information is delivered but also the competencies patients need to access and utilize it effectively. In this review, health literacy encompasses individuals' abilities to access, understand, critically appraise, and apply health information when making healthcare decisions (Hogan et al., 2024; Larrotta-Castillo et al., 2023). When health information is delivered through digital platforms, these processes also require digital literacy, including the ability to navigate digital technologies and evaluate the credibility and quality of online information (Arias López et al., 2023; Dijkman et al., 2024; Zhang et al., 2023). Digital health communication has also been recognized as a potentially valuable approach to strengthening health literacy and supporting improved health outcomes for patients and healthcare professionals (Dong et al., 2023; Fitzpatrick, 2023; Naef et al., 2023).

However, the availability of digital technologies does not necessarily ensure their effective utilization by patients or healthcare professionals. Adela et al. (2026) found that digital literacy influenced patients' ability to access online registration services through the Mobile JKN application. Similarly, Chendra et al. (2025) identified limited digital literacy among hospital personnel and inadequate integration of information systems as persistent barriers to digital transformation in healthcare institutions. Existing research on digital hospital health promotion has primarily focused on the types of communication platforms employed or improvements in patients' health-related knowledge. Comparatively limited attention has been devoted to examining the complete health literacy process, encompassing access to information, comprehension, critical appraisal, practical application, and informed decision-making. Consequently, the extent to which digital hospital health promotion supports these interconnected dimensions of health literacy remains insufficiently understood.

Addressing this research gap is particularly important as hospitals continue to invest in digital communication platforms without sufficient evidence regarding their effectiveness in improving patients' comprehension, critical appraisal, and practical application of health information. Furthermore, the rapid expansion of digital PKRS initiatives following the COVID-19 pandemic has increased the importance of evaluating their effectiveness and ensuring that investments translate into meaningful patient-level outcomes. Accordingly, this review aimed to synthesize existing evidence on the relationship between the digitalization of hospital health promotion and patient health literacy in Indonesian hospitals. A total of 30 selected articles were systematically mapped according to the types of digital interventions, target populations, dimensions of health literacy addressed, principal findings, and facilitating and inhibiting factors. This synthesis was used to examine how digital hospital health promotion contributed to different dimensions of patient health literacy. Rather than treating digital health promotion as a homogeneous intervention, the review distinguished its contributions to information access, comprehension, critical appraisal, and application. This

approach enabled the identification of dimensions supported by relatively consistent empirical evidence and those requiring further investigation, thereby providing a foundation for developing more effective, patient-centered digital health promotion strategies.

METHOD

Design Review

This study employed a structured narrative literature review to examine the relationship between the digitalization of hospital health promotion and patient health literacy. The review followed a predefined process involving keyword-based literature searches, application of inclusion and exclusion criteria, article screening, data extraction into a synthesis matrix, mapping of study characteristics, and thematic synthesis of findings across different dimensions of patient health literacy. Consistent procedures and selection criteria were applied throughout the review process to enhance methodological transparency and consistency. This approach was selected because the included studies varied considerably in their research designs, objectives, and outcome measures, making statistical pooling through meta-analysis inappropriate.

Search Strategy

Literature searches were conducted in August 2026 through Google Scholar, PubMed, Scopus, and Indonesian journal portals accredited by SINTA and Garuda. Keywords were compiled in Indonesian and English, including "hospital health promotion" OR "PKRS", "health digitalization", "health literacy", "patient digital literacy", "digital patient education", "health promoting hospital", "digital health literacy", "eHealth literacy", "patient education technology", and "mobile health hospital". The Boolean AND and OR operators are used to form a more specific search combination.

Eligibility Criteria

Articles are included if they meet all of the following criteria: (a) published in a SINTA accredited journal at least SINTA 4 or an international journal indexed by Scopus at least Q2; (b) published in the period 2018 to 2026; (c) discuss at least one of the following topics, namely digitization of health services or health promotion in health facilities, health literacy or digital literacy in patients or the community, or technology-based patient education; and (d) available in full-text form. The criteria in point (c) are then used to map articles based on the form of digitization, target groups, health literacy components, and reported impacts. Opinion articles, editorials, proceedings that do not go through peer review, and research without empirical data or without a structured review approach are excluded from the study.

Data Selection, Extraction, and Analysis

The initial search yielded 54 potentially relevant articles. After duplication was removed, titles and abstracts were filtered, and the full text was assessed based on eligibility criteria, a total of 30 articles were retained as core studies in the synthesis matrix. Articles were selected when they reported findings on at least one component of health literacy, namely the ability to access, understand, assess, or use information, including decision-making and behavior change, or explain the factors influencing the process. Data from the 30 core studies were then entered into a synthesis matrix that included authors and year, titles and journals, research design, sample or data source, forms of digitization or key variables, health literacy components, key findings, and their relevance to the review. Additional references were

retained to support conceptual and contextual discussions, but were not counted as core studies in the synthesis matrix. The analysis was carried out thematically and narratively by comparing findings between studies. Because the research designs used are diverse, ranging from literature review, scoping review, cross-section, qualitative descriptive, quasi-experimental, pre-post, to randomized controlled trial (RCT) protocols, each finding is read according to its design and strength of evidence. Thus, all studies are not considered to have the same weight of evidence.

RESULTS AND DISCUSSION

Characteristics of Reviewed Articles

Table 1 summarizes the 30 core articles reviewed, including research designs and samples, forms of digitalization, health literacy components discussed, and key findings.

Table 1. Mapping of 30 core articles reviewed

No.	Author (year)	Design/sample	Forms of digitization/variables	Health literacy component	Key findings/impacts
1	Adela et al. (2026)	Cross section; 77 BPJS patients; simple linear regression	Mobile JKN; digital literacy	Access; use	Digital literacy has a significant effect on access to online registration (p = 0.000).
2	Amallia (2024)	Review; samples not mentioned	Digitization of healthcare services	Access; use	Digitalization is related to improving the quality and access to health services.
3	Anggraini (2024)	Preoperative patient; design not mentioned	Educational videos	Understanding; use	Videos support increased knowledge and readiness, lower anxiety, and increase satisfaction.
4	Anisa et al. (2025)	Social media manager; descriptive	Website, Facebook, Instagram, YouTube	Access; understanding	Digital media is used for service information, disease prevention, talk shows, podcasts, and two-way communication.
5	Apriliani et al. (2026)	Pre-post; hospital service users	Leaflets, video tutorials, digital service simulations	Understanding; use	The average comprehension score increased from 9.63 to 19.10; participants became more confident in using digital services.
6	Arias López et al. (2023)	Scoping review	Digital literacy/eHealth	Assessment; Usage	Digital literacy plays a role in the ability to use and assess digital health information.
7	Bas-Sarmiento et al. (2022)	RCT protocol; patients with multimorbidity and heart failure	Mobile health	Understanding; use; decisions/behaviors	The intervention is designed to improve health literacy and self-management.

No.	Author (year)	Design/sample	Forms of digitization/variables	Health literacy component	Key findings/impacts
8	Budiarti et al. (2025)	Quasi-experimental; elderly patients	Animated video about the hypertension diet	Understanding; decisions/behaviors	Knowledge and motivation increased in the intervention group.
9	Cahyanto et al. (2025)	Patients with typhoid fever; design not mentioned	Digital E-leaflet	Access; understanding	E-leaflets are used to improve patient health literacy.
10	Chendra et al. (2025)	Qualitative descriptive; regional hospitals	hospital information systems; digital transformation	Supporting/inhibiting factors	System fragmentation and digital literacy of hospital staff hinder implementation.
11	Destrity et al. (2025)	Survey; 387 health workers	Digital literacy of health workers	Labor factors; valuation	Digital literacy is related to the digital health literacy of health workers.
12	Dewi et al. (2022)	Account evaluation; hospital health promotion/public relations unit	Posted on Instagram	Access; understanding	Personas and digital templates were developed; 25 health content was produced and the number of followers increased.
13	Fitzpatrick (2023)	Narrative overview	Digital communication	Access; understanding; use	Digital communication is discussed as a means to improve health literacy and health outcomes.
14	Hasan (2025)	Cut the star; 97 outpatients	Mobile JKN	Understanding; use	Knowledge pertains to the use of applications; elderly patients face greater digital barriers.
15	Julianti et al. (2022)	Literature review	Hospital digital marketing	Access	Digital marketing expands the reach of hospital information and services.
16	Lisnarini & Setianti (2025)	Health promotion and follower units; descriptive	Instagram @rsmhpromkes	Access; understanding	Instagram reaches patients, families, and the community; feedback is important for evaluation.
17	Lu et al. (2018)	Cut the star; patients in Chinese general hospitals	Mobile health app	Usage; patient experience	The use of the mHealth app was studied in relation to the patient experience.
18	Maria et al. (2024)	Pre-post; Patient's Family	Video via barcode (EVIBAR)	Understanding	The category of good knowledge increased from 50% to 80% after education.

No.	Author (year)	Design/sample	Forms of digitization/variables	Health literacy component	Key findings/impacts
19	Maulana & Saputra (2026)	Literature review	Digital social marketing	Access; inhibiting factors	The gap in internet access between regions limits digital reach.
20	Nilamsari et al. (2024)	Pre-post; 50 coronary heart disease patients	Educational/animated videos	Understanding	The average knowledge increased from 66.0 to 92.7; the good category increased from 14% to 90%.
21	Nuryadin & Banjarnahor (2023)	Quasi-experimental; outpatient tuberculosis patients	Educational videos	Understanding	Knowledge increased significantly after video education (p = 0.000).
22	Putri (2023)	Literature review	Hospital health promotion	Understanding; use	Hospital health promotion is related to patient education and patient safety.
23	Radjak et al. (2025)	Patients in type B hospitals; design not mentioned	Health education (social media)	Decisions/behaviors	Health education is studied in relation to the patient's motivation to change behavior.
24	Rahmiati & Junadi (2025)	Scoping review; 7 RCTs	Videos, smartphone apps, digital media	Understanding; use	Technology-based education is concerned with knowledge, understanding, and patient satisfaction.
25	Sahara & Prayoga (2024)	Literature review	Digital marketing	Access; Privacy Factor	Digital channels are expanding their reach; data security and privacy need attention.
26	Siahaan & Simarmata (2025)	Comparative experiments; 24 village apparatus/health cadres	Digital literacy training	Supporting factors	Training methods affect the increase in digital literacy and acceptance of digitalization.
27	Siboro et al. (2026)	BPJS patients/families; education and practice	Mobile JKN	Understanding; use	Education and practice improve understanding and skills using the app.
28	Surastiningsih et al. (2025)	Pretest-posttest; inpatient	Leaflets and videos	Understanding; decisions/behaviors	The media is assessed based on changes in knowledge and attitudes towards fall prevention.
29	Wasiyem (2025)	Outpatient; design not mentioned	JKN Mobile Education	Understanding; use	Socialization and education are directed at digital literacy and the use of Mobile JKN.

No.	Author (year)	Design/sample	Forms of digitization/variables	Health literacy component	Key findings/impacts
30	Helty et al. (2026)	Health promotion through hospital social media; community involvement	Social media health promotion content	Access; understanding; engagement	Strengthening social media content is used to increase public involvement in hospital health promotion.

Digitalization Flow to Patient Health Literacy

Based on the health literacy component used in this review, the influence of digital hospital health promotion is mapped in a flow that starts from the ability to access information, then understand, assess, and use information, to finally related to decisions or behavior changes. Digital literacy, access to technology, characteristics of target groups, health worker readiness, system integration, and data privacy are placed as factors that can strengthen or hinder these flows (Figure 1).

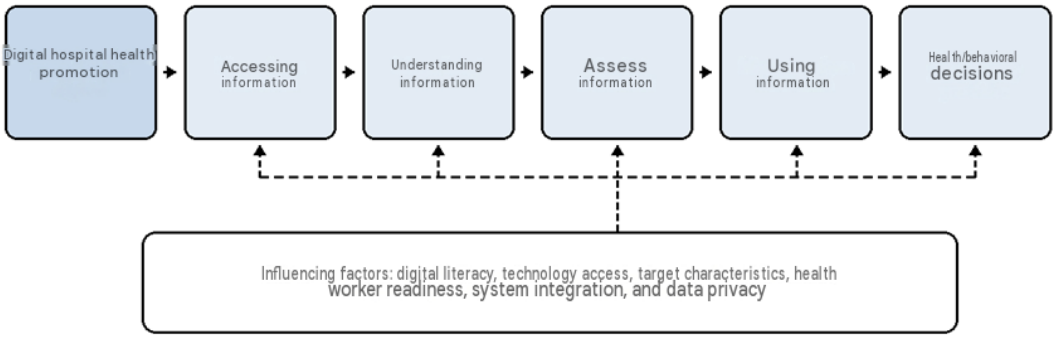


Figure 1. Mapping the influence of digital hospital health promotion on patient health literacy

Forms of Digital Hospital Health Promotion

The articles reviewed show several forms of digitalization, namely social media such as Instagram, Facebook, and YouTube, hospital websites, educational videos and animations, e-leaflets and videos accessed through barcodes, mobile health applications, and digital administration services such as Mobile JKN. Anisa et al. (2025) reported that Subang Hospital uses websites, Facebook, Instagram, and YouTube to convey service information, disease prevention materials, and organize talk shows and podcasts. Helty et al. (2026) and Lisnarini and Setianti (2025) describe Instagram as one of the hospital's health promotion media. In patient education, Nuryadin and Banjarnahor (2023), Nilamsari et al. (2024), Budiarti et al. (2025), and Anggraini (2024) use video or animation. Cahyanto et al. (2025) used e-leaflets, while Maria et al. (2024) delivered videos through barcodes. Adela et al. (2026), Hasan (2025), Siboro et al. (2026), and Wasiyem (2025) researched Mobile JKN as a digital health service.

Influence on Access and Understanding of Health Information

Apriliani et al. (2026) reported a marked improvement in patients' understanding of health administration after an intervention that incorporated counseling, leaflets, video tutorials, and digital service simulations. The mean score increased from 9.63 (SD 2,512) to 19.10 (SD

1,094). A similar pattern was seen in the study of Nuryadin and Banjarnahor (2023) which found a significant increase in the knowledge of tuberculosis patients after video education (p = 0.000). Nilamsari et al. (2024) also reported an increase in the average knowledge from 66.0 to 92.7. Budiarti et al. (2025) found an increase in knowledge and motivation in elderly patients after being educated through animated videos. The findings suggest that digital media is more beneficial when it not only conveys information, but also helps patients understand information in a form that is easier to follow.

The same trend is also seen in the broader evidence. Rahmiati and Junadi (2025), through a scoping review of seven international RCTs, found that videos, smartphone applications, and other digital media can improve patient knowledge, understanding, and experience. Moreira-Ximenes et al. (2024) also reported that information and communication technologies improve the knowledge of patients undergoing treatment in hospitals. This pattern is in line with the health literacy framework used in this review. Access to information is an early stage, but patients still need to understand the information before they can assess its relevance and use it in care-related decisions. Therefore, knowledge improvement cannot be directly interpreted as an improvement in all dimensions of health literacy.

Factors Influencing the Impact of Digitalization

Digital literacy emerged as one of the important factors that determine patients' ability to utilize digital services. Adela et al. (2026) found that digital literacy had a significant effect on access to online registration through Mobile JKN in 77 BPJS patients at RSU Bahagia Makassar (p = 0.000). These results are in line with Deshpande et al. (2023) who found that lower eHealth literacy is related to lower levels of awareness and use of patient portals. Cheng et al. (2023) also reported greater barriers to the use of video-based telehealth services in patients with low eHealth literacy. The findings show that the availability of digital services does not automatically make the service usable. Patients also need the ability to operate technology, find the necessary information, and complete service stages.

Similar problems can also be seen from the service provider side. Destrity et al. (2025) report a relationship between digital literacy and digital health literacy in healthcare workers. Brørs et al. (2023) also show that the eHealth literacy of health workers affects their readiness to support the use of digital health resources in hospitals. This is important because patients often need the help of health workers when they have difficulty understanding or using digital systems. In this review, the digital literacy of health workers is placed as a supporting factor, not as a patient output. These factors can strengthen or even limit the way digital health information is delivered, explained, and used.

Barriers to the Impact of Digitalization

The health promotion benefits of digital hospitals are also limited by access inequalities. Maulana and Saputra (2026) highlight a considerable internet penetration gap between Jakarta and Papua. This condition suggests that digital programs that run well in large hospitals in urban areas do not necessarily have the same reach in regions with lower connectivity. The findings are in line with Shi et al. (2024) and Wang and Luan (2022) who identified access to devices, previous digital experiences, age, education, and social support as factors influencing digital health literacy. Thus, the issue is not only whether hospitals provide digital information, but also whether patients have adequate opportunities to access and use it.

Barriers can also arise from within the hospital. Chendra et al. (2025) found that fragmented applications, limited network infrastructure, and low digital literacy of hospital workers hinder digital transformation at Siti Fatimah Hospital. Tegegne et al. (2023) also linked the digital literacy of healthcare workers to training, exposure to technology, and organizational conditions. Overall, these findings suggest that digital hospital health promotion depends on patient readiness and institutional readiness. Hospitals can have social media, applications, and information systems, but weak integration and limited capacity of healthcare workers can reduce their practical benefits for patients.

Training can help reduce some of these barriers. Siahaan and Simarmata (2025) found that live tutorials provide better digital literacy improvements than conventional lectures. These findings suggest that patients and service users often need guided experiences, not just verbal explanations. Mukhtar et al. (2025) reached a similar conclusion. In their review, digital health literacy interventions provide better outcomes when tailored to the needs of vulnerable groups. This supports the use of digital education with mentoring, especially for elderly patients, new users, and patients with limited digital experience.

Findings Based on Target Groups and Hospital Implementation

Most of the studies reviewed focused on patients and the general public. Few studies addressed families, visitors, or health workers as recipients of hospital health education. This difference is important because each group has different information needs and ability to use digital media. Andersen et al. (2024), for example, found different profiles of health literacy and digital health literacy in inpatients. Older age and lower levels of education tend to be associated with greater literacy challenges. Vollbrecht et al. (2020) also found that some inpatients with low health literacy need more help with online activities. The findings support a targeted approach rather than using a single digital strategy for all users.

Hospital-based research also shows that the impact of digital promotion should be assessed through patient output, not just the amount of content produced. Radjak et al. (2025) examined health education in relation to motivation for behavior change, while Surastiningsih et al. (2025) assessed changes in knowledge and attitudes after education using leaflets and videos. Cahyanto et al. (2025) used digital e-leaflets to improve the health literacy of typhoid fever patients. Although the measured outputs differed, the study showed the stages that move from exposure to information to understanding, then the possibility of changes in attitudes or behaviors. The pattern is consistent with the health literacy flow used in this review. However, because not all studies measure every stage, the available evidence cannot be considered to prove that access to digital content automatically results in behavioral changes.

Synthesis Based on Health Literacy Components

Of the 30 core articles reviewed, the strongest evidence was found on the access and understanding aspects. Social media, websites, and apps expand the pathways that patients can use to obtain information and health services (Adela et al., 2026; Amallia, 2024; Anisa et al., 2025; Dewi et al., 2022; Lisnarini & Setianti, 2025). Videos, animations, e-leaflets, and materials accessed through barcodes are more often associated with increased knowledge or understanding (Anggraini, 2024; Cahyanto et al., 2025; Maria et al., 2024; Nilamsari et al., 2024; Nuryadin & Banjarnahor, 2023). The consistency of these results shows that digital hospital health promotion is currently strongest in the early stages of health literacy, which is to provide information and help patients understand it.

The evidence at the assessment and information use stage looks more diverse. Arias López et al. (2023) describe digital literacy as one of the factors that determine the ability to assess and use digital health information. Philpot et al. (2024) found that low digital health literacy and language barriers are associated with greater difficulties in assessing online information and using patient portals. Verweel et al. (2023) also found that digital interventions can improve the ability to find, assess, and use health information, although intervention designs vary. Research on Mobile JKN and mHealth also shows that education, mentoring, and digital skills influence patients' success in using services (Hasan, 2025; Siboro et al., 2026; Wasiyem, 2025). This suggests that the ability to use information requires more than just exposure to digital content.

The most limited evidence was found on health decisions and behavior changes that persisted over a period of time. Some studies reported changes in motivation, attitudes, self-management, or adherence, but few directly assessed the decision-making process over time (Budiarti et al., 2025; Radjak et al., 2025; Surastiningsih et al., 2025). Xie et al. (2022) found that higher eHealth literacy is generally related to better health, behavioral knowledge, and decision-making in older age groups. Leong et al. (2022) also show that video education on social media can increase knowledge about diabetes, attitudes, and self-care. The international findings suggest that behavioral change is possible, but the evidence in Indonesia is still more focused on access and knowledge. This gap suggests that digital promotion is not adequately assessed solely by reach, number of impressions, or short-term knowledge gains.

From Regulatory Compliance to Patient Empowerment

The results of this review also show an important issue in practice in hospitals. Digitalization can help hospitals fulfill their responsibility to provide health information. However, the existence of websites, social media accounts, or applications has not been able to show that patient health literacy is improving. Anisa et al. (2025) describe the use of multiple digital channels to convey hospital information and disease prevention. Meanwhile, Apriliani et al. (2026) provide stronger evidence as it measures changes in patient understanding after the intervention. The difference lies in the outcomes measured. The first study showed the availability of information, while the second study assessed whether patients really understood and could use the information. Therefore, PKRS evaluation needs to move from simply measuring communication activities to measuring patient learning and information use.

Digital Literacy as an Intermediary Factor

Digital literacy appears to link access to technology with the next stage of health literacy. Adela et al. (2026) show its relevance to access to Mobile JKN, while Arias López et al. (2023) emphasize the ability to assess and use digital health information. Deshpande et al. (2023) and Philpot et al. (2024) also show that low digital health literacy can reduce the use of portals and make online information more difficult to assess. Patterns from these various studies show that digital literacy plays a role as a factor that allows patients to take advantage of digital services. Patients can receive the same information, but the benefits obtained can differ according to digital skills, previous experience, and confidence in using technology.

The Digital Divide and Policy Implications

The digital divide also has direct implications for policy. Inequality of internet access, unintegrated systems, and differences in the readiness of health workers can make digital hospital health promotion more beneficial for certain groups than others (Chendra et al., 2025;

Maulana & Saputra, 2026). Shi et al. (2024) and Wang and Luan (2022) reached similar conclusions in the elderly group. Age, education, device access, and social support affect digital health literacy. For hospitals, this means that digitalization should not replace all face-to-face education or print media. A hybrid approach is more appropriate because patients who need assistance can still get help without losing the option of digital access.

Lessons from International Literature

The international literature generally supports the use of digital communication, patient portals, videos, and mHealth for education and self-management. Bas-Sarmiento et al. (2022) link the use of mobile health to health literacy and self-management. Leong et al. (2022) found an increase in knowledge about diabetes, attitudes, and self-care after education through social media videos. Verweel et al. (2023) also reported an improvement in skills related to health literacy through various digital interventions. The findings support the direction of the research results in Indonesia, but also demonstrate the importance of context. Differences in age, education, language, internet access, and hospital systems can affect outcomes when the same interventions are implemented in Indonesia.

Practical Implications

The findings in this review support a digital hospital health promotion model that starts with patient needs. Hospitals can incorporate websites, QR codes, short videos, e-leaflets, service tutorials, and hands-on mentoring rather than relying on just one medium. The content of the information should be in easy-to-understand language, a clear visual display, and a trustworthy source. Two-way communication is also important because patients may need additional explanations after receiving digital information. Healthcare professionals need to be ready to assist users who have difficulty using online applications or services, especially elderly patients and patients with limited digital experience.

Evaluations also need to go beyond the number of uploads, impressions, or followers. Social media can be assessed through patient questions, feedback, brief comprehension checks, or polls. Videos can be evaluated using pretest and posttest scores or the teach-back method. Applications can be assessed based on the patient's ability to complete the service stages independently. This approach is more in line with the health literacy flow found in the review because it measures whether patients can access, understand, assess, and use information. Evaluations like this also help hospitals identify areas that still need support for patients.

Limitations

This review has some limitations. The narrative review does not use as strict a protocol as the systematic review, so there may still be relevant articles that are not identified. In addition, the 30 core articles reviewed use a diverse design and do not fully measure the overall health literacy process. Most of the evidence addresses aspects of access and understanding, while the ability to assess information, use information in action, and make or maintain decisions and behavior changes is less frequently measured. Research that examines digital hospital health promotion and patient health literacy within the same framework is also limited. Therefore, the flow presented in this review is the result of thematic synthesis of several studies, rather than the causal relationships that have been proven by each study.

CONCLUSION

The review of 30 selected articles indicated that the digitalization of hospital health promotion (Promosi Kesehatan Rumah Sakit, PKRS) contributed most consistently to improving patients' access to and understanding of health information. Digital educational platforms, including social media, hospital websites, mobile applications, educational videos, animations, and electronic leaflets, facilitated access to health-related information. Studies that assessed knowledge-related outcomes also reported improvements in patients' health knowledge and comprehension. Several studies identified potential benefits in patients' abilities to utilize digital health information and services; however, evidence regarding critical appraisal of health information, informed healthcare decision-making, and sustained behavioral changes remained limited. The effectiveness of digital hospital health promotion was influenced by patients' digital literacy, access to technology, characteristics of target populations, healthcare professionals' readiness, health information system integration, and patient data privacy and protection. Addressing these factors could strengthen digital hospital health promotion initiatives by extending their contributions beyond information dissemination to supporting patients' abilities to critically evaluate and effectively apply health information. Future research should employ more rigorous methodological designs and comprehensive outcome measures encompassing all dimensions of health literacy, including information access, comprehension, critical appraisal, practical application, and health-related decision-making, to establish a more robust evidence base for digital hospital health promotion interventions.

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CONFLICT OF INTEREST

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AUTHOR CONTRIBUTIONS

The author fully contributes to the formulation of the main idea idea, collects library data, analyzes and interprets the primary text of the figure, and prepares the manuscript. All authors have agreed on the final version of the manuscript.

GENERATIVE AI STATEMENT

The author states that generative artificial intelligence (AI) was used in the preparation of this manuscript. The author acknowledges the use of generative AI to help improve language clarity and improve the grammatical structure of the manuscript. The use is done in compliance with the applicable ethical guidelines regarding the use and disclosure of generative AI in scientific research. Each author has made substantial intellectual contributions to this work. The entire manuscript content has been carefully reviewed to ensure its accuracy, and the author is solely responsible for the integrity and final content of the manuscript.

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