RESEARCH ARTICLE

Identification of Nursing Outcomes and Quality Indicators for Home Health Care in Older Adults with End-Stage Cancer

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Abstract

Objective: This study aimed to identify nursing outcomes and quality indicators for older adults with end-stage cancer receiving home health care. **Methods:** Nineteen experts and professional caregivers, including palliative doctors, nursing faculty, advanced practice nurses, and registered nurses, participated in the Delphi technique. Final medians and interquartile ranges were calculated. **Result:** Seven components with 43 nursing outcomes and quality indicators for older adults with end-stage cancer were developed, encompassing physical pain relief, symptom management, physical well-being, complication prevention, psychosocial support, caregiver and family roles in end-of-life care, and advance care planning. **Conclusion:** The caregiver and family's role in end-of-life care had the most indicators, reflecting the significance of family involvement in Thailand's cultural context. Consistent implementation of these indicators is crucial, and correlational analysis of indicator scores can enhance their validity.

Keywords: Home Health Care- Nursing Outcome Quality indicator- Older Adults- Cancer- Palliative Care- Nurses

Introduction

The population of individuals aged 60 and above in Thailand has reached 13 million, constituting 20% of the total population, and is projected to increase to 20 million by 2050, representing 35.8% of the population [1, 2]. This demographic shift poses challenges in caring for and supporting older adults, particularly as the risk of cancer increases with age [3]. Over 60% of cancer diagnoses occur in individuals over 65 years old, and with Thailand transitioning into an aging society, the incidence of cancer among older patients is expected to rise [4, 5]. At advanced stages of cancer, patients commonly experience symptoms such as pain, fatigue, anxiety, depression, and dyspnea, while facing fears related to end-of-life issues like pain, loss of control, loss of dignity, and dying alone [6-8]. Holistic palliative care is essential not only for symptom management but also for enhancing the quality of life for patients and families dealing with serious life-threatening conditions [9].

Many terminally ill patients express a preference to receive end-of-life care at home, highlighting the importance of home-based palliative care services [10-13]. Evidence supports the benefits of home care for palliative care patients, including reducing symptom burden, enhancing patient self-management, providing information for managing emergencies, alleviating caregiver burden, and increasing patient satisfaction with care [14]. While studies have shown the effectiveness of home-based palliative care in countries where it is integrated into mainstream medicine, Thailand's palliative care services primarily focus on hospital settings, with limited integration into community care [7, 8]. To expand palliative care coverage, there is a need to enhance community and home-based palliative care programs [15].

In this context, nursing professionals must possess the skills to deliver independent and advanced care tailored to the individual healthcare needs of end-stage cancer patients receiving home health care [16]. Evaluating the quality of nursing care provided to these patients through nursing quality indicators is essential to ensure they receive high-quality care.

Quantitative measures utilized by nurses and nurse administrators to assess, monitor, and evaluate the quality of patient care and support services are referred to as nursing outcome quality indicators. The utilization of nursing quality care indicators requires nurses and nurse administrators to identify the specific indicators needed, develop strategies for cost-effective data collection, and adopt approaches for data analysis and interpretation. However, perceptions of care quality vary among different stakeholders. Therefore, nurses

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must comprehend the dimensions of quality care from a stakeholder's viewpoint before developing home health care (HHC) nursing outcome quality indicators for older individuals with end-stage cancer receiving care at home. In contemporary healthcare, a significant number of end-stage cancer patients, particularly older adults, choose to receive palliative care in their homes. Nurses play a crucial role as primary caregivers for these patients in the home setting; however, they often lack standardized assessment tools and methodologies. Consequently, this study aimed to initially establish perspectives on quality care and subsequently identify a set of HHC nursing outcome quality indicators for older individuals with end-stage cancer.

Materials and Methods

The Delphi technique is a methodology used to gather and synthesize the opinions of a panel of experts. It is recognized as a method for structuring group communication processes and involves an iterative multi-stage process aimed at achieving consensus among experts on opinions, judgments, or choices [17, 18]. The Delphi technique entails systematically collecting and synthesizing informed judgments from a potentially large group of experts on specific questions and issues and has been employed to address constraints related to costs and time [18-20].

Data Collection

To identify the nursing outcome quality indicators for older individuals with end-stage cancer receiving HHC, a combination of semi-structured interviews and the Delphi technique was utilized.

Round 1

Semi-structured interviews were conducted to identify the HHC nursing outcome quality indicators for older individuals with end-stage cancer. Typically, a sample size of 17-25 experts is recommended [21] to reduce error levels and minimize biases. In this study, 20 experts were recruited, with 19 completing the survey. Experts were selected using a combination of purposive and snowball sampling methods, resulting in four groups: 1) three palliative medical doctors with experience in home palliative care for older adults with end-stage cancer, 2) three family medical doctors, six nursing instructors/academics, 3) two advanced practical nurses (APN), and 4) nine registered nurses. Inclusion criteria included expertise in palliative care for older adults with end-stage cancer at home, a master's degree or higher qualification, and willingness to participate. Following the interviews, verbatim transcripts were analyzed using content analysis to identify HHC nursing outcome quality indicators. To ensure rigor, three colleagues independently reviewed the codes and themes. The findings from this phase informed the development of the Delphi questionnaire for the second round.

Round 2

The experts from round one participated as respondents in round two, resulting in a total of 20 experts. They rated the importance of each indicator on a 5-point Likert scale, noting points of agreement and disagreement. The identified HHC nursing outcome quality indicators were presented to participants for feedback, leading to consensus.

Round 3

The experts from round two continued as respondents in round three, with 19 experts participating due to one non-response. Each expert received feedback on their previous ratings, including their own scores, median scores from the panel, and interquartile range scores. Experts were asked to confirm their opinions on each indicator and provide explanations if their views differed from others. They had the opportunity to revise their opinions based on the feedback received. Experts were encouraged to suggest additional quality indicators in each round and provide comments. If more than three experts proposed the same indicator, it was considered for inclusion.

Data Analysis

Descriptive statistics, including mean values and interquartile ranges, were used to analyze each quality care indicator. Consensus among experts was deemed acceptable when the median rating was 3.50 or higher [22]. Additionally, indicators with an interquartile range of 1.5 or less indicated agreement among the panel of experts.

Ethical Consideration

Ethical approval was obtained from the Ethics Review Committee for Research Involving Human Research Subjects at the Faculty of Nursing Science and Allied Health, Phetchaburi Rajabhat University, Thailand. Prior to data collection, informed consent was obtained from all study participants to ensure confidentiality and anonymity.

Results

The study results were presented for each round of the Delphi technique. Demographic statistics revealed that the majority of participants held a master's degree (68.42%), with 15.79% possessing a doctorate degree and an additional 15.79% having a medical doctor (MD) equivalent to a bachelor's degree. The average work experience among participants was 21.4 years (SD = 10.72).

Round One

In the initial round, 7 components with 53 indicators related to HHC nursing outcome quality indicators for older adults with end-stage cancer were identified. These components included: 1) relieving physical pain; 2) alleviating disturbance symptoms; 3) caring for physical well-being; 4) preventing complications; 5) addressing psychosocial, emotional, spiritual, cognitive abilities, and adaptation; 6) involving caregivers and family; and 7) planning for living will, advance care planning, and acceptance of death and dying.

Round Two

The second round retained the same 7 components as the first round but reduced the number of indicators to 44. Additionally, the component related to the role of caregiver and family was expanded to include acceptance and confrontation with death and dying.

Round Three

Following the completion of the third round, the HHC nursing outcome quality indicators for older adults with end-stage cancer consisted of 7 components and 43 indicators. Notably, the component related to the role of caregiver and family for accepting and confronting death and dying included the highest number of indicators [10], while the component on planning for living will, advance care planning, and acceptance of death and dying contained the lowest number of indicators [3]. All indicators received a median score above 3.5, indicating their importance, with interquartile ranges greater than 1.50 signifying agreement among experts.

During this round, experts recommended removing an item in component 2 related to dyspnea by oxygen saturation not less than 95%, citing redundancy and practical challenges in maintaining high oxygen levels without equipment in end-of-life care at home in the Thai context. Experts also adjusted their responses to less than 15% for all indicators, indicating their acceptance of changes. The final HHC nursing outcomes and quality indicators for older adults with end-stage cancer in each component are detailed in Table 1.

Discussion

This study identified seven components of HHC nursing outcome quality indicators for older adults with end-stage cancer. The role of caregivers and family in accepting and confronting death and dying emerged as the most important component, as indicated by the experts, with the highest number of indicators. This emphasizes the significance of family care for older adults with end-stage cancer at home, particularly in the Thai context where cultural and social norms prioritize home-based end-of-life care [23]. Caregivers and families play a crucial role as caretakers, reflecting the preference of most patients to die at home in Thailand.

Interestingly, the second most significant component was the planning of living will, advanced care planning, and acceptance of death and dying. This may be attributed to government efforts to promote the importance of advance care planning and living wills among the general population, including older adults. A recent study reported that advanced care planning was documented for 60% of cancer patients compared to only 35.7% in non-cancer patients [24]. Older adults with end-stage cancer receiving care at home require close attention from healthcare providers, particularly nurse professionals.

The HHC nursing outcome quality indicators for older adults with end-stage cancer in this study comprised 7 components and 43 indicators, encompassing a holistic approach that addresses physical, psychosocial, spiritual aspects, as well as the roles of caregivers and

Table 1. The Numbers of Indicators in Each Component for Quality of HHC Nursing Outcome Quality Indicators for Older Adults with End-Stage Cancer

Components	Number of indicators		
	Round 1	Round 2	Round 3
1) Relieving from physical pain	5	4	4
2) Relieving from discomfort symptoms	7	6	5
3) Receiving for caring of physical well-being	4	3	3
4) Prevention of complication	7	6	6
5) Psychosocial, emotional, spiritual, ability of thinking, and adaptation	9	7	7
6) Role of caregiver and family for accepting and confronting with death and dying	14	10	10
7) Planning of living will, advance care planning, and acceptance of death and dying	7	8	8
Total	53	44	43

family members. The prominence of the caregivers' and families' roles component may stem from recognition of the challenges in providing care and the burden felt by caregivers [25]. Family caregivers of older adults need to acquire knowledge about caregiving roles and the prevention of complications while attending to their own needs. The themes identified in this study can inform the development of nursing care activities tailored to meet specific needs, potentially enhancing the quality of care and reducing caregiver burden.

Notably, advance care planning and living wills received increased focus in this study. Advance care planning has been associated with a decrease in futile interventions and healthcare costs. Implementing advance care planning as a routine practice for older patients with advanced diseases at an optimal time could enhance their quality of care, reduce unnecessary procedures, and lower healthcare costs [24]. Therefore, HHC supports patients in alleviating symptom distress and enhancing their quality of life within their familial environment. The Delphi technique employed in this study was deemed valid and reliable. However, the focus of this study was solely on nursing care outcomes. Subsequently, further research on HHC nursing outcome quality indicators for older adults with end-stage cancer should encompass a comprehensive examination of care aspects, including transitional care from hospital to home and the bereavement period.

The findings of this study have practical implications, particularly in the realm of HHC. To enhance care for older adults with end-stage cancer, researchers and nurses interested in studying and improving HHC nursing outcome quality indicators should prioritize these indicators in their work. It is essential to integrate these indicators into daily nursing practice to promote the utilization of HHC quality assessment tools and improve care for older adults with

end-stage cancer receiving home-based care. Additionally, we recommend conducting further research to assess the feasibility of the established criteria, including testing for content validity, construct validity, and instrument reliability. Ensuring high consistency in the outcomes derived from these indicators is crucial. Analyzing the correlation between indicator scores obtained through indicator implementation trials could bolster the validity of the indicators.

The HHC nursing outcome quality indicators for older adults with end-stage cancer identified in this study comprise a comprehensive list of 7 components and 43 indicators. These indicators encompass a holistic approach to nursing care, addressing physical, psychological, social, spiritual aspects, as well as the roles of caregivers and families. Caregivers and families play a pivotal role, especially in caring for older adults with end-stage cancer in the Thai context. The finalized list of indicators is deemed valuable and can serve as a guide for identifying the needs of older adults with end-stage cancer receiving home-based care.

Author Contribution Statement

Werayuth Srithumsuk conducted conceptulization, data collection, data analysis, writing-original draft, review and editing manuscript. Gunyadar Prachusilpa conducted data collection, data analysis and review manuscript. Sermsuk Thunyawan and Thunyasiri Somkome provided data collection and review manuscript.

Acknowledgements

None.

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