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REVIEW

Integrating Telehealth into Community-Based Palliative Care: A Systematic Review

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Introduction: Community-based palliative care implementation faces challenges in terms of providing services to people living with terminal illness in remote and underserved areas. Integrating telehealth into palliative care has the potential to improve access to and effectiveness of palliative care by enabling remote interactions between people living with terminal illness, their caregivers, and healthcare providers. However, the models and outcomes of telehealth in the context of community palliative care remain poorly understood.

Objective: The aim of this systematic review was to investigate the benefits of integrating telehealth into community-based palliative care for people living with terminal illness and their caregivers.

Methods: A systematic search of studies was conducted using MEDLINE, PubMed, EBSCO, Cochrane Controlled Register of Trials (CENTRAL), Scopus, and Google Scholar. The inclusion criteria were primary quantitative studies on integrating telehealth into palliative care in community for adults living with terminal illness, published in between 2014 and 2024. The risk of bias was assessed using the revised Cochrane risk of bias tool for randomized controlled trials and the Newcastle-Ottawa scale for cohort studies. The data were analyzed using content analysis.

Results: Seven studies met the inclusion criteria. Telehealth interventions most commonly involve telephone or video consultations and phone calls. Evidence has shown consistent improvements in functional status, reduction in hospitalization rate, and reductions in psychological distress (anxiety, depression) among people living with terminal illness. For caregivers, the benefits included reduced psychological distress (stress, depressive symptoms) and care burden. Additionally, improvements in quality of life among caregivers has been inconsistent.

Conclusion: Integrating telehealth into community-based palliative care is associated with improved outcomes for people living with terminal illness and their caregivers. However, the lack of studies based in low- and middle-income countries limits the generalizability of the results and prevents conclusions as to whether similar interventions will have the same outcome outside high-income countries.

Keywords: palliative care, integrated care, telehealth, community-based care, patient outcomes

Introduction

Palliative care is a specialized form of health care that focuses on providing multidisciplinary care to improve the quality of life and reduce distressing symptoms in people living with terminally ill.[1] Palliative care encompasses a holistic approach that includes the physical, emotional, social, and spiritual aspects of a individual's health and provides comprehensive support for people living with terminal illness and their families.[2] People living with terminal and serious illnesses may live with less suffering and improve their overall condition with palliative care.[2,3]

The demand for palliative care in the community has increased due to the aging population worldwide. Globally, only about 14% of the 56.8 million people who require palliative care each year receive it, with most of them wanting to die at home but ending up in hospitals.[2] The highest prevalence of people in need of palliative

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care is in older people or those aged over 70 (40%),[4] as life expectancy continues to increase over time. The global population is ageing rapidly, with older adults making up an increasing share of the world's population.[2] This population is more likely to live with serious chronic illnesses that require ongoing care.[5,6] Those approaching the end of life often experience multiple debilitating conditions (such as dementia, osteoarthritis, or advanced cardiovascular disease) and live with these illnesses for extended periods.[7–10] This prolonged decline places a significant burden on healthcare systems, caregivers, and communities, highlighting the urgent need for palliative care, particularly in community and home settings.

However, access to palliative care is highly uneven across regions. Notably, low- and middle-income countries account for around 80% of serious health-related suffering worldwide, with an 83% increase between 1990 and 2021, nearly double the increase observed in high-income countries (46%).[10] While most research and service models have been developed in high-income countries, low- and middle-income countries bear a disproportionate share of global need with far fewer resources available.[11] This disparity highlights not only the urgent demand for palliative care in low-middle income countries but also the limited evidence base to guide effective implementation in these settings. Global projections indicate that the need for palliative care will nearly double by 2060, driven by an increase in health-related suffering, with the most significant increases expected in low-income countries.[12] Given that nearly half of the global population lacks access to essential and often costly health services, expanding palliative care delivery in community and home settings is crucial.[13,14]

While palliative care has become more prevalent in hospital settings, its integration of the palliative care into a broader spectrum of healthcare remains limited, with many people still referred to acute hospital settings at an advanced stage of their illness.[15–17] This condition leads to poor discharge planning and outcomes.[18] People living with terminal illness who receive inadequate continuity of care are also more likely to be abandoned, and their caregivers may become overwhelmed in managing the illness at home.[19] Ensuring continuity of care through effective management and sufficient psychosocial and spiritual support following hospital discharge is essential for reducing the gap between hospital and home care.[20,21]

Community-based palliative care has been widely adopted to increase accessibility, coordination, and continuance of care.[21] Delivering palliative care in the community brings services closer to people living with terminal illness, respects their end-of-life preferences, reduces hospital dependence, lowers healthcare costs, and improves outcomes for them and their caregivers.[22,23] However, common barriers remain, including poor communication and limited coordination between providers. These challenges often result in fragmented care during transitions, inadequate handoffs or follow-up support, and the absence of a shared, centralized care plan within the palliative care team.[24,25] Addressing these barriers requires innovative strategies to close resource gaps and strengthen the collaboration between formal healthcare professionals and informal caregivers.

The integration of telehealth into palliative care has advanced considerably in recent years, with broad applications across the continuum of care. This innovation leverages digital communication tools, including telephone, video conferencing, and online platforms, to deliver medical consultations, health monitoring, and provide psychosocial and emotional support remotely.[26] Telehealth plays a pivotal role in improving access and ensuring continuity of care, enabling people living with terminal illness to receive necessary services without the burden of travel.[26,27] It also facilitates collaboration among care teams, promotes comprehensive and coordinated care planning, and allows timely responses to changes in the condition of people living with terminal illness.[27] Integrating telehealth into palliative care also improves the quality of life, reduces the need for hospital visits, and provides more consistent and personalized support for people living with terminal illness and caregiver.[28] However, previous reviews of telehealth in palliative care have largely focused on facility-based contexts,[27–29] while others have focused on nursing homes without considering broader community-based contexts.[30] Although these reviews reported encouraging findings, those studies did not address the integration of telehealth into palliative care in community-based or home-based settings, where most people living with terminal illness prefer to receive care. Therefore, this systematic review aimed to synthesize evidence on the integration of telehealth specifically into community-based palliative care and its benefits on people living with terminal illness and their caregiver outcomes.

Methods

Study Design

This study used a systematic review following the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA).[30] This study was registered in the Open Science Framework (OSF) with http://doi.org/10.17605/OSF.IO/8YND9.

Search Strategy

Articles were systematically searched using MEDLINE, PubMed, ScienceDirect, Cochrane Controlled Register of Trials (CENTRAL), Scopus, and Google Scholar. All keywords were adjusted to the medical subject headings (MeSH) terms. The keywords were "palliative care" OR "palliative supportive care" OR "palliative treatment" OR "hospice care" OR "end-of-life care" OR "terminal care" OR "advanced illness care" AND "telehealth" OR "telemedicine" OR "mobile health" OR "tele-referral" OR "mHealth" OR "eHealth" OR "telecare" OR "remote consultation" OR "virtual care" OR "telemonitoring" OR "teleconsultation" AND "integrated health care system" OR "integrated care" OR "coordinated care" OR "continuum of care" OR "interdisciplinary care" AND "community integration" AND "community-based" OR "community-centred" OR "community-oriented" OR "community-focused" OR "public health-centred". Synonyms were also used to retrieve all possible relevant articles by using Boolean operators to trim or expand the search results.

Eligibility Criteria

The inclusion criteria followed the PICO (Population, Intervention, Comparison, Outcome) framework. The population of interest included adults aged 18 years or older living with terminal illness or other advanced life-limiting conditions who were receiving palliative care. The intervention in this study was telehealth integration in community-based palliative care, defined as the use of digital communication tools into palliative care (eg, telephone, video consultations, or online platforms) to deliver medical consultations, monitor patients, provide psychosocial support, or coordinate multidisciplinary care. The setting was restricted to community, including primary care and community health programs.[31] The comparison of this study are standard of palliative care without telehealth integration and/or palliative care delivered facility-based services, such as hospital. Additionally, the outcomes of this study were health-related outcomes for people living with terminal illnes and their caregivers.

The exclusion criteria were as follows: studies with purely qualitative designs, narrative reviews, systematic reviews, meta-analyses, case reports, opinion pieces, untested protocols, and conference abstracts with insufficient outcome data. Studies that solely assessed feasibility, usability, or reliability without reporting on people living with terminal illness or their caregiver outcomes were also excluded. In addition, studies focusing exclusively on facility-based care without a community component, non-English publications, and duplicate reports from the same dataset were excluded, and the most complete or recent version retained for analysis. Only primary quantitative studies (eg, randomized controlled trials, quasi-experimental studies, cohort studies, and cross-sectional studies) published in English between January 2014 and December 2024 were included. This time frame was chosen because telehealth technologies and policies have rapidly evolved in the past decade, and restricting the search to this period ensured that the findings reflected contemporary practices and interventions that are most relevant to current health system contexts.

Data Selection and Data Extraction

Study selection was conducted following the PRISMA 2020 guidelines. All titles, abstracts, and full-text articles were independently screened by two reviewers (HH and CWMS), and any disagreements were resolved through discussion until consensus was reached. The data were manually extracted using a structured matrix. Extracted items included the author, study design, country, mean age, number of participants, follow-up period, interventions, outcomes of people living with terminal illness and their caregivers, assessment tools, and results. Outcomes of people living with terminal illness and their caregivers were reported separately based on the Clinical Practrice Guidelines for Quality Palliative Care and the World Health Organization (WHO) core components of palliative care (eg, physical outcome/symptom management, psychosocial support, spiritual care, and quality of life)[32,33]

Data Analysis and Quality Appraisal

The data were analyzed using a content analysis approach. This analysis began by identifying relevant studies and tabulating the patterns of their findings. After collecting all the data, each finding was analyzed based on each component. The risk of bias of the included studies was assessed using the Revised Cochrane Risk of Bias 2.0 (RoB 2) tool for RCTs and the Newcastle–Ottawa Scale (NOS) for retrospective cohort studies.[34] For RCTs, the risk-of-bias assessments were also visualized using the robvis web application to generate traffic-light plots and summary bar charts.[35] The results of these assessments are presented narratively and visually to inform the certainty of the evidence base.

Results

Study Selection

A total of 3957 records were initially identified through database searching, including 315 from Scopus, 1030 from PubMed, 450 from EBSCOhost-Medline, and 2162 from CENTRAL. After removing of 910 duplicates, 3047 unique records remained for screening. Of these, 2995 were excluded based on the title and abstract, and 43 were registered protocols. Nine full-text articles were sought for retrieval, of which five were excluded (one involved a non-adult population and four were conducted in referral hospital settings). Three additional records were identified through manual hand-searching (Google Scholar), resulting in a total of seven studies included in the systematic review.[36–42] The flow of study selection is presented in Figure 1.

Characteristics of Included Studies

Across the seven included studies, the majority of care recipients were older adults, with four studies reporting mean ages ≥75 years, two studies in the 60–74 years range, and one study involving a younger population (≤59 years).[36–42] Most participants were people living with advanced conditions, including cancer and malignancies, heart failure, advanced lung disease, renal disease, severe neurological conditions, organ failure, and dementia. Two studies specifically targeted family caregivers in addition to people living with terminal illness. The mean age of caregivers was typically in mid-adulthood (45–59 years), reflecting the demographic most often involved in providing long-term support. The details of the study characteristics are presented in Table 1.

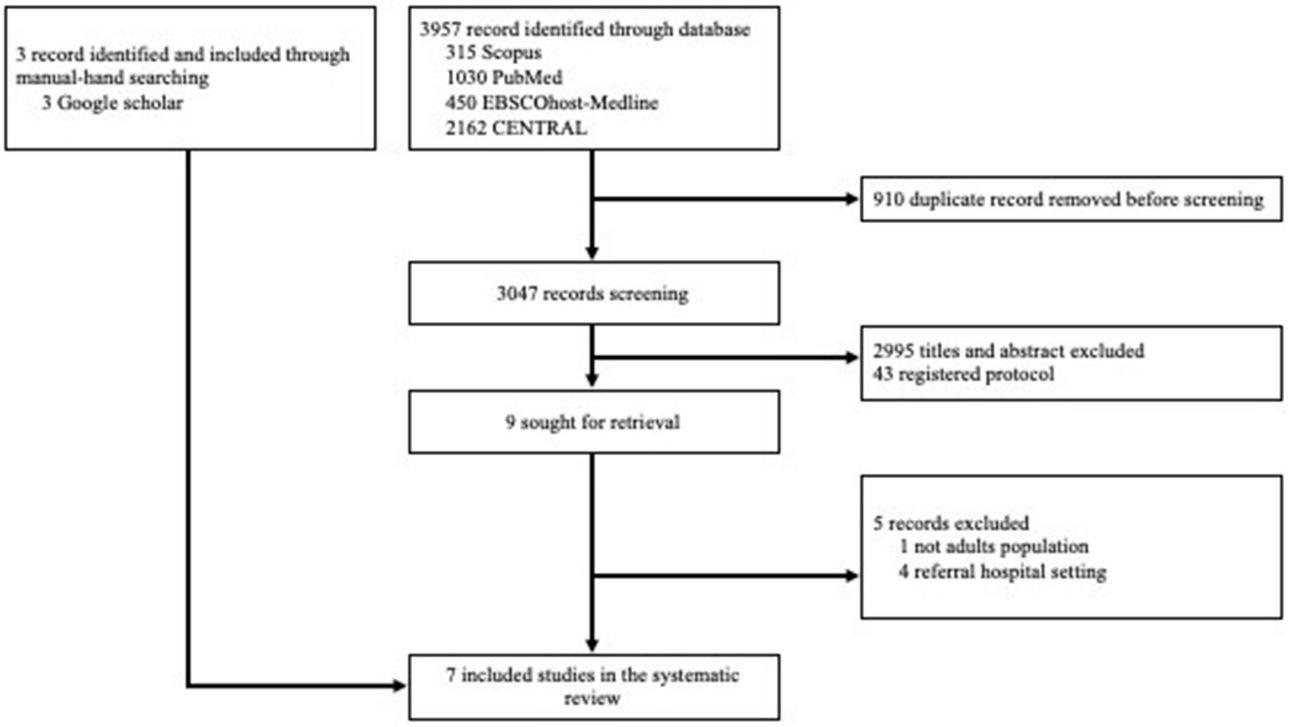

Figure 1 Study selection diagram. Adapted from Page MJ, McKenzie JE, Bossuyt PMet al licensed under CC BY 4.0, http://prisma-statement.org/prismastatement/flowdiagram.

Table 1 Characteristics of Included Studies

Characteristics	Number of Study (N= 7)	Reference Code*
Country		
Germany	1	1
United Kingdom	1	2
Sweden	2	3,5
United State	2	4,6
Singapore	1	7
Study design		
RCT	5	1-3,5,6
Pilot RCT	1	4
Retrospective cohort	1	7
Mean age of care recipients (Years)		
≤59	1	4
60-74	2	2,6
≥75	4	1,3,5,7
Mean age of caregivers (year)		
45-59	2	4,6
Targeted population		
Patients	6	1-7
Caregiver	2	4,6
Diagnosis		
Cancer and malignancy	3	4,6,7
Heart failure	3	1,3,5
Advanced lung disease (eg, COPD, fibrotic lung disease)	4	1,2,5,6
Renal diseases	1	6
Severe neurological condition	1	7
Organ failure	1	7
Dementia	1	1
Telehealth modalities		
Teleconference	1	1
Videoconference	2	6,7
Phone call	4	2,3,4,5
Structured and process of care		
Person-centered care	1	3
Interdisciplinary team	4	1-3,5
Comprehensive assessment	3	2,3,7
Care plan	3	2,5,7
Symptom control support	5	2-4,6,7
Education and consultation	2	6,7
Direct care	1	3
Coaching session (for navigator)	1	4
Care settings		
Home care	3	1-3
Nursing home	1	7
Community	2	4,6
Community area		
Rural	2	4,6
Unspecified	5	1-3,5,7
Stakeholder		
Community nurse	1	2
Nursing home nurse	1	7

(*Continued*)

Table 1 (Continued).

Characteristics	Number of Study (N= 7)	Reference Code*
Specialist homecare nurse	1	1
Specialist homecare specialist physician	1	1
General practitioner	2	1,5
Registered nurse	1	5
Clinical nurse specialist	2	2,3
Medical specialist (eg, oncologist cardiologist, geriatrician)	2	3,7
Palliative nurse	3	4,6,7
Palliative care physician	2	3,7
Pharmacist	1	6
Occupational therapist	2	2,3
Physiotherapist	1	3
Social worker	2	5.6
Community health worker (navigator)	1	4

Notes: *See Supplementary File 1.
Abbreviation: RCT, Randomized Controlled trial.

Telehealth Integration in Community-Based Palliative Care

Table 1 presents the model of telehealth integrated into community-based palliative care. Telehealth is delivered through a variety of modalities, most commonly via telephone, supplemented by videoconferencing, and teleconferencing. The interventions were structured around key processes of care, including person-centered approaches, interdisciplinary team involvement, comprehensive assessments, individualized care planning, symptom control support, education, and caregiver consultation. Some models have incorporated additional components such as direct care frameworks and structured coaching sessions for lay navigators. Care was provided across multiple community settings, including patients' homes, nursing homes, and wider community services, demonstrating the adaptability of telehealth in diverse care environments. Two of the included studies explicitly reported implementation in rural areas, whereas the remaining five did not specify the geographical setting. Stakeholders engaged in these interventions included a broad range of professionals, such as community and nursing home nurses, specialist homecare nurses and physicians, general practitioners, registered nurses, clinical nurse specialists, medical specialists (oncologists, cardiologists, geriatricians), palliative nurses and physicians, pharmacists, allied health professionals (occupational and physiotherapists), social workers, and community health workers functioning as navigators.

Benefits for People Living with Terminal Illness

Integrating telehealth into community palliative care provides meaningful benefits for people living with terminal illness (Table 2). Most of the evidence from the included studies consistently demonstrated improvements in quality of life, with sustained gains reported across validated instruments. Telehealth interventions were also associated with reductions in psychological distress, anxiety, and depressive symptoms, highlighting their role in supporting mental well-being during advanced stages of illness. In addition, several studies have reported an enhanced functional status and decreased hospitalization rates, suggesting that timely remote support can help stabilize symptoms and reduce the need for acute care services. While findings for functional status, quality-adjusted life year (QALY) measured by the European Quality of Life 5 Dimensions (EQ-5D) and overall cost-effectiveness were less consistent, it is noteworthy that some cost categories (eg, inpatient services, outpatient visits, and medical aids) were lower among people living with terminal illness receiving telehealth compared with those in usual care.

Table 2 People-Living-with-Terminal-Illness Outcomes and Measurement Tools

Outcomes	Measurement Tools	Follow-Up	Effect Size (95% CI)	*p*-value	Direct Effect		Reference Code**
					Usual Care	Intervention	
Physical outcomes (Intervention - usual care)							3,5
Enhances functional status	NYHA classification	3 months	MD= −0.4 (SD −0.07)	0.012*		→	3
	KCCQ	6 months	SMD 0.44 (0.02; 0.86)	0.04*		→	5
	CCQ	6 months	SMD −0.41 (−0.70; −0.11)	0.01*		→	5
Reduces hospitalization	Medical report	3 months	MD= −0.42 (SD 1.81)	0.009*		→	3
Psychological outcomes (Intervention - usual care)							2,4,5
Reduces psychological distress	HADs	24 weeks	MD −0.73 (Cohen d −0.11)	NA		→	4
		4 weeks	−0.7 (−1.2; −0.1)	NA		→	2
Reduces anxiety	HADs	24 weeks (usual care - intervention)	MD 0.65 (Cohen's d 0.17)	NA		→	4
		4 weeks	−0.6 (−1.1; 0.0)	NA		→	2
	GAD	6 months	SMD -0.50 (0.075; -0.27)	<0.001*		→	5
Reduces depression	HADs	24 weeks	(Cohen's d −0.39)	NA		→	4
		4 weeks	−0.7 (−1.3; −0.1)	NA		→	2
	PHQ-8	6 months	SMD -0.51 (-0.76; -0.27)	<0.001*		→	5
Quality of life outcomes (Intervention - usual care)							1,2,4,5
Enhances HR-QoL	FACIT-Pal 14	24 weeks	SMD −2.21 (Cohen's d −0.27)	NA	←		4
	FACT-G	6 month	SMD 0.42 (0.16; 0.66	0.001*		→	5
		12 months	SMD 0.36 (0.10; 0.62)	0.007*		→	5
	POS	4 weeks	−0.7 (−1.2; −0.1)	0.02		→	2
Enhances QALY	QALY (EQ-5D)	48 weeks	−0.01 (−0.07; 0.04)	NA	←		1

(*Continued*)

Table 2 (Continued).

Outcomes	Measurement Tools	Follow-Up	Effect Size (95% CI)	*p*-value	Direct Effect		Reference Code**
					Usual Care	Intervention	
Cost effective (Currency in €)							1
Total cost (payer's perspective)	ICER	48 weeks	−1,685 (−8,952; 5,582)	NA	←		1
Total cost (societal perspective)	ICER	48 weeks	25,836 (2,721; 48,952)	NA		→	1
Inpatient services	ICER	48 weeks	234 (−5,910; 6,378)	NA		→	1
Outpatient services	ICER	48 weeks	−33 (−1,058; 992)	NA	←		1
Formal support	ICER	48 weeks	−1,963 (−4,844; 919)	NA	←		1
Informal support	ICER	48 weeks	27,521 (6,195; 48,848)	NA		→	1
Medical aids	ICER	48 weeks	−218 (−571; 135)	NA	←		1
Medications	ICER	48 weeks-	121 (−436; 677)	NA		→	1
ED transfers after ACP (even, %)	Medical record	27 months	Transfer 133 (74.7) Non-transfer 23 (59)	0.041*	Not applicable	Not applicable	7

Notes: *Statistically significant ($p < 0.05$); **see Supplementary File 1. The direction of the direct effect (arrow) indicates the estimated effect size value.

Abbreviations: CCQ, Clinical COPD Questionnaire; CES-D, Center for Epidemiologic Studies Depression Scale; ED, Emergency department; ESAS, Edmonton Symptom Assessment System; EQ5D: European Quality of Life 5 Dimensions; FACIT-Pal 14, The 14-item Functional Assessment of Chronic Illness Therapy- Palliative Care; HADs, Hospital Anxiety And Depression Scale; ICER, Incremental Cost-Effectiveness Ratio; KCCQ, Kansas City Cardiomyopathy Questionnaire; NYHA, New York Heart Association; QALY, Quality-Adjusted Life Year.

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Table 3 Caregiver Outcomes and Measurement Tools

Outcomes	Measurement Tools	Follow-Up	Effect Size (95% CI)	*p*-value	Direct Effect		Reference Code**
					Usual Care	Intervention	
Psychological outcomes (Intervention - usual care)							2,4,6
Reduces psychological distress	HADs	24 weeks	MD= −2.29 (cohen's −0.32)	NA		→	4
		4 weeks	−0.7 (−1.3; 0.0)	NA		→	2
Reduces anxiety	HADs	24 weeks	MD= −1.94 (cohen's −0.44)	NA		→	4
		4 weeks	−0.6 (−1.2; 0.1)	NA		→	2
Reduces depression	HADs	24 weeks	MD= −0.37 (Cohen's −0.1)	NA		→	4
		4 weeks	−0.7 (−1.3; 0.0)	NA		→	2
	CES-D	8 weeks	LSM different −1.84 (SD −0.04)	0.04*		→	6
Reduces care burden	ZBI	4 weeks	−0.6 (−1.2; 0.1)	NA		→	2
	BCOS-R	8 weeks	LSM different −0.102 (SD −0.00)	0.34		→	6
Quality of life outcomes							2,4,6
Enhances HR-QoL (Intervention - usual care)	CQLC	4 weeks	−0.4 (−1.1; 0.2)	NA	←		2
	CQOLC	24 weeks	MD −1.56 (Cohen's −0.07) (Usual care - intervention)	NA		→	4
		8 weeks	LSM different −5.81 (SD −0.07)	0.04*		→	6
	POS-C	4 weeks	−0.4 (−1.1; 0.2)	NA		→	2
		8 weeks	LSM different −2.29 (SD −0.01)	0.05		→	6

Note: *Statistically significant ($p < 0.05$); **see Supplementary File 1. The direction of the direct effect (arrow) indicates the estimated effect size value.

Abbreviations: BCOS-R, the Revised Bakas Caregiving Outcomes Scale; CQLC, Carer Quality of life Cancer; CQOL-C, the 35-items Caregiver Quality of Life-Cancer; HADs, Hospital anxiety and depression scale; POS-C, Palliative care Outcome Scale (POS)-carer; ZBI, Zarit Burden Inventory.

Benefits for Caregivers

For caregivers, the integration of telehealth into community palliative care similarly showed substantial benefits (Table 3). The caregivers experienced consistent reductions in care burden, psychological distress, anxiety, and depressive symptoms. Short-term improvements in caregivers' quality of life were also observed in one study, particularly within the first weeks to months of intervention. However, results for caregiver burden and quality of life outcomes were less consistent across studies. In terms of economic impact, some analyses indicated that while telehealth reduced certain formal healthcare costs, the value of informal support provided by caregiverstended to be higher in the intervention group than in the usual care (Table 2).

Risk of Bias

The risk of bias of the Included RCTs and pilot RCTs was assessed using the revised Cochrane RoB 2.0. Most RCT studies were judged as having some concerns of bias,[36–40,42] with two studies rated as high risk due to substantial missing outcome data likely related to patient deterioration or death.[37,41] The randomization process and reporting bias domains were generally low risk, reflecting robust randomization procedures and adherence to pre-specified protocols. The most frequent sources of potential bias were a lack of blinding and attrition bias in studies with high dropout rates. These findings are summarized in the traffic light plot (Figure 2) and risk of bias bar chart (Figure 3). Although there are several methodological limitations, the evidence provides moderate certainty to inform finding analysis.

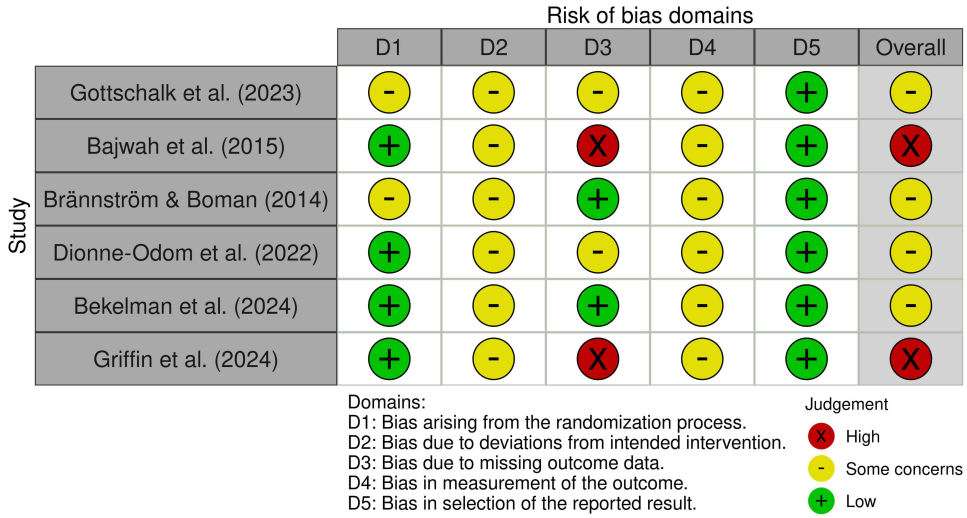

Figure 2 Traffic light plot of included studies. Plots were generated using the robvis web application (McGuinness & Higgins, 2021).

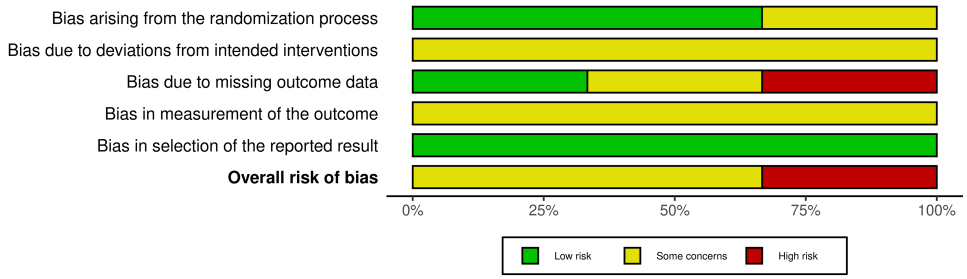

Figure 3 The risk-of-bias bar chart. Plots were generated using the robvis web application (McGuinness & Higgins, 2021).

The methodological quality of the retrospective cohort study by Ho et al[42] was assessed using NOS. This study achieved seven out of nine possible stars, indicating moderate methodological quality. In the selection domain, the exposed cohort was representative of real-world nursing home residents across five facilities, and exposure to the GeriCare Palliative Care Program was clearly defined through documented telemedicine consultations and triage criteria. The outcome (emergency department transfers) was not present at baseline and was objectively measured using nursing home records, fulfilling three of four stars for selection. Comparability received one star because the analysis compared residents who experienced ED transfer with those who did not, using bivariate tests, but did not include multivariable adjustment for potential confounders such as age, comorbidities, or frailty scores. For the outcome domain, follow-up was adequate at 27 months, allowing sufficient time to capture ED transfer events, and all enrolled residents were included in the outcome assessment, resulting in a maximum of three stars in this domain.

Discussion

This study identified four main findings on the integration of telehealth into community-based palliative care. (1) Models of telehealth in community palliative care varied across studies, most commonly delivered by telephone, videoconferencing, and teleconferencing. The interventions were structured and protocolized, incorporating person-centered assessment, interdisciplinary input, care planning, symptom support, education, and caregiver consultation. Care was delivered across diverse settings, including patients' homes, nursing homes, and rural communities, and involved multiple stakeholders such as palliative care nurses, physicians, allied health professionals, and lay navigators (2) Outcomes for people living with terminal illness demonstrated consistent benefits in improving functional status, reducing hospitalizations, improving quality of life, and reducing psychological symptoms such as anxiety and depression. The findings for QALY and cost-effectiveness were less consistent, although some cost categories, including inpatient and outpatient services, were lower in the telehealth group than in the usual care group. (3) Outcomes for caregivers showed consistent improvements in psychological well-being, including reduced distress, anxiety, and depressive symptoms, with short-term improvements in quality of life. However, the results varied more for caregiver burden and quality of life outcomes. (4) All included studies were conducted in high-income countries, highlighting that the current evidence base predominantly reflects experiences from developed health systems.

People living with serious illness and their caregivers often face significant challenges in accessing palliative care owing to geographic distance and limited resources.[43] The use of telehealth in the delivery of palliative care allows people living with teriminall illness and caregiver to meet their needs through increased accessibility and continuity of care.[44] The unexpected occurrence of the COVID-19 pandemic has also increased the use of telehealth for people living with terminal illness, including underserved populations in isolated areas with limited resources, thereby increasing the opportunity to integrate telehealth into community-based palliative care services.[45–49] To the best of our knowledge, specific discussions regarding the outcomes of telehealth integration in community-based palliative care are limited.[14]

The present study align with previous reviews reporting that telehealth can enhance the effectiveness and continuity of palliative care, particularly by supporting symptom management and psychological well-being.[26,28] Similar to studies conducted in hospital and nursing home settings, we observed improvements in quality of life, anxiety, and depression among people living with terminal illness, as well as a reduced psychological burden for caregivers.[29,30] The unique aspect of this present study highlights the benefits of telehealth integration in community-based settings, where the majority of people prefer to receive care. However, previous studies primarily emphasized facility-based contexts.[26,28,50] An unexpected finding of this present study was the inconsistent evidence regarding caregiver burden and cost-effectiveness. While some studies have suggested short-term improvements in caregiver well-being, others have indicated higher informal care contributions, underscoring the complexity of measuring economic outcomes in telehealth-supported palliative care.

The present study showed that integrating telehealth into community-based palliative care has consistently improved the quality of life, reduced symptom burden, and alleviated psychological distress, including anxiety and depression. Telehealth has the potential to strengthen the connection between individuals and their healthcare professionals, enabling care that align with their needs and preferences.[51] This integrating of telehealth not only allows individuals to remain in the comfort of their homes and communities, but also helps to preserve dignity and autonomy during the advanced stages

of illness.[51,52] These benefits are also particularly significant because people living with serious illness often encounter barriers such as limited mobility, long travel distances, and fragmented continuity of care in conventional service models.[27] Telehealth overcomes these barriers by enabling timely monitoring, personalized support, and rapid responses to changes in condition without the need for frequent hospital visits.[27] Evidences emphasized that telehealth facilitates timely modifications to care plans by utilizing real-time data, which contributes to enhanced symptom control and greater comfort for people living with terminal illness.[53,54] Improved symptom control represents a key benefit of telehealth, given its direct influence on the comfort and quality of life of people receiving palliative care. Since symptom relief is a central aim of palliative services, the capacity to adjust treatment plans promptly through remote monitoring is especially valuable.

The present study also highlights the benefits of telehealth integration for caregivers, who play a central role in supporting people living with terminal illness in the community. The benefits are particularly significant because caregiving is often associated with high emotional, physical, and financial strain, which can negatively affect both caregiver well-being and the quality of care provided.[55,56] By offering remote access to professional guidance, psychosocial support, and education, telehealth helps caregivers feel more supported and less isolated about their responsibilities.[57,58] The ability to connect with care teams through telephone or videoconferencing reduces uncertainty and builds confidence in managing complex care needs at home.[41] However, evidence regarding long-term outcomes and caregiver burden is uncertain, with some studies suggesting that telehealth may shift more responsibilities to informal caregivers.[36,41]

The gap identified in this review is the absence of evidence from low- and middle-income countries. All included studies were conducted in high-income settings, where digital infrastructure, healthcare resources, and workforce capacity are generally more developed.[59,60] This limitation raises questions about the applicability of the current findings to low- and middle-income countries, which carry a disproportionate burden of serious health-related suffering yet face significant challenges in healthcare access, affordability, and technology adoption.[61–64] In low middle-income countries, palliative care services are still concentrated in facility-based contexts, most often limited to tertiary or referral hospitals, leaving large gaps in community and home-based care.[65,66] Community and primary palliative care models in low-middle income countries remain under-researched despite urgent needs, and telehealth could play a critical role in closing this gap by extending services to underserved and rural communities.[11] However, the lack of locally generated evidence limits the ability to determine whether similar interventions would be feasible, acceptable, or effective in resource-constrained contexts. Addressing this evidence gap is essential to ensure that telehealth integration contributes to more equitable global palliative care delivery, particularly as the demand for community-based care continues to grow worldwide.

Limitations

The present study had several limitations that should be acknowledged. First, the number of eligible studies was small, and most were conducted in high-income countries, which limits the generalizability of the findings to low- and middle-income contexts where healthcare systems and digital infrastructures differ significantly. Second, the included studies used heterogeneous telehealth modalities, ranging from simple telephone calls to videoconferencing and web-based interventions, making direct comparison across interventions challenging. Third, although improvements were observed in the quality of life, symptom burden, and psychological outcomes, the variability in measurement tools and follow-up periods restricted the ability to synthesize findings quantitatively. Fourth, this review did not perform a meta-analysis; therefore, it was not possible to determine the precision of the results through pooled effect sizes. Fifth, the risk-of-bias assessment indicated that most randomized controlled trials were rated as having "some concerns", with two studies judged to be at high risk due to missing outcome data and high attrition rates. It should also be noted that in the study by Dionne-Odom et al[39] the telehealth intervention was applied primarily within the healthcare system, specifically as a mechanism for coaching lay navigators, rather than as a direct service integrated into the wider community. In addition, publication bias cannot be ruled out, as only peer-reviewed articles in English were included, potentially excluding relevant evidence from non-English or grey literature. Finally, this study may also be subject to search limitations, as

some relevant studies may have been missed due to non-sensitive keyword selection, particularly related to population and outcome terms.

Implication to Policy and Future Research

Telehealth represents a strategic opportunity to expand palliative care in low- and middle-income countries, where services are still largely concentrated in tertiary or referral hospitals and community-based care is limited. In countries with advanced digital infrastructure, telehealth has increasingly incorporated sophisticated technologies such as integrated electronic health records and app-based platforms. In contrast, in low-middle income countries, the more feasible and scalable options lie in simple, low-cost technologies, including mobile phone calls, SMS reminders, and basic video consultations. Notably, these simple modalities were also widely used in high-income countries, as shown in the included studies. The WHO Global Strategy on Digital Health 2020–2025 emphasizes that digital health interventions should be accessible, affordable, and adaptable to local contexts, ensuring that even resource-constrained health systems can benefit from innovation.[67] Importantly, alignment with national digital health strategies and investments in digital literacy is needed to avoid exacerbating inequities and to ensure sustainability. Thus, while high-income countries may pursue advanced technologies to optimize palliative care, LMICs can leverage widely available mobile platforms as an entry point to strengthen community-based palliative care and move toward universal health coverage.

Strengthening policies and national commitment are essential to ensure that telehealth becomes a sustainable component of community-based palliative care. National governments need to establish clear regulatory frameworks, integrate telehealth into essential palliative care services, and secure financing mechanisms such as reimbursement to support implementation. Positioned in this way, telehealth integration could serve as one model within broader public health strategies to extend palliative care beyond tertiary hospitals and make it accessible at the community level. Importantly, integrating telehealth into community-based palliative care also has a strong relevance to the concept of early palliative care,[68–70] as it enables timely symptom monitoring, remote consultations, and care support alongside disease-directed treatment. This may help overcome one of the barriers to early palliative care, structural barrier, by providing scalable, community-based pathways that allow people living with serious illness to benefit from palliative care earlier in the disease trajectory.[71] Such integration directly supports global commitments to Sustainable Development Goals (SDG 3: ensuring healthy lives and well-being for all) and aligns with the vision of universal health coverage by reducing inequities in access and ensuring that palliative care is available earlier in the disease trajectory.[72]

Future research should prioritize telehealth integration in low- and middle-income countries, where palliative care remains largely facility-based and concentrated in tertiary hospitals. Locally generated evidence is essential for determining the feasibility, acceptability, and effectiveness of telehealth interventions in resource-limited contexts. Furthermore, standardized outcome measures should be adopted across studies to enable robust comparisons and potential meta-analyses, which would provide more precise effect size estimates. Longitudinal designs with longer follow-up periods are recommended to assess the sustainability of benefits for both people living with serious illness and their caregivers, particularly regarding caregiver burden and economic outcomes.

Conclusion

This study demonstrated that integrating telehealth into community-based palliative care can play a critical role in improving accessibility and ensuring continuity of care for people living with serious illness and their caregivers. The most commonly applied interventions include telephone- and video-based consultations, remote symptom monitoring, and asynchronous health education delivered through audiovisual media. Evidence from the included studies consistently showed improvements in the quality of life, reduced symptom burden, psychological distress, and functional status. Caregivers also experienced benefits, particularly reductions in stress, and depressive symptoms, although findings on caregiver burden and quality of life were less consistent. Additionally, the study identified a major evidence gap: all included studies were conducted in high-income settings. This underscores the urgent need for future research to examine how telehealth is currently being used in palliative care in low-middle income countries, and to determine which models or modalities are feasible, acceptable, and effective in these contexts. Only by addressing these gaps can telehealth be equitably integrated into community-based palliative care worldwide.

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Disclosure

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