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Telehealth in Palliative Care

A Systematic Review of Patient-Reported Outcomes

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A systematic review was conducted to explore published quantitative and qualitative research describing patient-reported outcomes of palliative telehealth intervention studies. Multiple databases were searched for articles published between January 2006 and May 2016, which met study criteria. Methodological quality was assessed using Cochrane Collaboration's tool for assessing risk of bias for quantitative articles. For studies reporting qualitative outcomes, a checklist was used to evaluate trustworthiness of the methodology. Of the 6 studies reporting quantitative outcomes, 3 studies were rated as having moderate study quality, and 3 studies were rated as having low study quality. Of the 6 studies reporting qualitative outcomes, 3 reported 5 different methods for ensuring trustworthiness, whereas 1 article reported 4 methods, 1 reported 3, and 1 article reported 2 methods. Studies were notably diverse in terms of patient population, technology used, outcomes measures, and methodology. Results across studies were also variable. Methodological factors were major limitations. Recruitment problems, participant attrition, and lack of standardized outcomes measures impacted outcome assessment. Overall, research support for positive patient outcomes in palliative telehealth interventions was weak. However, all studies but one found positive results to support the intervention.

goal of improved health care. The Health Resources and Services Administration defines telehealth as “the use of telecommunications and information technologies to share information and provide clinical care, education, public health, and administrative services at a distance.”¹

According to the American Telemedicine Association, recent research has provided evidence that telehealth (1) saves patients, providers, and payers money when compared with traditional approaches to providing care; (2) improves the quality of care; and (3) results in high rates of patient satisfaction.² As of January 2016, there were more than 15,000 articles and more than 400 systematic reviews with telehealth or telemedicine as the focus.³ In their evaluation of published systematic reviews, the Agency of Healthcare Research and Quality included reviews focused on cardiovascular disease (12), mixed chronic conditions (9), diabetes (8), behavioral health (7), mixed conditions (6), physical rehabilitation (5), respiratory disease (5), intensive care unit or surgery support (3), burn care (1), preterm birth (1), and dermatological conditions (1). Functions provided through telehealth in these reviews included remote patient monitoring, communication and counseling, multiple functions, psychotherapy, telerehabilitation, consultation, and telementoring.³ The Agency of Healthcare Research and Quality concluded that there is a large, broad evidence base related to the effectiveness of telehealth especially in the clinical areas of chronic conditions and behavioral health when it is used for providing communication/counseling and monitoring/management. However, there exist clinical areas and roles for telehealth without the supportive evidence to justify such interventions.

Telehealth in palliative care has the potential to improve access in rural and underserved areas, offer frequent monitoring and support, prevent the escalation of symptoms and crises, provide just-in-time education and information, assist in home management of patients, improve patient outcomes, and prevent unnecessary utilization of health care resources. Many studies have explored the feasibility of palliative and/or hospice telehealth interventions, but fewer have included rigorous outcome evaluation, especially evaluation of patient-specific outcomes.

KEY WORDS

end-of-life care, palliative care, patient outcomes, telehealth

Telehealth includes a variety of technologies that have been applied in health services to engage a wide range of populations and settings with the

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In this review, we summarize findings related to patient-reported outcomes in published results of palliative telehealth interventions. A previous study reported on caregiver outcomes.⁴ While multiple challenges exist when doing research with patients with life-threatening illnesses, knowledge related to the patient response to palliative interventions is essential to providing the best quality of care and services.

METHODS

Search Strategy

The literature search was performed using the following electronic databases: Academic Search Premier, Ageline, CINAHL, MEDLINE, Psychology and Behavioral Science Collection, PsycINFO, Sociological Collection, and TOPIC Search. Search terms used were telehealth and palliative care, telehealth and advanced cancer, telehealth and hospice, and telehealth and chronic illness.

Inclusion Criteria

To be included in this review, an article had to meet the following criteria:

- 1. The study intervention focused on patients receiving palliative or end-of-life care for a serious condition (ie, advanced disease, end-stage disease).
- 2. The study included patient-reported outcomes using either qualitative or quantitative measures. Studies including only surrogate or caregiver reports of patient outcomes were excluded, as were studies that reported only patient utilization or cost outcomes.
- 3. The study was published in English between January 2006 and May 2016.

Reports that described an intervention or evaluated the feasibility of an intervention but did not report patient outcomes were excluded. Studies focused on disease management or chronic conditions not considered to be life-threatening or subject to palliative care were also excluded.

Study Quality Evaluation

Studies were grouped according to whether the patient-reported results were quantitative or qualitative. The Cochrane Collaboration’s tool for assessing risk of bias in randomized trials was used to evaluate study rigor and quality of the articles with quantitative results. This tool evaluates study performance on 6 domains of bias: selection bias, performance bias, detection bias, attrition bias, reporting bias, and other bias.⁵ Developed by the Cochrane Collaboration’s methods group in 2005, this tool is used to identify flaws in design, conduct, analysis, and reporting that can cause the effect of an intervention to be underestimated or overestimated. For studies reporting qualitative results, a checklist was used to eval-

uate whether articles included methodologies used to ensure adequate trustworthiness.^{6,7}

All 3 authors reviewed each article to be included and participated in extracting descriptive information for the table. Each also evaluated risk of bias and qualitative methodology independently. The authors then consulted to develop consensus regarding the table and study quality evaluation. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) statement for reporting systematic review⁸ was used to structure our analysis.

RESULTS

Study Inclusion

Two hundred thirty-six articles were identified using search criteria described earlier. Another 39 were identified through supplemental searches including review of references cited in each relevant article and articles included in systematic reviews that involved palliative or hospice patients. Of the 275 considered articles, 264 were excluded for a variety of reasons (Figure). Twenty-six articles and several of the systematic reviews included in the

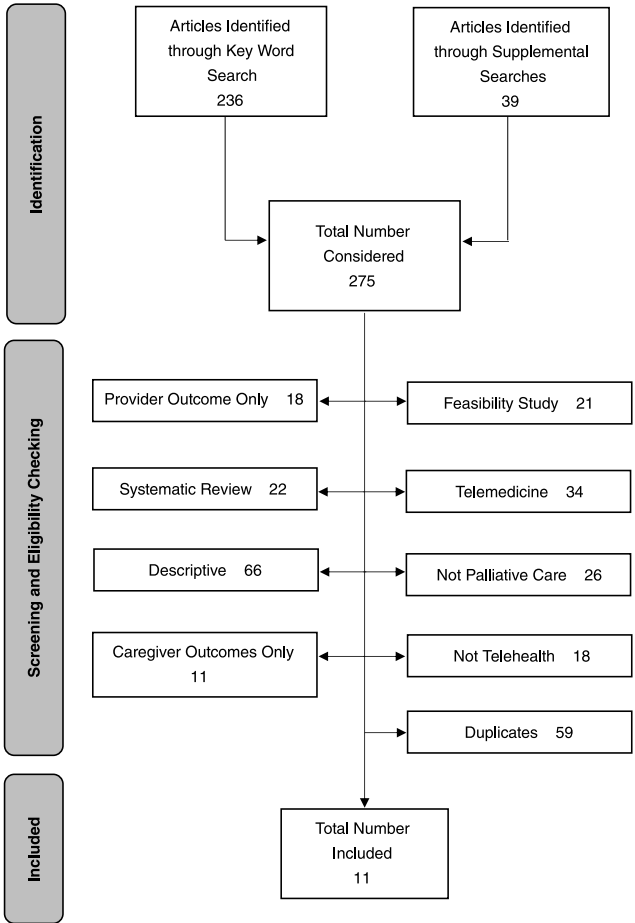


FIGURE. Article review process.

search results were directed toward chronic disease management without a documented focus on advanced disease, palliative care, or end of life and were excluded from the final results. Sixty-six of the articles described interventions but did not include measurable outcomes. Thirty-four of the articles focused on telemedicine (use of teletechnology to educate or consult other practitioners) and were excluded. Eleven of the articles reported caregiver outcomes only and have been included in a previous review.⁴ The search uncovered 18 articles that were not on telehealth interventions and 59 duplicate articles. Table 1 displays the 11 included studies and describes the design, population, intervention, outcome measurement, and significant results of each study.

Study Quality/Rigor

Using the Cochrane Collaboration's tool for assessing risk of bias, the 6 studies reporting quantitative results were categorized into 3 quality/rigor levels: high, moderate, and low with low risk of bias indicating high quality/rigor (Table 2). A study was considered high quality/rigor when it met at least 5 of 7 criteria for low risk of bias (>75%), a study was determined as moderate quality/rigor if it met between 1 and 4 of 7 criteria for low risk of bias (25%-75%), and a study was determined to be a low quality/rigor study if it met none of the 7 criteria for low risk of bias (<25%). Of the 6 studies, 3 scored as having moderate quality/rigor, whereas the remaining 3 scored as low quality. None of the studies described a randomized process of participant recruitment and allocation, and none reported using a process of blinding participants or outcomes.

Table 3 highlights the qualitative article appraisal checklist for trustworthiness; 3 of the 6 studies reporting qualitative results reported 5 different methods for ensuring trustworthiness, whereas 1 article reported 4, 1 reported 3, and 1 article reported 2 methods.

Study Characteristics

Of the 6 studies reporting quantitative outcomes, 1 study used the 2-group randomized controlled trial pretest-posttest design,¹² 2 studies used a 2-group comparison design,^{9,11} 1 used single-group pretest-posttest,¹⁹ 1 used a single-group nonexperimental survey design,¹³ and 1 study used a mixed-methods, single-group design reporting both qualitative and quantitative outcomes.¹⁵

Of the 6 studies reporting qualitative patient outcomes, 3 were case studies.^{10,16,17} Two were mixed-method studies reporting qualitative results only.^{14,18} One was a mixed-method study that reported both quantitative and qualitative outcomes.¹⁵

Patient Characteristics

The sample sizes ranged from 1 participant¹⁷ to 1352 participants.⁹ All of the participants were adults older than

18 years. Of the 11 studies, 4 studies recruited patients with advanced cancer,^{10,12,14,18} 5 recruited patients with a variety of unnamed serious chronic conditions,^{9,11,13,16,19} 1 recruited patients with end-stage renal disease,¹⁵ 1 reported on a patient with heart failure and multiple comorbidities,¹⁷ 1 involved veterans only,¹³ and 1 study included hospice patients.⁹

Geographically, patients were from India,¹⁰ Canada,¹¹ United Kingdom,¹⁴ Sweden,¹⁶ and the United States.^{9,12,13,15,17-19}

Measurements and Data Collection Methods

Among the studies that utilized standardized instruments, 2 studies measured patient quality of life (one using the McGill Quality of Life Questionnaire¹¹ and the other using the European Organization for Research and Treatment of Cancer QOL-30).¹² Three studies measured patient symptoms and/or functional status using the following measures: the Memorial Symptom Assessment Scale,⁹ the Edmonton Symptom Assessment System,^{11,19} and the Palliative Performance Scale.¹¹ Other instruments used in the Kornblith study were the Geriatric Depression Scale (short form), the Hospital Anxiety and Depression Scale, the Medical Outcomes Study Social Support Survey, the Physical Health subscale of the Older American Resources & Services Questionnaire, the Utilization of Mental Health & Psychosocial Services Instrument, and the Geriatric Schedule of Recent Experience Instrument. Hebert et al¹¹ used the Palliative Performance Scale. McCall et al¹⁴ used the Chemotherapy Symptom Assessment Scale, the Brief Pain Inventory, and the National Comprehensive Cancer Network Distress Thermometer for reporting patient status but not outcome measurement. Several studies developed and used questionnaires they created.^{13,15,19}

Interviews were used to collect data in 4 studies,^{11,14,16,18} and focus groups were used in 1 study.¹¹ In the 3 case studies, data sources were not specified.^{10,16,17}

Telehealth Technology

Of the 11 studies, 5 used videophones or similar technology to simulate face-to-face communication with medical professionals.^{11,13,17-19} Three studies used regular phones for the purpose of counseling or support.^{9,12,15} Minatodani et al¹⁵ also used patient self-monitoring equipment in the home. One used a computer program with Internet access.¹⁶ Two studies used smart phone applications.^{10,14}

Reported Outcomes

Patient Quality of Life

Among the 2 studies measuring patient quality of life, 1 study showed no significant difference between treatment group and the control group.¹¹ One of the qualitative studies

TABLE 1 Systematic Review Data Extraction Form: Patient Outcomes

Reference	Design	Population	Intervention	Outcome Measured	Results—Patient-Reported Outcomes
Davis et al (2015) ⁹	Two-group nonrandomized design comparing patients receiving the intervention to those not offered or declining the intervention	1352 Home hospice patients with varying serious illnesses in metropolitan Washington, DC, area in the United States	Proactive outbound phone-based care service to hospice patients from specialists and nurses using a standard call script	Intervention evaluated by intervention acceptance rate, intensity of the intervention, escalations of calls from specialists to nurses, utilization of clinical services, and clinical miles traveled	84% of new home hospice patients accepted TeleCaring. TeleCaring participants had lower utilization of clinical services compared with nonparticipants. Patient satisfaction increased and clinical miles decreased after the implementation of the intervention TeleCaring is a viable method to proactively identify home hospice patient or caregiver needs and adjust clinical services accordingly
Dhiliwal and Salins (2015) ¹⁰	Case report	2 Indian patients with advanced cancer referred for symptom control and supportive care	WhatsApp—smart phone application allowing sharing of text messages, pictures, and video	Symptom management, satisfaction, ability to die at home	Both patients reported improved symptom management and were able to die at home Smartphone applications in palliative homecare are a novel cost-effective approach which improves symptom control, helps in continued care at home, prevents unnecessary hospitalization, and improves patient satisfaction
Hebert et al (2006) ¹¹	Randomized noninferiority trial with 2 groups comparing conventional palliative home care to a combination of conventional and home telehealth	44 Home palliative care patients from 11 rural communities in Alberta, Canada	Combination of conventional care and home telehealth “video-visits” by nurses through the use of videophones at home	Palliative care symptoms: the Edmonton Symptom Assessment Scale (ESAS) and the Palliative Performance Scale (PPS). Quality of Life: the McGill Quality of Life Questionnaire (MQOL). Thematic analysis of interviews and focus groups. Unable to evaluate cost-effectiveness because of low sample size	There were no significant differences between the groups for palliative care symptoms (ESAS and PPS) and quality of life (MQOL). Clients indicated a higher level of readiness to use the telehealth technology than did the nurses. All patients showed preference to fewer visits but wanted them to be in person Results suggested a similar quality of care could be delivered via videophones and conventional care

(continues)

TABLE 1 Systematic Review Data Extraction Form: Patient Outcomes, Continued

Reference	Design	Population	Intervention	Outcome Measured	Results—Patient-Reported Outcomes
Kornblith et al (2006) ¹²	Two-group randomized controlled trial (RCT), pretest-posttest design comparing educational materials only to educational material plus telephone monitoring	131 Patients ≥65 y old who had advanced cancer. Patients were actively receiving treatment initiated 2 mo or less prior to study, had a life expectancy ≥12 mo	Intervention group received telephone monitoring combined with educational materials; monthly telephone calls made to patients Control group patients received educational materials only	General physical symptoms, physical functioning, fatigue/malaise, social functioning, and psychological distress: the European Organization for Research and Treatment of Cancer QOL-30 Depression: the Geriatric Depression Scale (short form) and the Hospital Anxiety and Depression Scale Social support: the Medical Outcomes Study Social Support Survey The presence and degree of comorbid conditions: the Physical Health subscale of the Older American Resources and Services Questionnaire Past and current use of mental health and counseling services: the utilization of Mental Health and Psychosocial Services Instrument; the stressful life experiences: Geriatric Schedule of Recent Experience Instrument	At 6 mo, patients in the intervention group had significantly lower anxiety, depression, and overall distress than did patients in the control group There were no significant differences between groups on other measurements 88% of patients in the intervention group showed good satisfaction with the program, but only 14% thought the program was “very helpful” or “extremely helpful” Results indicated the importance of scheduled telephone monitoring in identifying patients in psychological distress
Maudlin et al (2006) ¹³	Quantitative single-group nonexperimental survey design	100 Veterans with chronic end-stage illness	Use of text-messaging device with palliative care interactive dialogue and videophones for additional face-to-face psychosocial and spiritual support	Survey questions related to quality, clinical, and business indicators	Patients thought they had better understanding of their medical condition; 68% believed they were better able to manage their medical conditions at home; 82% were more satisfied with health provider communication; 99% reported taking all medications; 92% felt more connected to the VA; 98% felt technology provided more security Home telehealth devices along with the skilled practitioner can help to improve symptom management and quality of life for veterans coping with end of life

(continues)

TABLE 1 Systematic Review Data Extraction Form: Patient Outcomes, Continued

Reference	Design	Population	Intervention	Outcome Measured	Results—Patient-Reported Outcomes
McCall et al (2008) ¹⁴	Single-group design using mixed methods	9 Health professionals and 21 patients with advanced cancer in the United Kingdom	Patients used mobile phone–based symptom assessment software program to report symptoms and receive related self-care advice on a daily basis	Palliative symptoms: the Chemotherapy Symptom Assessment Scale, the Brief Pain Inventory Short Form, National Comprehensive Cancer Network Distress Thermometer, and qualitative semistructured interviews	Most patients felt the intervention was “very helpful” or “helpful,” made them feel cared for and allowed a patient with heart failure and multiple comorbidities easier communication with health providers; however, they felt symptom-related questions were too general and did not allow them to further explain their symptoms Changes in symptoms and distress not reported in the article Results indicate that self-care advice was useful; the system was usable and acceptable to patients
Minatodani et al (2013) ¹⁵	Mixed-methods design using semistructured interviews	33 High-risk dialysis patients with end-stage renal disease recruited from an RCT intervention arm of a previous study	Patients received home telehealth monitoring with remote care nurse (RCN) support	Patients’ experience with home telehealth Remote Technology for Home Health Monitoring interview consisting of open-ended and scaled responses	Patients reported high levels of satisfaction, were better able to identify changes in health status, and experienced enhanced accountability, self-efficacy, and motivation to make behavior changes Results suggest home telehealth self-monitoring with RCN support is effective in empowering patients to take a more active role in their health care and indirectly improves patients’ quality of life
Nilsson et al (2006) ¹⁶	Qualitative case study with single-case design	2 Swedish patients with serious chronic illness living in their own homes and needing extensive nursing care	Rexnet, a computer program, was installed on the patients’ computer with Internet access; the patients and nurses used text messages to communicate with the district nurses	Semistructured interviews on the patients’ perception of safety, accessibility, continuity, loneliness, and communication done before, during, and after the intervention.	Communication improved because of easy accessibility, and patients felt increased security. Patients felt everyday life was improved, and they had fewer limitations Results indicate that a messaging program can facilitate communications between nurses and patients with serious chronic illness living at home who have difficulty talking

(continues)

TABLE 1 Systematic Review Data Extraction Form: Patient Outcomes, Continued					
Reference	Design	Population	Intervention	Outcome Measured	Results—Patient-Reported Outcomes
Slater et al (2006) ¹⁷	Case study	A 93-y-old man with heart failure and comorbidities of chronic obstructive pulmonary disease, renal insufficiency, hypertension, and history of abdominal cancer	2-Way interactive video unit	Subjective quality of life and ability to remain at home	Telehealth monitoring had a very positive effect on his quality of life. Patient looked forward to interactive video visits. Patient died at home. Telehealth technology gives an extra level of care that allows the patient and the caregiver to feel supported for the patients who choose to die at homes
Stern et al (2012) ¹⁸	Mixed-methods case study; utilization data and qualitative analysis of interviews, observations, and nursing documentation	11 Palliative oncology patients	Patients used videophones with optional remote monitoring to communicate with specialist nurses 24 h per day	Analysis of computerized nursing documentation using a chart abstraction form to identify patterns of use Perception and experiences with telehealth: qualitative data collected from interviews with patients	Overall patients, family caregivers, and telehealth nurses felt that home telehealth enabled family caregiving and increased access to care and was reassuring. Pain management was the most common reason for contact followed by emotional support Results confirm the patients' appreciation of enhanced access to care via home telehealth
Watanabe et al (2013) ¹⁹	Single-group, pre/post survey design	44 Rural patients receiving palliative care	Videoconferencing used to conduct virtual pain and symptom control clinics so that patients could access the multidisciplinary team at a major cancer center	Symptoms: Edmonton Symptom Assessment System (ESAS), travel distances, time and related costs Patient satisfaction: questionnaire developed for project	Mean ESAS scores for anxiety and appetite were statistically significantly improved at first follow-up visit, significant cost savings, high degree of satisfaction with virtual clinic Multidisciplinary palliative care consultation delivered by videoconferencing is feasible, can improve symptoms, results in cost savings to patients and families and is satisfactory to patients

(continues)

TABLE 2 Risk of Bias Evaluation (Quantitative Articles Only)

Davis et al (2015) ⁹	⊖	⊖	⊖	⊖	⊖	?	⊖	0
Hebert et al (2006) ¹¹	?	?	?	?	?	⊖	⊖	0
Kornblith et al (2006) ¹²	?	?	?	⊕	⊕	⊕	⊕	4
Maudlin et al (2006) ¹³	⊖	⊖	⊖	⊖	?	⊖	⊖	0
Minatodani et al (2013) ¹⁵	⊖	⊖	⊖	⊖	⊕	⊕	⊖	2
Watanabe et al (2013) ¹⁹	⊖	⊖	⊖	⊖	⊖	⊕	⊖	1
	Random-sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other sources of bias	Study ratings

Low risk of bias ⊕

High risk of bias ⊖

Unknown risk of bias ?

Study ratings: 5-7, low risk of bias scores = high quality/rigor; 1-4, low risk of bias scores = moderate quality/rigor; 0, low risk of bias scores = low quality/rigor.

concluded that telehealth had a positive effect on patient's quality of life.¹⁷

Symptom Management

Among the 4 quantitative studies measuring patient symptoms, 2 studies found significantly lower levels of symptoms postintervention.^{12,19} Another found no significant symptom improvement after the telehealth intervention,¹¹ and the other did not report symptom changes.¹⁴ One qualitative study also found patients showed improved symptom management as a result of the intervention.¹⁰

Patient Satisfaction

Four of the 11 studies reported that patients were satisfied after the telehealth intervention.^{12,13,15,19}

Patient Depression and Anxiety

One study found patients in the treatment group had significantly lower anxiety, depression, and overall distress post-intervention.¹² Another reported that anxiety improved.¹⁹

Hospital Visits and Costs

Studies found patients showed lower utilization of clinical services,⁹ avoided unnecessary hospitalization,¹⁰ or had fewer hospital admissions.^{11,13} It was also found that a telehealth intervention can significantly drop hospital care costs.^{10,13}

DISCUSSION

As with telehealth research involving other patient populations, this review of research related to telehealth in

TABLE 3 Qualitative Article Appraisal

Criteria	Dhiliwal and Salins (2015) ¹⁰	McCall et al ¹⁴	Minatodani et al ¹⁵	Nilsson et al (2006) ¹⁶	Slater et al (2006) ¹⁷	Stern et al (2012) ¹⁸
Research design specified	No	Yes	Yes	Yes	Yes	Yes
Rationale for design offered	No	Yes	No	Yes	No	No
Prolonged engagement used	Yes	No	No	Yes	Yes	No
Sample size/selection relevant to research	Yes	Yes	Yes	Yes	Yes	Yes
Multiple methods of data collection used	?	Yes	Yes	No	?	Yes
Peer debriefing used	?	?	Yes	?	?	?
Member checking used	?	?	?	?	?	?
Data analysis described	No	Yes	Yes	Yes	No	Yes
Interobserver agreement investigated	?	?	Yes	?	?	?
Audit trail described	No	No	No	No	No	No
Total methods for rigor used	2	5	5	5	3	4
? = Unknown.						

palliative care found that certain telehealth interventions can save money, aid in symptom control, provide support for nonphysical issues such as emotional distress, and result in high rates of patient satisfaction. However, several factors make it difficult to draw conclusions related to the benefits of telehealth in palliative care. The studies included in this review used a variety of telehealth applications and technology. There was great variation in the systems in which the care was delivered and the populations served.

The research reports uncovered in this search revealed multiple problems experienced in the conduct of the study. Recruitment difficulties occurred because patients were referred late in their disease process.¹¹ High attrition due to escalation of the patient's illness and/or patient death was a common problem.^{12,14,15} Such problems are common to palliative care research.²⁰⁻²² Although not specifically mentioned in the studies as a problem, gatekeeping (preventing patients from participating or being referred to research studies because one feels they are too frail to participate or because it is ethically wrong to involve seriously ill and dying patients in research) is a common problem limiting recruitment efforts.²¹⁻²³ Several of the studies included in our review noted that patients, once referred, were very willing to participate and pleased to be given the option of participation, as has been reported in other studies of palliative care patients.^{23,24}

Generalization related to the included studies is also limited by the fact that none of studies utilized the same

outcome measures or instruments, therefore limiting comparisons of outcomes. A common set of outcomes is essential for comparisons and to facilitate systematic reviews and meta-analyses,²⁵ yet there is little agreement on standardized measures to be used in palliative care research.

The majority of these studies lacked scientific rigor. This could be due to a variety of issues. Palliative care research has been historically underfunded, forcing researchers to report retrospective findings, case studies, and small pilot studies²⁰ rather than conducting and reporting on larger, multisite clinical trials. Palliative care has been characterized as high-touch rather than high-tech, limiting the interest in applying technological advancements when developing interventions. Case studies may be viewed as a way to publicize the benefits of telehealth for the patient without burdening patients with the completion of standardized measures or ongoing efforts to obtain feedback.

Results were variable across studies. Most showed positive results for the patients involved, but 1 study showed no improvement in quality of life or symptoms.¹¹ As a result of their research, Hebert et al¹¹ suggested that the videophone technology used not be adopted for palliative home care because of the wide range of conditions and care requirements.¹¹ They recommended that telehealth be targeted at the type of care required rather than a general palliative care population. However, another included study focused on palliative care patients in general¹⁹ reported positive patient outcomes. The remaining quantitative studies did focus on

more defined populations (advanced cancer, end-stage renal disease, veterans, hospice patients), which may have allowed for more targeted interventions.

Limitations of our review include the inclusion of only English articles published in the past 10 years and limited review of the gray literature on this topic. Focusing on patient outcomes only limited our overall findings, but we have previously published a review of caregiver outcomes in palliative telehealth.⁴ Use of caregiver-reported outcomes may help overcome concerns related to small sample sizes and participant attrition.

Overall, we found weak research support for telehealth interventions in palliative care. Methodological factors were major limitations in this body of literature. However, all studies but one found positive results to support the intervention. Most patients involved reported an increased sense of security and felt reassured by having immediate responses to their needs and support on an ongoing basis. Patients appreciated the enhanced access to care that the telehealth intervention provided. Further rigorous research is needed that compares telehealth interventions to routine care in larger samples.

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