HTechJ Health and Technology Journal (HTechJ)

Volume 03 Number 06
December 2025
p-ISSN: 2986-5662
e-ISSN: 2985-959X

Evaluation of Health Literacy Interventions for Palliative Care Patients

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Abstract:
Health literacy is crucial in palliative care, where patients often face complex medical conditions and must make end-of-life decisions. This literature review aims to evaluate the effectiveness of health literacy interventions in improving patient outcomes in palliative care settings. The review synthesized evidence from high-quality studies, including randomized controlled trials (RCTs) and quasi-experimental designs, with a focus on various intervention strategies such as educational programs, multimedia tools, and health coaching. The review utilized the PRISMA framework for study selection and the JBI critical appraisal checklist for assessing study quality. It included studies from databases such as Scopus, PubMed, and Google Scholar, focusing on publications from 2016 to 2025. The studies consistently showed that these interventions enhance patient understanding, engagement in treatment decisions, and overall quality of life. However, challenges remain in identifying the most effective interventions due to variations in study designs and outcome measures. This review highlights the significance of health literacy interventions in palliative care, advocating for additional research that focuses on LHL-specific strategies and standardized outcome measures to improve patient care.

Article info:
Submitted:
13-09-2025
Revised:
10-11-2025
Accepted:
14-11-2025

Keywords:
health literacy, palliative care, terminal care

DOI: https://doi.org/10.53713/htechj.v3i6.533

INTRODUCTION

Health literacy is crucial for the effective management of chronic illnesses, particularly in palliative care, where patients confront complex medical conditions and end-of-life decisions (Meier et al., 2024). Patients often face complex medical information and difficult end-of-life decisions that require a clear understanding of their condition and treatment options. Strong health literacy empowers individuals to make informed choices, communicate effectively with healthcare providers, and maintain greater control over their care (Zanobini et al., 2023).

The ability to comprehend and utilize health-related information is crucial for these patients, encompassing not only the interpretation of medical documents but also navigating the healthcare system, participating in self-management, and making informed decisions regarding their care (Kanagalingam et al., 2025; Zhang et al., 2025). Many patients in palliative care have limited health literacy, which can lead to confusion about their diagnosis, treatment options, and prognosis. This lack of understanding often results in suboptimal decision-making, increased anxiety, and a reduced quality of life during their final stages of care (Holden et al., 2024).

The importance of health literacy in palliative care is evident due to its direct influence on patient outcomes. An informed patient demonstrates higher adherence to treatment plans, improved symptom management, and greater involvement in advanced care planning (Yuan et al., 2023). Conversely, inadequate health literacy may lead to non-adherence to prescribed treatments, higher rates of hospital readmissions, and general dissatisfaction with healthcare services (Shahid et al., 2022).

Individuals with limited health literacy often experience heightened psychological distress due to their inability to understand medical information and treatment plans fully. They also struggle to navigate the complex emotional, social, and healthcare demands associated with serious illness, which can further compromise their well-being (Zhang et al., 2025). Targeted interventions to address literacy gaps are crucial for improving the care and well-being of palliative care patients (Pini et al., 2022).

Recently, various health literacy interventions have been developed and evaluated in multiple healthcare settings (Larsen et al., 2022). The interventions include educational materials, such as pamphlets and videos, as well as interactive approaches like coaching and peer support (Jeon et al., 2025). Although specific studies have demonstrated the efficacy of these interventions in enhancing health literacy and associated outcomes, evidence specifically about palliative care remains scarce (Pini et al., 2022; Peng et al., 2025).

Palliative care patients face unique challenges, including multiple comorbidities and significant physical and emotional stress. These complex needs require a highly individualized approach to care. Therefore, interventions must be carefully tailored to address each patient’s specific medical, psychological, and social circumstances to ensure optimal support and quality of life (Hugar et al., 2021).

Although various health literacy interventions have been developed and shown to be effective in improving patient understanding across different healthcare settings, research specifically examining their application, effectiveness, and adaptation within palliative care remains limited. This limitation creates a knowledge gap regarding how health literacy strategies can be optimally designed to address the complex medical, emotional, and social challenges faced by palliative patients. Consequently, there is still no evidence-based approach that clearly enhances health literacy to support informed decision-making and improve quality of life at the end of life.

This literature review evaluates the existing research on health literacy interventions in palliative care, with a focus on their design, implementation, and outcomes. This review will examine various intervention strategies, including digital tools, in-person education, and collaborative decision-making models. This review synthesizes existing evidence to offer insights into practical methods for enhancing health literacy among palliative care patients, identifies gaps in the literature, and proposes future research directions to improve health literacy interventions in this vital area of healthcare.

METHOD

This literature review evaluated health literacy interventions for palliative care patients, with an emphasis on studies that included randomized controlled trials (RCTs), cohort studies, and pre-post intervention designs. The review aimed to describe and explore the evidence regarding health literacy interventions in palliative care settings, assessing their effectiveness in enhancing health literacy and patient outcomes. The review will be structured using the PICO framework: the population comprises palliative care patients across diverse healthcare environments; the intervention involves health literacy programs, including educational sessions, printed materials, and digital tools; comparisons will assess various intervention types or pre/post outcomes; and the outcomes will focus on enhancements in health literacy, patient comprehension, engagement in treatment decisions, and overall quality of life. The search terms used in this literature review include (Health literacy interventions OR Patient education) AND (Palliative care) AND (Health communication AND Health literacy assessment) AND (Palliative care patients) AND (Patient outcomes OR quality of life) AND (Health literacy programs OR Digital tools) AND (Patient engagement) AND (Literacy programs in palliative care AND Patient compliance). Studies will be identified through databases such as Scopus, PubMed, and Google Scholar, with inclusion criteria emphasizing quantitative studies published in English between 2016 and 2025.

A three-phase screening process will be employed to identify pertinent studies: title and abstract screening, full-text review, and data extraction. The PRISMA flowchart will be used to visually depict the study selection process, thereby ensuring transparency by detailing the number of studies identified, screened, assessed for eligibility, and included in the final synthesis. The JBI critical appraisal checklist will be utilized to evaluate the quality of studies. The final synthesis will provide a summary of the effectiveness of the interventions, trends in their application, and gaps in the existing literature, as well as recommendations for future research in the field.

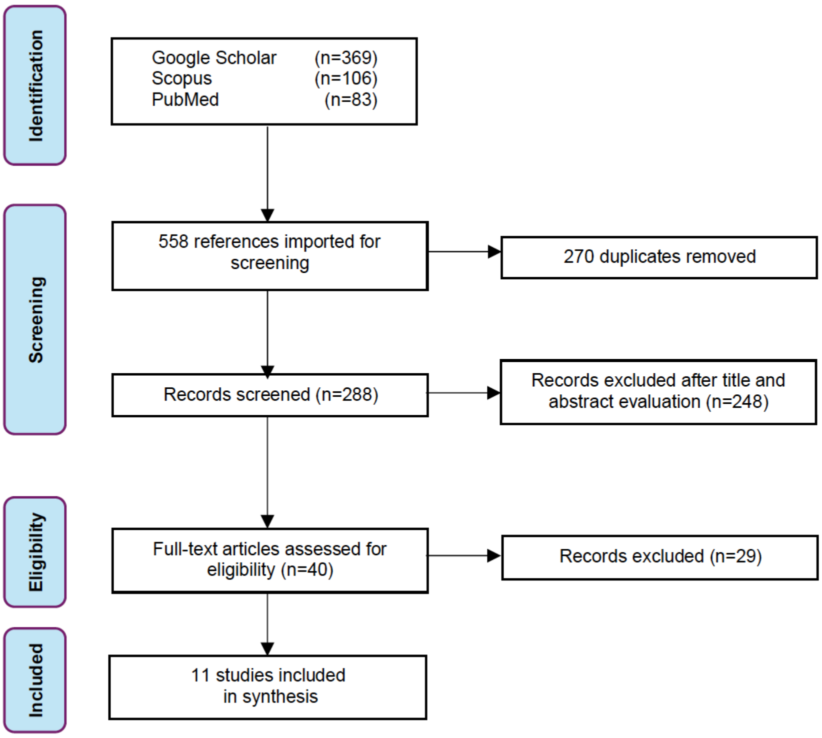

Figure 1. PRISMA Flow Diagram

RESULT

Five hundred and fifty-eight research articles were screened, and eleven articles were finally enrolled in the study. Among the study designs, the majority are randomized controlled trials (RCTs) (6 studies), followed by quasi-experimental studies (3 studies), mixed-methods studies (1 study), and action research studies (1 study). In terms of participants, palliative care patients were the most common group (6 studies), followed by caregivers (4 studies), healthcare providers (2 studies), laypersons (2 studies), and teenagers (1 study). As for the interventions, educational programs (5 studies) and multimedia tools (6 studies) were the most common, with health coaching/training (4 studies) and blended training (1 study) also featured in the reviewed studies. (Table 1)

Table 1. Main Study Characteristics and Findings

Category	Number of Studies	Study ID
Study Design		
Randomized Controlled Trial (RCT)	6	3, 4, 6, 7, 8, 11
Quasi-experimental	3	1, 5, 9
Mixed methods	1	2
Action-research	1	10
Type of Participants		
Palliative Care Patients	6	1, 4, 5, 6, 8, 11
Caregivers	4	1, 3, 5, 6
Healthcare Providers	2	2, 11
Laypersons	2	5, 7
Teenagers	1	10
Type of Intervention		
Educational Programs	5	1, 3, 6, 8, 10
Multimedia Tools	6	2, 3, 4, 5, 7, 8
Health Coaching/Training	4	2, 4, 9, 11
Blended Training	1	2

These interventions primarily targeted palliative care patients, caregivers, healthcare providers, and even teenagers, with a focus on enhancing health literacy, improving patient understanding, and promoting engagement in care. Interventions included educational programs, multimedia tools, health coaching, and blended training, which varied in duration and delivery methods. The outcomes measured included improvements in health literacy levels, palliative care knowledge, self-management behaviours, caregiver burden, and overall quality of life. Results consistently showed positive effects, with interventions leading to improved patient understanding, increased engagement in treatment decisions, and enhanced satisfaction with palliative care. However, some studies reported no significant differences in certain areas, such as shared decision-making or health information literacy (Table 2).

Table 2. Summary of Selected Studies

No	Study Design	Sample Size	Intervention Group	Control Group	Outcome
1	Quasi-experimental	35 patients, 35 caregivers	Educational intervention on palliative care for caregivers (3 sessions)	No control group	Improved emotional function, global health, reduced fatigue and nausea in patients, improved caregiver burden, and increased quality of life for both patients and caregivers.
2	Mixed method, Blended training	15 healthcare providers (interviews), 39 consultations (video-coded)	Blended training (e-learning and team training) for healthcare providers to improve communication with LHL (limited health literacy) patients	None	Positive change in communication behavior, improved recognition of LHL patients, use of the teach-back technique, and no significant improvement in shared decision-making (SDM) scores post-training.
3	Randomized Controlled Trial (RCT)	150 caregivers	Psychoeducational video on palliative care for cancer caregivers (6 minutes)	Nutrition video (4 minutes)	Improved palliative care knowledge in the intervention group; no significant difference in attitudes toward palliative care between groups.

No	Study Design	Sample Size	Intervention Group	Control Group	Outcome
4	Randomized Controlled Trial	92 patients (46 per group)	eHealthcare experiential learning program (6 sessions over 3 months) for patients with type 2 diabetes	Usual care (standard care)	Significant improvement in eHealth literacy (eHL), patient health engagement, and eHealth care use at post-test and 3-month follow-up.
5	Quasi-experimental	64 participants (18 patients, 20 family caregivers, 26 laypersons)	Six-session, telephone-based palliative care intervention for family caregivers of advanced cancer patients	None (qualitative interviews)	Insights on adapting intervention content, format, and delivery; recommendations for incorporating flexibility, faith/spirituality, and mixed delivery methods (telephone + face-to-face).
6	Randomized Controlled Trial	71 patients, 38 family caregivers	Managing Cancer Care: A Personal Guide (MCC-PT) is an educational intervention aimed at improving palliative care literacy and cancer self-management	Symptom management education (attention-control)	Significant improvement in palliative care literacy, self-management behaviors, and reduced anxiety and depression in patients with late-stage cancer.
7	Randomized Controlled Trial	152 laypersons	Web-based intervention: Video and information page about palliative care	Video control, Information page control	Significant improvement in palliative care knowledge (PaCKS scores) and confidence in knowledge post-intervention. No significant difference between video and information page interventions.
8	Randomized Controlled Trial	129 patients	CancerHelp-Talking Touchscreen (CancerHelp-TT), a multimedia education system for cancer patients	Standard verbal and written cancer education	A significant increase in cancer knowledge was observed in the intervention group compared to the control group, with small effect sizes in self-efficacy, health beliefs, and satisfaction with communication.
9	Quasi-experimental	11 nurses	Advanced Educational and Training Intervention (A-ETI) on family systems' nursing approach in palliative home care	None (single-group pre/post-test)	Significant improvement in nurses' knowledge, attitudes, and skills related to family nursing after the intervention.
10	Action-research study	47 teenagers	Education program about palliative care for teenagers, including interactive sessions and reflective activities	None (single-group study)	Increased awareness about palliative care among teenagers, positive feedback from participants, and societal relevance have been recognized.
11	Randomized Controlled Trial	130 patients	Health coaching for patients with stage 3–4 chronic kidney disease, including education on self-management, exercise, and personalized dietary prescriptions	Routine care (general education materials, follow-up calls)	There was no significant difference in health information literacy (HIL) between the groups; however, a significant improvement was observed in health behaviors, including exercise, health check-ups, and adherence to dietary recommendations. Hemoglobin levels improved more in the intervention group.

Based on the table, all reviewed studies demonstrated high methodological quality, as assessed by the JBI critical appraisal checklist, with scores ranging from 77.8% to 100%. Out of the eleven studies, most achieved ratings above 75%, classifying them as high-quality research. The studies consistently showed well-defined causal relationships between interventions and outcomes, appropriate comparison groups, reliable measurement methods, and suitable statistical analyses. Although some studies included elements marked as unclear, the overall rigor and consistency across studies indicate strong validity and reliability of the findings. The high JBI scores indicate that the overall body of evidence is methodologically sound, which strengthens confidence in the synthesized findings regarding the effectiveness of the intervention. These results suggest that the included studies collectively provide robust evidence on the effectiveness of health literacy interventions in palliative care settings, reinforcing the credibility of the synthesized conclusions. (Table 3).

Table 3. Quality Assessment using JBI Score

ID	Study	JBI Critical Appraisal													Total (%)	Quality Rating
		Number of items														
		1	2	3	4	5	6	7	8	9	10	11	12	13		
1	(Çalık, Küçük and Halimoğlu, 2022)	Y	Y	Y	N	Y	UN	Y	Y	Y	-	-	-	-	77.8	High
2	(Noordman et al., 2022)	Y	Y	Y	N	Y	UN	Y	Y	Y	-	-	-	-	77.8	High
3	(Mossman et al., 2025)	Y	Y	Y	Y	Y	Y	Y	UN	Y	Y	Y	Y	Y	92.3	High
4	(Cheng et al., 2024)	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	92.3	High
5	(Dionne-Odom et al., 2018)	Y	Y	Y	N	Y	UN	Y	Y	Y	-	-	-	-	77.8	High
6	(Schulman-Green et al., 2023)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	High
7	(Kozlov, Reid and Carpenter, 2017)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	High
8	(Peipert et al., 2021)	Y	N	Y	Y	Y	Y	Y	UN	Y	Y	Y	Y	Y	84,6	High
9	(Petursdottir, Haraldsdottir and Svavarsdottir, 2019)	Y	Y	Y	N	Y	UN	Y	Y	Y	-	-	-	-	77.8	High
10	(Martins Pereira, Araújo and Hernández-Marrero, 2018)	Y	Y	Y	N	Y	UN	Y	Y	Y	-	-	-	-	77.8	High
11	(Hu et al., 2024)	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	84.6	High

The scores : high = > 75%, moderate = 50-74%, low = 50%;
N= 0; UN = 0; Y = 1; NA=0 N = no;
UN = Unclear; Y = Yes; NA = Not Aplicable

DISCUSSION

This literature review examines studies that investigate various methodologies and outcomes of health literacy interventions in palliative care, with a focus on enhancing results for patients and caregivers. Numerous studies employed randomized controlled trials (RCTs), recognized as the gold standard for assessing the efficacy of interventions. Hu et al. (2024) implemented a health coaching program for patients with stage 3–4 chronic kidney disease (CKD), resulting in notable enhancements in self-management behaviors and hemoglobin levels. No significant difference in health information literacy (HIL) scores was found between the intervention and control groups. Nevertheless, the intervention group demonstrated a notable enhancement in health-related behaviors, including information gathering, regular check-ups, and physical activity. This finding aligns with broader systematic review evidence indicating that health literacy interventions yield mixed results. There is low-certainty evidence suggesting that educational interventions may enhance kidney-related knowledge. In contrast, combined educational and self-management interventions have demonstrated improvements in self-care behaviors and self-efficacy (Shao et al., 2023). Those findings suggest that health coaching can positively influence specific behaviors, such as exercise and dietary adherence; however, its effects on knowledge retention and comprehension warrant further investigation.

Schulman-Green et al. (2022) conducted an educational intervention centered on cancer self-management, demonstrating notable enhancements in palliative care literacy and a decrease in anxiety and depression among patients with late-stage cancer. This is consistent with the findings of Peipert et al. (2021), who demonstrated that multimedia educational interventions significantly enhanced cancer knowledge among patients. Also, a systematic review of 42 randomized controlled trials found that self-management education interventions improve symptoms of depression, anxiety, and quality of life in cancer patients (Howell et al., 2017). These studies highlight the potential of educational interventions to improve palliative care outcomes, while also underscoring the need to tailor these interventions to match the specific literacy levels and health needs of the patient population.

Healthcare providers face significant challenges in communicating with patients who have low health literacy, including difficulties in recognizing low literacy and adapting their communication (Murugesu et al., 2022). Several studies, including those by Noordman et al. (2022) and Roodbeen et al. (2020), employed mixed methods and qualitative approaches to investigate communication strategies between healthcare providers and patients with limited health literacy (LHL). The studies identified significant barriers to effective communication, including time constraints and insufficient skills among healthcare providers. The studies also proposed strategies for enhancement, such as incorporating visual aids and extending consultation durations. Strategies like the teach-back method and motivational interviewing are frequently used and recommended (Murugesu et al., 2022). The focus on communication skills and acknowledgment of LHL patients highlights the importance of delivering information that is both accessible and comprehensible, a challenge frequently encountered in palliative care settings.

The research conducted by Çalık et al. (2022) and Petursdottir, Haraldsdottir, and Svavarsdottir (2019) focused on interventions targeting caregivers and healthcare providers, respectively. Research indicates that educational initiatives for caregivers and healthcare professionals markedly enhanced knowledge, emotional functioning, and competencies associated with palliative care. Other studies found that targeted training programs for nurses and caregivers lead to significant improvements in palliative care knowledge, attitudes, caregiving skills, communication, and emotional support abilities (Wong et al., 2022). This highlights the importance of training and supporting caregivers and healthcare providers as essential members of the palliative care team, as their ability to manage and deliver care can significantly impact patient outcomes.

This literature review aimed to evaluate the effectiveness of various health literacy interventions in palliative care, with a specific focus on addressing the gap in studies that have focused on patients with limited health literacy (LHL). The review finds that while health literacy interventions overall have a positive impact on patient outcomes, the specific gap in LHL-focused studies remains clearly evident. While interventions such as health coaching and educational programs yielded mixed results across various outcome measures, the studies consistently demonstrated improvements in self-management behaviors, quality of life, and emotional well-being. However, interventions specifically targeting LHL patients were limited, and those that did address LHL often did not demonstrate consistent improvements in health information literacy (HIL) scores. These findings reinforce the gap identified in the introduction, suggesting that while health literacy interventions can enhance behaviors such as information acquisition and self-care, there is still an insufficient focus on interventions that specifically address the unique needs of LHL patients in palliative care settings.

This literature review highlights the beneficial effects of health literacy interventions in palliative care, supported by robust evidence from high-quality studies, including randomized controlled trials and quasi-experimental designs. This study demonstrates the effectiveness of educational programs, multimedia resources, and health coaching in improving patient outcomes. Differences in study designs and outcome measures impede the identification of the most effective interventions. This review has several limitations, including the restriction to English-language studies, which may have excluded relevant research published in languages other than English. Additionally, the heterogeneity of the interventions across studies prevented the possibility of conducting a meta-analysis. Future research must prioritize LHL-specific interventions and the establishment of standardized outcome measures to enhance the current evidence base.

CONCLUSION

This review conclusively demonstrates that health literacy interventions are a valuable component of palliative care, consistently improving patient knowledge, self-management, and quality of life. By enhancing patients' ability to understand and act on health information, these interventions contribute to more informed decision-making, better adherence to treatment plans, and overall improvements in the well-being of palliative care patients.

For practice, clinicians should integrate multimedia educational tools, such as videos and interactive content, along with health coaching, into routine palliative care. These strategies can effectively support patient engagement and enhance understanding. For future research, studies should focus on developing health literacy interventions specifically tailored for patients with limited health literacy (LHL) in palliative care. Additionally, establishing standardized outcome measures will be crucial for enabling consistent evaluation and comparison of interventions across studies.

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