

# Development of a Heart Failure Palliative Care Educational Program for Nurses: A Multi-Method Approach

## Abstract

**Background:** Comprehensive palliative care for patients with heart failure can be developed by educating cardiac nurses. The current study aimed to design a heart failure palliative care educational program for nurses. **Materials and Methods:** This study was carried out using the multi-method approach based on two out of four steps of Uys educational program development at Dr. Chamran Hospital, Isfahan, in 2020–2021. In step 1, educational needs were collected through literature review, interviews with 15 patients and 10 nurses, examination of patients' documents and medical records, and observation. Then, in step 2, the importance and necessity of teaching the proposed topics and the teaching and evaluation method of the items were assessed through two rounds of delphi technique (15 expert panel members). Eventually, the educational program was finalized. **Results:** In step 1, the educational needs of nurses were identified in 6 general fields and 26 general learning topics. In step 2, educational needs [specialized knowledge (55% necessity and 55% importance) and social support (33% necessity and 33% importance)], teaching methods (role-playing, experiential learning, and journal club), and evaluation method (the information analysis method) were removed due to a lack of consensus (11%). Finally, the main parts of the program, including the program mission and vision, general learning topics, general goals, objectives, teaching strategies, and evaluation strategies, were compiled. **Conclusions:** This program provides nurses with up-to-date information on various aspects of the physical, psychological, social, spiritual, and educational needs of heart failure patients and ensures the provision of better services to them.

**Keywords:** Heart failure, nurses, palliative care, program development

## Introduction

Heart failure is a chronic, progressive, and debilitating disease affecting about 37.7 million of the population worldwide.<sup>[1]</sup> This advanced heart problem is among the leading causes of death and burden in several countries, especially those with low and middle income, such as Iran.<sup>[2]</sup> Patients with heart failure experience various physical and emotional symptoms such as severe dyspnea, fatigue, cough, muscle weakness, sleeping difficulties, and low mood.<sup>[3]</sup> Studies show that these patients have unmet psychological, social, and spiritual symptoms and needs,<sup>[4]</sup> as over 50% of those suffering from chronic heart failure are readmitted to the hospital within six months after hospitalization.<sup>[5]</sup> Multiple symptoms and frequent hospitalizations necessitate considering palliative care in this group of patients.<sup>[6]</sup> Palliative care prevents and relieves suffering through the early identification, evaluation, and

treatment of pain and other physical, psychological, and spiritual problems, consequently improving the quality of life of patients and their families in the face of issues related to life-threatening diseases.<sup>[7]</sup> Given the controllability of symptoms, high and increasing prevalence, and poor disease prognosis in this group of patients, palliative care services are a very suitable alternative.<sup>[8]</sup> Palliative care seems to be quite beneficial considering the complex nature of care for patients with heart failure, the need for personalized interventions, patient-centered care planning, and the necessity of communication about the limited treatment options. More than 30% of patients with heart failure can receive assistance through palliative care services.<sup>[9]</sup> Although palliative care has numerous benefits, such as a reduction in frequent hospitalizations,<sup>[10]</sup> the incidence of symptoms,<sup>[11]</sup> and healthcare costs,<sup>[12]</sup> along with an increase in the quality of life,<sup>[13]</sup> it has not been considered seriously

Imane Bagheri<sup>1</sup>,  
Alireza Irajpour<sup>2</sup>,  
Narges Hashemi<sup>3</sup>

<sup>1</sup>Student Research Committee, Department of Adult Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, Research Center for Nursing and Midwifery Care, Non-communicable Diseases Research Institute, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, <sup>2</sup>Nursing and Midwifery Care Research Center, Department of Critical Care Nursing, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>3</sup>Student Research Committee, Department of Adult Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

**Address for correspondence:**  
Dr. Narges Hashemi,  
Student Research Committee,  
School of Nursing and  
Midwifery, Isfahan University of  
Medical Sciences, Isfahan, Iran.  
E-mail: hashemi.n@nm.mui.  
ac.ir

## Access this article online

**Website:** <https://journals.iwwo.com/jnmr>

**DOI:** 10.4103/ijnmr.ijnmr\_152\_23

## Quick Response Code:



**How to cite this article:** Bagheri I, Irajpour A, Hashemi N. Development of a heart failure palliative care educational program for nurses: A multi-method approach. Iran J Nurs Midwifery Res 2024;29:245-54.

**Submitted:** 25-May-2023.

**Revised:** 16-Oct-2023.

**Accepted:** 17-Oct-2023.

**Published:** 26-Mar-2024.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow\_reprints@wolterskluwer.com

in patients with heart failure so far.<sup>[9,14]</sup> A general survey of heart failure specialists showed that 67% of respondents had not referred any patients to palliative care in the past 6 months.<sup>[15]</sup> In another study, only 7% of patients with heart failure participated in palliative care programs.<sup>[16]</sup>

Palliative care is sometimes delayed until the patients reach the end of their lives<sup>[3]</sup> due to several barriers, such as complex and unpredictable disease course, sudden death, patients' insufficient knowledge about their disease, misinterpretation of the word palliative care as end-of-life care, healthcare providers' limited palliative knowledge and their primary focus on standard treatment options, and insufficient communication and collaboration between medical professions.<sup>[17]</sup> Nurses contribute substantially as care coordinators in collaboration with other health professionals to provide palliative care to patients; however, insufficient training and lack of required resources, experience in communication skills,<sup>[18]</sup> have led to their resistance and reduced use of palliative care.<sup>[19]</sup> A study showed that nurses and doctors did not relieve the pain of heart patients entirely because they had insufficient knowledge about palliative care and the nature of heart failure. On the other hand, patients are not sufficiently familiar with palliative care because doctors and nurses fail to introduce this type of service. Even those aware of and covered by palliative care still have other unmet physical, mental, social, and spiritual needs, exacerbated by the lack of knowledge of nurses about the needs of patients and their families.<sup>[9,18,20]</sup> The unawareness of healthcare workers, particularly nurses, prevents the provision of palliative care to patients with heart failure and also leads to the lack of knowledge of patients and inability to meet their needs during palliative care. Also, it is crucial to introduce and educate palliative care to patients, along with considering other challenges related to the provision of palliative care services to terminally ill patients. The nurses also need to acquire the necessary knowledge, attitudes, and skills, which would prepare them to play a role in palliative care for heart failure patients.

Considering the above-mentioned and the lack of similar studies to educate palliative care to nurses caring for patients with heart failure, the researchers decided to develop a program based on the current situation and the palliative care needs of the patients and nurses to familiarize nurses with palliative care for patients with heart failure and enhance their knowledge in this regard. The main objectives of the study are as follows: 1. situation analysis/needs assessment for palliative care (considering that the nurses must first know these needs to meet their patient's palliative care needs, data collection concerning the learning needs of the nurses was conducted based on their educational needs and the needs of heart failure patients); and 2. The educational program development (determining the educational goals and topics, teaching strategies, and evaluation strategies).

## Materials and Methods

The current study, conducted at Dr. Chamran Hospital, Isfahan, in 2020–2021, used a multi-method approach based on two out of four steps of Uys educational program development [Figure 1]. The study went through two steps of situation analysis/needs assessment and educational program development.<sup>[21]</sup> In the first step (Situation Analysis/Needs Assessment) a combination of literature review, interviews with 15 patients and 10 nurses who were purposively selected with maximum variation from Shahid Chamran hospital, examination of patients' documents and medical records, and observation was used in this step to determine the palliative care needs of heart failure patients and the educational needs of the nurses. The purpose of the literature review was to obtain the knowledge available in the field of related educational programs worldwide, along with the scientific documents required to develop such an educational program. To start the review process, relevant keywords were primarily identified using Mesh, Snomed, Embase, and other related literature. Thus, the keywords listed in Table 1 and a search strategy resulting from the combination of keywords by the Boolean operators of "AND" and "OR" were used to search in PubMed, Scopus, Web of Science, SID, and MAGIRAN databases for February 13, 14, and 15, 2021. Two researchers reviewed the titles and abstracts of the remaining articles after removing duplicates according to the inclusion criteria (all studies focusing on the educational needs of the nurses and the palliative care needs of heart failure patients, written in both Persian and English languages ab initio until 2021). The third researcher reviewed articles in the case of disagreement between the two assessors. The remaining 61 articles were reviewed by all three researchers, who agreed regarding the main components and findings of final articles [Table 1].

Also, semi-structured interviews with nurses and heart failure patients were conducted using the interview guide (30 participants were approached for interviews, out of which 3 patients and 2 nurses withdrew) [Table 2]. The inclusion criteria for nurses were working experience related to the care for heart failure patients for at least 6 months, willingness to participate in the study, and adequate information about heart failure. Inclusion criteria for heart failure patients were admission to the Cardiac Unit of Dr. Chamran Hospital, chronic systolic heart failure confirmed by echocardiography [Ejection Fraction (EF) <40)] and a cardiologist, and willingness and ability to participate in the study. Participants were purposefully included in the study, and each was met by the researcher individually to introduce the research and explain the aims and process of the study. The time and place of the interviews were set at Dr. Chamran Hospital according to the convenience of the participants. The researcher conducted the interviews after providing the necessary explanations about the audio recording of the interviews and obtaining written consent from the participants. Each

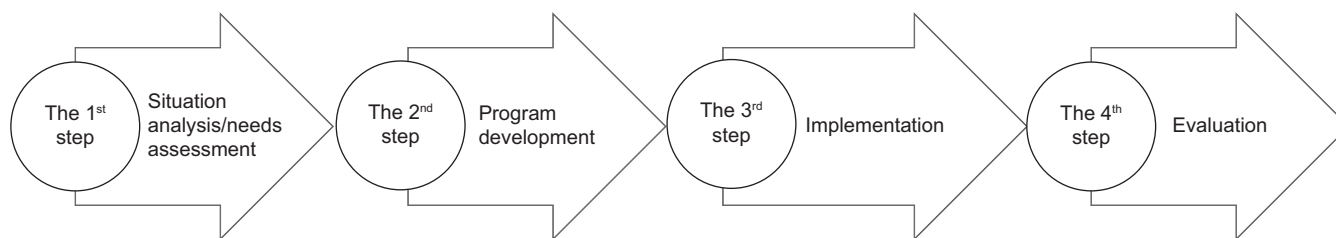


Figure 1: The steps for the development of a program to familiarize nurses with palliative care for patients with heart failure

Table 1: Keywords for literature review

Palliative care	AND	Heart failure	AND	Needs Assessment	AND	Nurse
OR		OR		OR		OR
End-of-life care		Cardiac Failure		Educational Needs Assessment		Nursing Personnel
OR		OR		OR		OR
Terminal Care		Heart Decompensation		Determination of Health Care		Registered Nurse
OR		OR		Needs		OR
Hospice Care		Myocardial Failure		OR		Patient
				Assessment of Healthcare Needs		OR
						Client

Table 2: Interview guide

Participants	Sample questions
Patients	Have you ever heard of palliative care?
	Has anyone talked to you about palliative care?
	Are you familiar with palliative care, and what do you expect from the palliative care team?
	What issues and problems do you expect the palliative care team to address?
	What do you think about the prognosis of your disease? Which of your needs are not met?
Nurses	What do you expect from the nurses?
	How much are you familiar with palliative care?
	Do you know when to use palliative care for heart failure patients?
	Do heart failure patients and their families have other needs besides routine nursing care?
	In what areas of care for heart failure patients do you need more knowledge and experience?
	What services does palliative care provide for heart failure patients?

interview lasted for about 30–60 minutes, after which the researcher listened carefully to and transcribed the recorded information verbatim as soon as possible. Data analysis was conducted using conventional qualitative content analysis and MAXQDA 10 software. The analysis was conducted simultaneously with the data collection, using Granheim and Lundman's five-step approach. The text of the interviews was handwritten, typed, and reread several times immediately after collecting information through interviews. When the relevant parts of the sentences were found, data coding and organizing were conducted until connecting the meaningful

categories and revealing the themes. During the analysis process, the researchers considered the entire interview text as the unit of analysis. Coding, summarizing codes, and their classification were carried out after identifying the semantic units to reveal the categories. Then the concepts and content hidden in the data were extracted based on continuous comparisons.<sup>[22]</sup> The adequacy of data collection from this step was determined considering the consensus of the research team, the information obtained until reaching a comprehensive analysis, and the estimation of the current situation and the educational needs of the program audience, including the nurses of the Cardiac Unit. Then, the documents of the patients' medical records, particularly the nursing reports, were analyzed to find information regarding the needs of heart failure patients and the educational needs of the program learners and finally the researcher attended the Cardiac Unit during the morning shifts to complete the information by observing the questions and answers exchanged between the patients/families and the nurses, taking notes, and analyzing them by conventional content analysis.

The results obtained from the above four methods were then integrated into categories and sub-categories to form the basis for the draft preparation of the program thematic headings. In the second step (program development), the goals and learning objectives (cognitive, emotional, and behavioral) of the program to familiarize nurses with palliative care for heart failure patients were designed in the form of a questionnaire for the nurses involved in the care and treatment of heart failure patients after preparing the list of topics in the previous step. Then, expert panel members were selected using purposive and snowball sampling methods (15 experts<sup>[23]</sup>) from the faculty members

of Isfahan University of Medical Sciences with at least 10 years of work experience in the field of designing educational programs and palliative care for heart disease patients to get opinions and consensus (four cardiologists, six nursing specialist in the field of palliative care and program development with Ph.D degree, five cardiac nurse educator). The first round of the opinion poll was sent to the panel of experts after making phone calls to obtain their permission and introduce the design, goals, and research methodology. The questionnaire, supposed to be answered in two weeks, aimed to seek expert opinions on the importance and necessity of teaching the proposed topics. A reminder was sent after two weeks, and a phone call was made in the case of receiving no response. The expert in question would be eventually excluded from the study if the attempts to contact failed. The researchers reviewed and summarized all the expert opinions during several sessions after receiving the answers of the first opinion poll round on the necessity and importance of palliative care needs. The consensus of >80% was the criterion of agreement among experts in this study. Then, the designed educational program was sent to the experts in the second round of opinion poll to ask their opinions on the teaching and evaluation method of the items agreed upon in the previous phase.

Descriptive statistics (frequency and percentage) was used to analyze data collected in the two rounds. Eventually, the educational program was finalized at the end of this phase. The method of Lincoln and Guba was used to determine the trustworthiness of the qualitative data obtained from the study.<sup>[24]</sup> The selection of participants with different experiences, sufficient data collection, and multiple interviews aimed to ensure the data credibility. On the other hand, all participants received questions in similar fields to guarantee the dependability of the data. Concerning transferability, the researcher made deep and rich descriptions of the context, participants, study platform, barriers and limitations, and the conditions for using the findings in other social contexts. Confirmability was achieved by the detailed and comprehensive recording of all research steps, particularly data analysis, to provide other researchers interested in this field with an opportunity to conveniently continue the work. The obtained data were edited using specialized panels, based on which the final results were derived.

### Ethical considerations

This study was extracted from a research project approved by the ethics committee of Isfahan University of Medical Sciences (IR.MUI.NUREMA.REC.1401.024). The participants were assured about the voluntary and confidential nature of the study. Researchers confirm that all methods were carried out following relevant guidelines and regulations, and all experimental protocols were approved by the ethics committee of Isfahan University of Medical Sciences. Written informed consent was obtained from all subjects and/or their legal guardian(s).

## Result

According to the steps presented in the methodology, the research findings are as follows:

### The first step: Situation analysis/needs assessment

#### Literature review

In general, this step included the situation analysis and needs assessment of heart failure patients, along with the educational needs of nurses. Overall, 400 articles were found by the extensive library and electronic search. Of these, 98 were duplicates, and 159 were unrelated, lacked content related to palliative care for heart failure patients, or did not concentrate on educational needs. Thus, 61 completely related articles were selected and studied.

#### Interviews

A total number of 25 qualitative interviews were conducted, including 10 cardiac nurses (2 head nurses, 7 nurses, and 1 nursing instructor of the Cardiac Unit of Shahid Chamran Hospital) and 15 heart failure patients.

One of the patients referred to raising awareness about the disease as one of the basic needs, stating that *“When I had shortness of breath, I went to the hospital’s emergency room, where the doctor ordered an echocardiogram and emphasized the need for an echo. When I asked what my problem was, the doctor assured me not to worry. However, I heard them talking about my heart failure. For a long time, I didn’t really know what my illness was and how it would be treated”* (Patient 1).

The patients also wished to access the required information about symptom management. One of them stated that *“One of the problems that most cardiac patients face is their limitations in sexual activity; thus, it would be helpful to illustrate the problem and provide information on its management”* (Patient 12).

Concerning palliative care for patients, one of the nurses stated that *“How can we implement palliative care for the patients when we do not know what it is and what measures it includes? They have to primarily educate nurses in this field and expect them to implement it for patients”* (Nurse 5).

Nurses also referred to the patients’ needs for information about the prevention of disease progression and follow-up care. As stated by one of the nurses, *“Patients constantly ask, for example, what to do to keep their blood pressure low. They are worried about renal failure. They need to know the time of their next visit, and frequent questions are raised by the patients or their families in this regard”* (Nurse 10).

#### Patients’ medical records

In total, 25 medical records were reviewed to complete the information at this stage. Pain, dyspnea, fatigue, exercise intolerance, difficulty sleeping, impaired urinary and bowel



elimination, anorexia, and organ edema were among the common problems of these patients.

### Observations

According to the researcher's observations at this step, the patients raised frequent questions about their nutritional patterns, physical activity improvement, pain relief, and dyspnea management. However, the nurses only told them to wait for the doctor to come and could not guide the patients properly.

The educational needs of nurses were identified in 6 general fields and 26 general learning topics at the end of this step. These fields included an introduction to palliative care, palliative care needs of patients based on heart failure stage, specialized information about heart failure, the job description of nurses in the team, patient transfer to palliative care, and unmet wishes and needs of heart failure patients [Table 3].

### The second step: Program development

The purpose and learning objectives of the program were formulated using the data on palliative needs extracted in the first step. The general goal of the program was initially determined as "the development of a program to familiarize nurses with palliative care for heart failure patients," and the specific goals were also highlighted in three areas of cognitive, emotional, and behavioral. Then, the data obtained from the needs assessment were used to organize the program for the nurses' familiarization with palliative care for heart failure patients. A questionnaire containing a list of topics was sent to 15 experts, 6 of whom were removed from the panel of experts because of failure to respond within the stipulated time. The table designed in the first round represented the importance and necessity of the needs, from which 2 needs, including specialized knowledge (55% necessity and 55% importance) and social support (33% necessity and 33% importance) were removed due to a lack of consensus [Table 4]. Then the teaching and evaluation methods were resent to the experts in the second round of opinion poll, and the items agreed upon were identified. The teaching methods of role-playing, experiential learning, and journal club were eliminated, with 11% consensus in all three. Also, the information analysis method, which belonged to the evaluation methods, was removed due to a lack of consensus (11%), leading to the development of the program in three main parts [Table 5], including the program's mission and vision, general learning topics, general goals, special goals, and teaching and evaluation methods.

### Discussion

The current study aimed to develop a heart failure palliative care educational program for nurses. The situation analysis

**Table 3: Needs identified in the first step**

Category	Sub-category
Introduction to palliative care	Definition of palliative care Goals of palliative care The importance of the prompt introduction of palliative care to patients Types of palliative care in heart failure Dimensions of palliative care (physical, including management and evaluation of symptoms, psychological, spiritual, etc.)
Palliative care needs of patients based on heart failure stage	Stage 1: Management of chronic disease Stage 2: Palliative and supportive care Stages 3,4: End-of-life care
Specialized information about heart failure	Common problems and symptoms of heart failure Prognosis Treatment Medications and side effects Diet
Job description of nurses in the team	Competence and skills required to implement palliative care Nursing responsibilities Specialized knowledge
Patient transfer to palliative care	The onset of the palliative care Influential factors for the transfer of heart failure patients to palliative care Indication evaluation of palliative care in patients
Unmet wishes and needs of heart failure patients	Physical (pain relief, performing activities without fatigue - attention to sexual issues) Psychological Social Spiritual Information (answering their questions - talking about the Prognosis of the disease) Communication between the palliative care team and the patient and their family Preferences (home death, home care)

and needs assessment in the first step helped to identify the palliative care needs of heart failure patients, along with the educational needs of cardiac nurses in the field of palliative care in six main areas. During the second step, the educational goals and topics, as well as teaching and evaluation strategies, were determined and underwent expert judgment together with the results of the first step through two opinion poll rounds. Topics agreed upon by experts in terms of importance and necessity were as follows:

The introduction of palliative care is one of the topics whose inclusion in educational programs has been frequently emphasized in similar studies to empower healthcare providers.<sup>[25]</sup> According to the strategy of the World Health Organization, it is imperative to educate

**Table 4: Frequency of the palliative care needs importance and necessity**

Category	Sub-category	Importance <i>n</i> (%)	Necessity <i>n</i> (%)
Introduction to palliative care	Definition of palliative care	9 (100)	8 (88)
	Goals of palliative care	9 (100)	9 (100)
	The importance of the prompt introduction of palliative care to patients	9 (100)	9 (100)
	Types of palliative care in heart failure	9 (100)	8 (88)
	Dimensions of palliative care (physical, including management and evaluation of symptoms, psychological, spiritual, etc.)	9 (100)	8 (88)
Palliative care needs of patients based on heart failure stage	Stage 1: Management of chronic disease	9 (100)	9 (100)
	Stage 2: Palliative and supportive care	9 (100)	9 (100)
	Stages 3,4: End-of-life care	9 (100)	9 (100)
Specialized information about heart failure	Common problems and symptoms of heart failure	9 (100)	8 (88)
	Prognosis	9 (100)	9 (100)
	Treatment	9 (100)	9 (100)
	Medications and side effects	9 (100)	9 (100)
	Diet	9 (100)	9 (100)
Job description of nurses in the team	Competence and skills required to implement palliative care	9 (100)	9 (100)
	Specialized knowledge	5 (55)	5 (55)
	Nursing responsibilities	9 (100)	9 (100)
Patient transfer to palliative care	The onset of the palliative care	9 (100)	9 (100)
	Influential factors for the transfer of heart failure patients to palliative care	9 (100)	9 (100)
	Indication evaluation of palliative care in patients	9 (100)	9 (100)
Unmet wishes and needs of heart failure patients	Physical (pain relief, performing activities without fatigue - attention to sexual issues)	9 (100)	9 (100)
	Psychological	9 (100)	9 (100)
	Social	3 (33)	3 (33)
	Spiritual	9 (100)	8 (88)
	Information (answering their questions - talking about the Prognosis of the disease)	9 (100)	9 (100)
	Communication between the palliative care team and the patient and their family	9 (100)	9 (100)
	Preferences (home death, home care)	9 (100)	9 (100)

healthcare workers in this field.<sup>[7]</sup> Similar studies have mentioned limited knowledge, lack of trained palliative care nurses,<sup>[26,27]</sup> and the inability of nurses to manage and evaluate symptoms as barriers to the implementation of palliative care by nurses.<sup>[28]</sup> According to one study, nurses did not have enough knowledge about the nature, philosophy, and principles of palliative care, making it necessary to provide them with educational courses about the basic principles of palliative care and comprehensive symptom management.<sup>[29]</sup> Therefore, developing a program for nurses seems necessary to introduce goals, types, and components of palliative care.

Palliative care needs of patients based on heart failure stage were determined as another field considered in the program. As mentioned in different studies, cardiac patients should not be excluded from specialized palliative care services. These patients have a significant burden of symptoms in each stage of the disease, which necessitates palliative care.<sup>[30]</sup> The health system staff should also consider providing care according to the values, expectations, and preferences of these patients at the end of life.<sup>[31]</sup> Therefore, it seems necessary to familiarize nurses with the

management of this chronic disease and the provision of supportive and end-of-life care services.

Specialized information about heart failure was another item related to the program development. Different studies show that patients often do not know about their disease conditions and prognosis, leading to depression and noncompliance with treatment. Patients listed access to information about their disease, including the disease nature, treatment, prognosis, and complications, among their most significant needs.<sup>[32]</sup> In another study, patients and nurses rated the need for pharmaceutical and nutritional information and the risk factors of the disease as the most critical learning needs, respectively.<sup>[33]</sup> Hence, it is necessary to consider the education related to the disease, including common problems and symptoms of heart failure, prognosis, treatment, medications, side effects, and diet.

The description of the nurse's role in the team was also considered necessary. A study mentioned six dimensions for the competence of nurses to provide palliative care, including leadership, communication, cooperation, clinical, ethical-legal, psychosocial, and spiritual.<sup>[34]</sup> Another study reported that the main responsibility of nurses was to

**Table 5: The program to familiarize nurses with palliative care for patients with heart failure**

The program mission and vision

This program aims to familiarize nurses with palliative care for patients with heart failure

Field category	General learning topics sub-category	goals	Learning objectives	Teaching strategies	Evaluation strategies
Introduction to palliative care	Definition of palliative care Goals of palliative care  The importance of the prompt introduction of palliative care to patients Types of palliative care in heart failure Dimensions of palliative care (physical, including management and evaluation of symptoms, psychological, spiritual, etc.)	An introduction to the basic concepts, principles, and foundations of palliative and supportive care	Defining palliative care (cognitive) Knowledge of palliative care goals (cognitive) Explaining the importance of the prompt introduction of palliative care to patients (cognitive) Mentioning types of palliative care (cognitive) Dimensions of palliative care (physical, including management and evaluation of symptoms, psychological, spiritual, etc.) (cognitive)	Lecturing	Short-answer open-ended written tests
Palliative care needs of patients based on heart failure stage	Stage 1: Management of chronic disease Stage 2: Palliative and supportive care Stages 3,4: End-of-life care	Familiarity with palliative care needs of patients based on heart failure stage	Managing the chronic disease in stage 1 (psychomotor) Providing palliative and supportive care in stage 2 (psychomotor) Performing end-of-life care services in stages 3,4 (psychomotor)	Lecturing Discussion	Short-answer open-ended written tests Practical exams
Specialized information about heart failure	Common problems and symptoms of heart failure Prognosis  Treatment  Medications and side effects  Diet	Familiarity with specialized information about heart failure	Illustrating the common problems and symptoms of heart failure (cognitive) Knowing the prognosis of the disease (cognitive) Performing pharmacological and non-pharmacological treatments (psychomotor) Knowledge of medications and their side effects (cognitive) Knowledge of the diet for heart failure (cognitive)	Lecturing Case study	Short-answer open-ended written tests Practical exams
Job description of nurses in the team	Competence and skills required to implement palliative care Nursing responsibilities	Familiarity with the job description of nurses in the team	Acquiring basic knowledge, competence, and skills required to implement palliative care (psychomotor) Knowledge of nursing responsibilities in providing palliative care (cognitive)	Lecturing Review of articles	Short-answer open-ended written tests
Patient transfer to palliative care	The onset of the palliative care Influential factors for the transfer of heart failure patients to palliative care Indication evaluation of palliative care in patients	Familiarity with the patient transfer to palliative care	Knowledge of the onset of palliative care (cognitive) Knowledge of the influential factors for the transfer of heart failure patients to palliative care (cognitive) Evaluating palliative care indications in patients	Lecturing Discussion Internship	Discussion on the concepts Conducting research
Unmet wishes and needs of heart failure patients	Physical (pain relief, performing activities without fatigue - attention to sexual issues)  Psychological	Familiarity with unmet wishes and needs of heart failure patients	Examining and managing pain, fatigue, and other physical symptoms in patients with heart failure using standard guidelines (psychomotor/cognitive) Answering the patients' questions about sexual issues (psychomotor/cognitive) Examining and managing the psychological symptoms of patients with heart failure using standard guidelines (psychomotor/cognitive)	Discussion Internship	practical test (establishing communication with the simulated patient) Conducting research

Contd...

Table 5: Contd...

Field category	General learning topics sub-category	goals	Learning objectives	Teaching strategies	Evaluation strategies
	Spiritual		Performing spiritual care in patients with heart failure using standard guidelines (psychomotor/cognitive).		
	Information (answering their questions - talking about the Prognosis of the disease)		Providing disease information such as the prognosis of the disease and answering to other patient and family questions (psychomotor/cognitive)		
	Communication between the palliative care team and the patient and their family		Establishing proper communication with the patient and family (psychomotor)		
	Preferences (home death, home care)		Providing end-of-life care at the patient's bedside based on his/her preferences (psychomotor/cognitive)		

support the expectations and values of patients. Nurses also contribute as facilitators, coaches, and advocates, highlighting their need for communication skills and continuous education to provide such services effectively.<sup>[35]</sup> Therefore, it is necessary to consider the qualification and skills required for implementing palliative care, basic knowledge, and responsibilities of the nurse in the program development.

The patient transfer to palliative care was another critical issue that needed consideration in the program development. The onset time of providing this type of care is crucial. Evidence shows that the prompt and adequate integration of the palliative approach into the heart failure management plan in chronic heart failure would lead to improved quality of life, better control of symptoms,<sup>[36,37]</sup> less caregiver burden and hospital admission, improved consistency and coordination of care, and peaceful death in the patient's desired place.<sup>[38]</sup> Various studies have mentioned several factors to determine the time for the patient transfer to palliative care, including physical and mental symptoms, the disease stage, the number of hospitalizations, etc.<sup>[39,40]</sup> Thus, it is necessary to provide nurses with the required education concerning the factors determining patient transfer to palliative care and its onset time.

Heart failure patients have countless unmet wishes and needs. According to the results of a review study, most palliative care focuses on the physical dimensions of patients and neglects other dimensions.<sup>[41]</sup> Even in some cases, physical care is not provided adequately. For example, pain is common but less recognized and, therefore, not treated in heart failure.<sup>[42]</sup> Other symptoms, such as the psychosocial and spiritual background of heart failure, are much less considered.<sup>[43]</sup> Heart failure patients experience uncertainty, distress, and adaptation to modified social and professional roles.<sup>[3]</sup> Another study mentioned the positive results of using tools such as the Integrated Palliative Care Outcome Scale (IPOS) for patients and nurses to comprehensively

identify and highlight the unmet needs of patients.<sup>[44]</sup> Such an instrument can be localized and used in eastern countries such as Iran. According to the above results, it is necessary to consider the unmet demands of patients, including physical, psychological, social, spiritual, and communication needs, along with their preferences, in the development of palliative care programs. The most frequent teaching strategies agreed upon by the experts were lecturing and discussion. Other studies have also used these two methods in the educational programs of nurses with a focus on palliative care.<sup>[45,46]</sup> For example, a study used lecturing to provide palliative care education (issues related to death) for Swedish nurses at the undergraduate level.<sup>[47]</sup> Hence, the application of these teaching strategies seems appropriate based on previous research.

The evaluation strategies agreed upon by the experts were short-answer open-ended written tests and practical exams. Program evaluation guides decision-making and program modification. A similar study used open-ended written tests and interviews to evaluate the pursuit of nursing university studies.<sup>[48]</sup> Another study used written and bedside performance evaluation methods to evaluate nurses as the palliative care interfaces in the hospital.<sup>[49]</sup> In addition, nurses had to take a written test to assess a nurse practitioner training program.<sup>[50]</sup> As the results show, different methods have been combined to evaluate the programs. Although this study provides a practical guide to cover different dimensions of palliative care needs in heart failure patients, it faced some limitations, including, 6 of 15 experts were removed from the panel of experts because of failure to respond within the stipulated time and the use of context-based data and the qualitative nature of data collection and analysis, which would limit its generalization to other cultural and social environments. Therefore, it is recommended to review and complete the program through its implementation and evaluation.



## Conclusion

Nurses specializing in various diseases can follow the proposed and similar programs to learn more about palliative care and related concepts, subsequently facilitating the provision, quality improvement, and consistency of palliative care services. This program provides nurses with up-to-date information on various aspects of the physical, psychological, social, spiritual, and educational needs of patients and ensures the provision of better services to patients, leading to more satisfaction, reducing mental tensions, and improving treatment compliance and quality of life for heart failure patients.

## Acknowledgements

We would like to gratefully thank all patients, nurses, and supporting staff who have participated in this study. We also express our deep gratitude to the Student Research Committee of Isfahan University of Medical Sciences.

## Financial support and sponsorship

Student Research Committee of Isfahan University of Medical Sciences

## Conflicts of interest

Nothing to declare.

## References

- Schallmo MK, Dudley-Brown S, Davidson PM. Healthcare providers' perceived communication barriers to offering palliative care to patients with heart failure: An integrative review. *J Cardiovasc Nurs* 2019;34:E9-18.
- Kazeminezhad B, Tarjoman A, Borji M. Relationship between praying and self-care in elderly with heart failure: A cross-sectional study in west of Iran. *J Relig Health* 2020;59:19-28.
- Jaarsma T, Hill L, Bayes-Genis A, La Rocca HP, Castiello T, Čelutkienė J, et al. Self-care of heart failure patients: Practical management recommendations from the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2021;23:157-74.
- Bagheri I, Yousefi H, Bahrami M, Shafie D. Adaptation of interdisciplinary clinical practice guidelines to palliative care for patients with heart failure in iran: application of adapte method. *Iran J Nurs Midwifery Res* 2023;28:92-98.
- Ross JS, Chen J, Lin Z, Bueno H, Curtis JP, Keenan PS, et al. Recent national trends in readmission rates after heart failure hospitalization. *Circ Heart Fail* 2010;3:97-103.
- Sahlollbey N, Lee CK, Shirin A, Joseph P. The impact of palliative care on clinical and patient-centred outcomes in patients with advanced heart failure: A systematic review of randomized controlled trials. *Eur J Heart Fail* 2020;22:2340-6.
- WHO. Definition of palliative care 2020. Available from: <http://www.who.int/cancer/palliative/definition/>. [Last accessed on 2023 Oct 15].
- Burnside L, Whyte S, Cooper SG. Advanced heart failure treatment modalities and hospice care: The need for high level care coordination. *Am J Hosp Palliat Med* 2019;36:812-4.
- Thompson SL, Ward C, Galanos A, Bowers M. Impact of a palliative care education module in patients with heart failure. *Am J Hosp Palliat Med* 2020;37:1016-21.
- Diop MS, Bowen GS, Jiang L, Wu WC, Cornell PY, Gozalo P, et al. Palliative care consultation reduces heart failure transitions: A matched analysis. *J Am Heart Assoc* 2020;9:e013989.
- Chuzi S, Pak ES, Desai AS, Schaefer KG, Warraich HJ. Role of palliative care in the outpatient management of the chronic heart failure patient. *Curr Heart Fail Rep* 2019;16:220-8.
- Suksatan W, Tankumpuan T. Depression and rehospitalization in patients with heart failure after discharge from hospital to home: An integrative review. *Home Health Care Manag Pract* 2021;33:217-25.
- Schichtel M, Wee B, Perera R, Onakpoya I. The effect of advance care planning on heart failure: A systematic review and meta-analysis. *J Gen Intern Med* 2020;35:874-84.
- Warraich HJ, Wolf SP, Mentz RJ, Rogers JG, Samsa G, Kamal AH. Characteristics and trends among patients with cardiovascular disease referred to palliative care. *JAMA Netw Open* 2019;2:e192375.
- O'Leary N. The comparative palliative care needs of those with heart failure and cancer patients. *Curr Opin Support Palliat Care* 2009;3:241-6.
- Gadoud A, Kane E, Macleod U, Ansell P, Oliver S, Johnson M. Palliative care among heart failure patients in primary care: A comparison to cancer patients using English family practice data. *PLoS One* 2014;9:e113188.
- Hansen VB, Aagaard S, Hygum A, Johansen JB, Pedersen SS, Nielsen VL, et al. The first steps taken to implement palliative care in advanced heart disease: A position statement from Denmark. *J Palliat Med* 2020;23:1159-66.
- Hashemi N, Bahrami M, Tabesh E, Arbon P. Nurse's Roles in Colorectal Cancer Prevention: A Narrative Review. *J Prev* 2022;43:759-82.
- Metzger M, Norton SA, Quinn JR, Gramling R. "That don't work for me": Patients' and family members' perspectives on palliative care and hospice in late-stage heart failure. *J Hosp Palliat Nurs* 2013;15:177-82.
- Sobański PZ, Rajszyz GB, Grodzicki T, Jakubów P, Jankowski P, Kurzyna M, et al. Palliative care for people living with cardiac disease. *Kardiologia Pol (Pol Heart J)* 2020;78:364-73.
- Wiskar K, Toma M, Rush B. Palliative care in heart failure. *Trends Cardiovasc Med* 2018;28:445-50.
- Graneheim UH, Lindgren B-M, Lundman B. Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Educ Today* 2017;56:29-34.
- Nasa P, Jain R, Juneja D. Delphi methodology in healthcare research: How to decide its appropriateness. *World J Methodol* 2021;11:116-29.
- Alexander AP. Lincoln and Guba's quality criteria for trustworthiness. *IDC Int J* 2019;6:1-6.
- Irajpour A, Alavi M, Izadikhah A. Situation analysis and designing an interprofessional curriculum for palliative care of the cancer patients. *Iran J Med Educ* 2015;14:1047-56.
- Chow J, Senderovich H. It's time to talk: Challenges in providing integrated palliative care in advanced congestive heart failure. A narrative review. *Curr Cardiol Rev* 2018;14:128-37.
- Kim S, Lee K, Kim S. Knowledge, attitude, confidence, and educational needs of palliative care in nurses caring for non-cancer patients: A cross-sectional, descriptive study. *BMC Palliat Care* 2020;19:1-4.
- Sato K, Inoue Y, Umeda M, Ishigamori I, Igarashi A, Togashi S, et al. A Japanese region-wide survey of the knowledge, difficulties and self-reported palliative care practices among nurses. *Jpn J Clin Oncol* 2014;44:718-28.

29. Al Qadire M. Knowledge of palliative care: An online survey. *Nurse Educ Today* 2014;34:714-8.
30. Strangl F, Ischanow E, Ullrich A, Oechsle K, Fluschnik N, Magnussen C, *et al.* Symptom burden, psychosocial distress and palliative care needs in heart failure—A cross-sectional explorative pilot study. *Clin Res Cardiol* 2023;112:49-58.
31. Maciver J, Ross HJ. A palliative approach for heart failure end-of-life care. *Curr Opin Cardiol* 2018;33:202-7.
32. Williamson C, Baker G, Mutrie N, Niven A, Kelly P. Get the message? A scoping review of physical activity messaging. *Int J Behav Nutr Phys Act* 2020;17:1-5.
33. Cui X, Zhou X, Ma LL, Sun TW, Bishop L, Gardiner FW, *et al.* A nurse-led structured education program improves self-management skills and reduces hospital readmissions in patients with chronic heart failure: A randomized and controlled trial in China. *Rural Remote Health* 2019;1;19:1-8.
34. Hökkä M, Martins Pereira S, Pölkki T, Kyngäs H, Hernández-Marrero P. Nursing competencies across different levels of palliative care provision: A systematic integrative review with thematic synthesis. *Palliat Med* 2020;34:851-70.
35. Fliedner M, Halfens RJ, King CR, Eychmueller S, Lohrmann C, Schols JM. Roles and responsibilities of nurses in advance care planning in palliative care in the acute care setting: A scoping review. *J Hosp Palliat Nurs* 2021;23:59-68.
36. Slavin SD, Warraich HJ. The right time for palliative care in heart failure: A review of critical moments for palliative care intervention. *Rev Esp Cardiol (Engl Ed)* 2020;1;73:78-83.
37. Quinn KL, Shurab M, Gitau K, Kavalieratos D, Isenberg SR, Stall NM, *et al.* Association of receipt of palliative care interventions with health care use, quality of life, and symptom burden among adults with chronic noncancer illness: A systematic review and meta-analysis. *JAMA* 2020;324:1439-50.
38. Kavalieratos D, Mitchell EM, Carey TS, Dev S, Biddle AK, Reeve BB, *et al.* “Not the ‘grim reaper service’”: An assessment of provider knowledge, attitudes, and perceptions regarding palliative care referral barriers in heart failure. *J Am Heart Assoc* 2014;3:e000544.
39. Aaronson EL, George N, Ouchi K, Zheng H, Bowman J, Monette D, *et al.* The surprise question can be used to identify heart failure patients in the emergency department who would benefit from palliative care. *J Pain Symptom Manage* 2019;57:944-51.
40. Chang YK, Kaplan H, Geng Y, Mo L, Philip J, Collins A, *et al.* Referral criteria to palliative care for patients with heart failure: A systematic review. *Circ Heart Fail* 2020;13:e006881.
41. Bagheri I, Hashemi N, Bahrani M. Current state of palliative care in Iran and related issues: A narrative review. *Iran J Nurs Midwifery Res* 2021;26:380-91.
42. Sobanski PZ, Alt-Epping B, Currow DC, Goodlin SJ, Grodzicki T, Hogg K, *et al.* Palliative care for people living with heart failure: European Association for Palliative Care Task Force expert position statement. *Cardiovasc Res* 2020;116:12-27.
43. Cagle JG, Bunting M, Kelemen A, Lee J, Terry D, Harris R. Psychosocial needs and interventions for heart failure patients and families receiving palliative care support: A systematic review. *Heart Fail Rev* 2017;22:565-80.
44. Kane PM, Ellis-Smith CI, Daveson BA, Ryan K, Mahon NG, McAdam B, *et al.* Understanding how a palliative-specific patient-reported outcome intervention works to facilitate patient-centred care in advanced heart failure: A qualitative study. *Palliat Med* 2018;32:143-55.
45. Ferrell B, Virani R, Paice JA, Coyle N, Coyne P. Evaluation of palliative care nursing education seminars. *Eur J Oncol Nurs* 2010;14:74-9.
46. Lippe M, Volker D, Jones T, Carter P. Evaluating end-of-life care education within nursing programs: A method for targeted curriculum evaluation. *J Hosp Palliat Nurs* 2017;19:266-74.
47. Hagelin CL, Melin-Johansson C, Ek K, Henoch I, Österlind J, Browall M. Teaching about death and dying—A national mixed-methods survey of palliative care education provision in Swedish undergraduate nursing programmes. *Scand J Caring Sci* 2022;36:545-57.
48. Pantaleo F, D’Angelo D, Stievano A, Albanesi B, Petrizzo A, Notarnicola I, *et al.* An example of evaluation of nursing competences in the licensure exam: An observational study. *Heliyon* 2023;9:e13412.
49. Downing J, Batuli M, Kivumbi G, Kabahweza J, Grant L, Murray SA, *et al.* A palliative care link nurse programme in Mulago Hospital, Uganda: An evaluation using mixed methods. *BMC Palliat Care* 2016;15:1-13.
50. Sargent L, Olmedo M. Meeting the needs of new-graduate nurse practitioners. *J Nurs Adm* 2013;43:603-10.