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10 Palliative care for patients with heart failure: a cross-sectional study among nursing healthcare professionals

Abstract

Background: Acute heart failure is a problem that the public healthcare system faces worldwide. Despite improving healthcare systems and the resulting treatment, the disease's incidence and frequency has increased annually. Therefore, patients with acute heart failure often seek help in the emergency room, where nursing health professionals encounter the condition early or late. In the final stages, they need to focus on providing palliative care to such patients. The chapter aims to determine the nursing healthcare professionals' knowledge, perceptions, and attitudes towards palliative care in patients with heart failure in the emergency and cardiology departments.

Methods: A cross-sectional study was carried out. The survey took place in August 2019 involving nursing healthcare professionals.

Results: Of 104 nurses, 50% ($n = 52$) had received training in palliative care throughout their education and 7.7% ($n = 8$) had received additional training. Nursing healthcare professionals in both the emergency and the cardiology departments have similar knowledge about palliative care. With regard to the perception of implementing palliative care, the data shows a statistically significant difference between both departments. Furthermore, statistically significant differences between the emergency and cardiology departments have been found in some statements regarding their attitudes, namely that there remains a need for palliative care in treating patients with heart failure.

Discussion and conclusion: We believe that the knowledge of palliative care in the cardiology and emergency departments is good, and that there are no major differences between the knowledge and departments. However, further training is required to improve the healthcare staff's knowledge, perceptions, and attitudes towards palliative care in patients with heart failure.

Keywords: acute heart failure chronic heart failure palliative care attitudes knowledge perceived obstacles nurse

10.1 Introduction

Heart failure is a global public health problem [1], characterized by high mortality rates, increased emergency visits, hospital admissions and readmissions, and a massive economic burden on the national health systems [2, 3]. Among cardiovascular diseases, heart failure is the only one whose incidence and prevalence increases annually [4] with increasing age, despite advances in risk factor control and better pharmacological treatments [5]. Approximately 26 million people worldwide are diagnosed with heart failure; 2 million are diagnosed newly each year, with survival estimates of roughly 10% after ten years of diagnosis [6–8]. Epidemiological data shows that 6.5 million people in Europe, 5 million people in the United States of America [9] and 2.4 million people in Japan have heart failure [7]. Acute exacerbation of chronic heart failure is one of the most common reasons for emergency department (ED) visits [10]. Worldwide, the ED represents an important entry point for treating such patients [11]. Patients with acute heart failure presenting to the ED have different symptoms, such as dyspnoea, depression, pain, fatigue, shortness of breath and peripheral oedema [1, 11, 12]. Other manifestations such as hypotension, dizziness and bradycardia may also occur [1]. After the initial stabilization of the condition, one of the most important decisions is to determine which patients can be safely discharged home and which should be hospitalized. Taking such a complex decision depends on several subjective factors, including the severity of the patient's underlying health condition [13].

ED nursing healthcare professionals often encounter early- and end-stage heart failure patients where the disease is no longer curable, and their focus shifts from curative treatment to palliative care [14]. Palliative care includes symptom assessment and treatment, help with decision-making and setting goals of care, practical support for patients and care partners, mobilizing community support and resources to provide a safe and secure living environment, and focusing on relieving the distress of symptoms. Here, transdisciplinary palliative care teams can help with complex medical decision-making about life-sustaining treatments and facilitate alternative discharge plans [15].

Although not considered ideal to start palliative care in the ED, it is the most frequented and dynamic environment. Whether there are gaps in the outpatient setting or a failure to anticipate and plan for crisis intervention, the ED experience can be crucial in determining the patient's pathway. The ED culture of stabilizing acute medical emergencies is shifting to a more focused culture of person-centred palliative care [9] – early detection, assessment and treatment of pain and other physical, psychosocial and other problems – reducing symptom burden and improving the quality of life [16]. Although the emergency room represents a common point of contact for patients with life-threatening diseases, nursing healthcare professionals must be able to recognize the need to provide general palliative care [17]. According to Sanad [18], palliative care is not the prevailing mindset of emergency healthcare teams, as they consider this type of care to be outside their scope of practice or even contrary to the

principles of emergency medicine [19–23]. The need for collaboration between transdisciplinary palliative care and emergency healthcare teams has been recognized in various studies [19, 20, 24]. Moreover, the authors, Ieraci [19], Lukin et al. [25] and Todd [24], conclude that attitudes and knowledge about palliative care represent potential barriers to the identification and implementation of such an approach [17]. Therefore, the knowledge, perceptions, and attitudes of both emergency healthcare teams and cardiology healthcare teams regarding palliative care and their perceived role are important to improve the emergency and cardiology departments in implementing such an approach [18]. Some evidence is available regarding palliative care for heart failure patients [26, 27]. However, there is a gap in the management of palliative care of patients with heart failure in the ED where such treatment should start and follow up in the cardiology department. For optimal palliative care for heart failure, nursing healthcare professionals should receive adequate training in providing palliative care in the ED and cardiology departments. Nursing healthcare professionals can improve the quality of life of patients with heart failure who have been discharged to home care or tertiary care by applying the principles of palliative care. The chapter aims, therefore, to determine nursing healthcare professionals' knowledge, perceptions, and attitudes towards palliative care in patients with heart failure in the ED and cardiology departments.

10.2 Methods

10.2.1 Study design

The study used a cross-sectional design applied using a paper-based questionnaire. This study involved looking at data from a population viewpoint at a specific time. Participants were selected based on certain variables of interest. Cross-sectional studies are observational and known as descriptive research, not causal or relational. The researcher cannot use a survey to determine the cause of something such as a disease [28]. To ensure the adequate and complete reporting of the study, we followed the STROBE guidelines [29].

10.2.2 Settings and participants

The study was carried out in one ED and one cardiology department that offered regional secondary care for patients with heart failure in the Styria region of Slovenia. This study recruited a convenience sample of nursing healthcare professionals with a high school (secondary education), or first-, second-, or third-level Bologna degree. In addition, the inclusion criteria included nursing healthcare professionals with at least 12 months of work experience in the ED or cardiology department. The exclusion

criteria were nursing healthcare professionals who did not have a high school (secondary education), or first, second or third level Bologna degree in nursing and/or did not work for at least 12 months in the ED or cardiology departments. When carried out, all nursing healthcare professionals on duty were invited to participate in the survey. Before collecting the questionnaires, the sample size represented was calculated according to the Cochran formula [30]. The results of the procedure showed a minimum number of 103 participants, considering the following parameters: n (the sample size), z (confidence level – 95%), p (the estimated proportion of the attribute present in the population), $q = 1-p$, and e (the desired level of precision at $\pm 5\%$).

10.2.3 Data collection and measures

A questionnaire that was validated by Ziehm et al. [16] was used to obtain data. The questionnaire consists of two sections. The first section relates to demographic information (e. g., gender, age, education, and work experience). The second section of the questionnaire consists of six sets of sub-questions ($n = 72$). The first part of the statement relates to knowledge of the definition of palliative care and expectations regarding the provision of palliative care. The second part of the statement refers to the organizational conditions for implementing palliative care. The third part covers the barriers encountered by patients with heart failure. The fourth part concerns the determination of the usefulness of palliative care. The fifth part contains statements about the appropriate time to start palliative care for the patient. In the final part, the nursing care professionals were asked if they could distinguish between general and specialized palliative care. The items could be answered on a 5-point Likert scale (from 1 = “strongly agree” to 5 = “strongly disagree”). Two questions stated that answers could be “yes” or “no”.

The content validity of the questionnaire was guided by Polit and Beck’s [28] guidelines. We also checked the appropriateness of the questionnaire structure, appearance, feasibility, readability, consistency of style between questions, formatting, and clarity of language. Ten experts who had worked in palliative care and the division of internal medicine for more than five years were intentionally chosen. Minor changes were made to the questions based on the review, and the expert panel subsequently approved the questionnaire. The questionnaire was pilot-tested with a small sample of healthcare professionals ($n = 75$) to assess its reliability using Cronbach’s alpha. The Cronbach’s alpha of the questionnaire was excellent ($\alpha = 0.923$).

The survey took place in August 2019. Based on the required sample size of 103 nursing healthcare professionals and the estimated response rate, 180 questionnaires were distributed. Questionnaires were distributed in paper form with the assistance of head nurses of each department, and the completed questionnaires were returned in a sealed envelope. One hundred and fifty-two questionnaires were returned, some partially completed (half of the answers were missing, while the

response rate was 68.4%). Forty-eight questionnaires were excluded based on a 50% non-completion rate, and the final sample size of the survey was 104.

10.2.4 Data analysis

Data were imported and analysed using SPSS IBM version 28. Descriptive and inferential statistics were used to analyze the results. Data was displayed as numbers on total (percentage), mean (M), and standard deviation (SD). Beforehand, the data was tested for normality using the Shapiro–Wilk test. Since the data were not normally distributed ($W(104) = .569, p < 0.001$), the differences in knowledge, perceptions, and attitudes towards palliative care between the ED and cardiology departments were tested with the Mann–Whitney U -test. The correlations between the work experience and attitudes of the nursing healthcare professionals towards providing palliative care to patients with heart failure were verified by the Spearman correlation coefficient, considering: < 0.09 (negligible), $0.10–0.39$ (weak), $0.40–0.69$ (moderate), $0.70–0.89$ (strong) and $0.90–1.0$ (very strong) [31]. A statistical significance of the results was considered if p -values were less than 0.05 [28].

10.2.5 Ethical approval

Ethical approval was obtained before we conducted the study (ref. no.: 038/2019/5341-2/504) and received authorization from the selected institution. Participants were informed that all the questionnaires we distributed were anonymous. Participation could be terminated at any time before submitting the completed questionnaire. The study followed the Declaration of Helsinki on Medical Research Involving Human Subjects [32] and the provisions of the Convention for the Protection of Human Rights and Dignity of the Human Being concerning the Application of Biology and Medicine (Oviedo Convention) [33].

10.3 Results

10.3.1 Characteristics of nursing representatives

The participants were nursing assistants and Registered Nurses who were assumed to have palliative care knowledge or experience. Table 10.1 displays descriptive statistics of the demographic variables for our study sample.

There were 104 participants, of which 42.3% ($n = 44$) were male, 49% ($n = 51$) were nursing assistants, and 50% ($n = 53$) were registered nurses. None of these

Tab. 10.1: Descriptive statistics of demographic variables.

Variable	DS	Nursing healthcare professionals (<i>n</i> = 104)			
		Emergency department (<i>n</i> = 79)	Cardiology department (<i>n</i> = 25)	Z, χ^2 , or <i>r</i> -value	<i>p</i>
Gender %(<i>n</i>)	100(104)	100(79)	100(25)	–	–
Female	57.7(60)	46.8(37)	92(23)	15.871 ^a	<.001*
Male	42.3(44)	53.2(42)	8(2)		
Age (Y; <i>M</i> ± SD; R)	35.74 ± 11.49; 20–60	35.84 ± 11.90; 20–60	35.44 ± 10.28; 20–59	959.500 ^b	.831
Relationship Status %(<i>n</i>)	100(104)	100(79)	100(25)	–	–
Single	24(25)	25.3(20)	20(5)	.052 ^c	.820
Married	39.4(41)	38(30)	44(11)		
Divorced	0(0)	0(0)	0(0)		
Cohabitation	36.5(38)	36.7(29)	36(9)		
Widowed	0(0)	0(0)	0(0)		
Education %(<i>n</i>)	100(104)	100(79)	100(25)	–	–
Nursing assistants	49(51)	51.9(41)	40(10)	1.076 ^a	.300
Register nurses	51(53)	48.1(38)	60(15)		
TL of WE (Y; <i>M</i> ± SD, R)	13.82 ± 12.41; 1–45	13.59 ± 12.40; 1–39	14.52 ± 12.68; 1–45	935.000 ^b	.689

%, percent of participants; *, statistical significance ($p < 0.05$); a, Chi-square test; b, Mann–Whitney *U*-test; c, Kruskal–Wallis test; DS, descriptive statistics; LT, total length; *M*, mean; *n*, sample size; SD, standard deviation; WE, work experience; Y, year.

were widowed or divorced, but 39.4% ($n = 41$) were married; 36.5% ($n = 38$) were living outside marriage, and 24% ($n = 25$) were single. In the field of palliative care, 50% ($n = 52$) had received training; 7.7% ($n = 8$) had received additional training; and 42.3% ($n = 44$) had not received any training in palliative care. Respondents were between 20 and 60 years, with mean age of 35.7 years (SD = 11.49). Their working experience ranged from 1 to 45 years, with mean experience of 13.82 years (SD = 12.53). They also differ in years of experience in palliative care, ranging from 0 to 39 years. The average years of experience in palliative care was 2.87 (SD = 7.27).

10.3.2 Knowledge about palliative care

Knowledge of palliative care is important for a patient with heart failure; therefore, we wanted to know the knowledge of nursing healthcare professionals (Tab. 10.2).

Tab. 10.2: Knowledge of the definition and purpose of palliative care.

Palliative care . . .	Emergency department (n = 79)	Cardiology department (n = 25)	Total (n = 104)	p ^c
	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	
. . . a terminally ill patient will be cared for	4.13 ± 1.03	4.40 ± .87	4.19 ± .99	.250
. . . physical symptoms and discomfort, and their relief are the most important	4.29 ± .91	4.56 ± .82	4.36 ± .89	.122
. . . aims to achieve/maintain the best possible quality of life	4.34 ± .89	4.52 ± .82	4.38 ± .87	.328
. . . give psychological support	4.18 ± .90	4.20 ± 1.12	4.18 ± .95	.594
. . . provide spiritual support	4.13 ± .97	4.16 ± 1.14	4.13 ± 1.00	.612
. . . the goal is a dignified death	4.42 ± .84	4.56 ± .82	4.45 ± .84	.378
. . . the extent and intensity of technical and life-sustaining measures should be well considered and discussed with the patient	4.20 ± .79	4.32 ± .90	4.23 ± .82	.364
. . . good communication with and involvement of care partners play an important role	4.38 ± .82	4.56 ± .82	4.42 ± .82	.244

^aMean values; ^bstandard deviation; ^cMann–Whitney *U*-test, *statistical significance ($p < 0.05$).

We found that nursing healthcare professionals in both departments have similar knowledge about the definition and purpose of palliative care. The mean value scores of all statements in ED ranged from 4.13 to 4.42 and from 4.16 to 4.56 points in the cardiology department. We found full and partial agreement in both departments about the knowledge of the definition and purpose of palliative care, and thus no statistically significant differences were observed between the departments.

We also looked at the differences between the general and specialized palliative care between the ED and the cardiology departments (Tab. 10.3).

Table 10.3 shows that 45.2% ($n = 47$) of participants believe that the differences between general and specialized palliative care are known in the healthcare system; 54.8% ($n = 57$) do not believe that general and specialized palliative care differences are known. In the emergency room, 45.6% ($n=36$) also believe this and 54.4% ($n = 43$) do not believe it. In the cardiology department, 44% ($n=11$) believe there

Tab. 10.3: Differences between general and specialized palliative care.

Are there differences between general and specialized palliative care in the healthcare system?	Emergency department (<i>n</i> = 79)	Cardiology department (<i>n</i> = 25)	Total (<i>n</i> = 104)
	%(<i>n</i>)	%(<i>n</i>)	%(<i>n</i>)
Yes, the differences between general and specialized palliative care are well known in the healthcare system.	45.6(36)	44(11)	45.2(47)
I do not believe that the differences between general and specialized palliative care are known in the healthcare system.	54.4(43)	56(14)	54.8(57)

n, sample size; %, per cent of participants.

are known differences, and 56% (*n*=14) believe there are no known differences between general and specialized palliative care in the healthcare system.

10.3.3 Perception of providing palliative care

The differences in the perception of palliative care between the ED and cardiology departments are presented below (Tab. 10.4).

Tab. 10.4: Perception of palliative care.

Palliative care . . .	Emergency department (<i>n</i> = 79)	Cardiology department (<i>n</i> = 25)	Total (<i>n</i> = 104)	<i>p</i> ^c
	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	
. . . the cardiologist, general practitioner, palliative care physician and internist, and nurses should work together (meetings, case conferences, etc.)	4.23 ± 0.91	4.52 ± 0.77	4.30 ± 0.88	0.140
. . . the palliative care provider should only have an advisory role	3.13 ± 1.06	3.36 ± 1.38	3.18 ± 1.39	0.224
. . . clear agreements between all experts/disciplines need to be ensured	4.15 ± 0.80	4.56 ± 0.51	4.25 ± 0.76	0.031*
. . . a palliative care doctor must be available for consultation	4.27 ± 0.94	4.68 ± 0.56	4.37 ± 0.88	0.048*

Tab. 10.4 (continued)

Palliative care . . .	Emergency department (n = 79)	Cardiology department (n = 25)	Total (n = 104)	<i>p</i> ^c
	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	
. . . a palliative care physician must initiate palliative care	3.65 ± 1.14	3.84 ± 1.34	3.69 ± 1.19	0.301
. . . palliative care must be undertaken by the cardiologist involved	3.42 ± 1.17	3.68 ± 1.38	3.48 ± 1.22	0.224
. . . the general physician present must initiate palliative care	3.75 ± 1.09	3.80 ± 1.32	3.76 ± 1.15	0.553
. . . the internist present must initiate palliative care	3.47 ± 1.20	3.76 ± 1.36	3.54 ± 1.24	0.174
. . . the nurse present must initiate palliative care	3.33 ± 1.23	3.36 ± 1.25	3.34 ± 1.23	0.814
. . . continuing training should be available to all practitioners	4.24 ± 0.90	4.68 ± 0.56	4.35 ± 0.85	0.033*
. . . collective transdisciplinary training should be offered to all physicians involved in a patient's care	4.10 ± 0.99	4.72 ± 0.54	4.25 ± 0.94	0.004*
. . . palliative care should be set up in an institution (hospital/nursing home)	4.16 ± 0.98	4.44 ± 0.92	4.23 ± 0.97	0.158
. . . a palliative care physician should mostly provide treatments	3.72 ± 0.97	4.08 ± 0.99	3.81 ± 0.99	0.098
. . . a cardiologist should mostly carry out treatments	3.28 ± 1.12	3.28 ± 1.31	3.28 ± 1.16	0.969
. . . a general practitioner should carry out most treatments	3.34 ± 1.14	3.60 ± 1.23	3.40 ± 1.16	0.353
. . . an internist should carry out most treatments	3.23 ± 1.07	3.40 ± 1.23	3.27 ± 1.11	0.673
. . . a nurse should carry out most treatments	3.54 ± 1.04	3.24 ± 1.09	3.47 ± 1.05	0.172

^aMean values; ^bstandard deviation; ^cMann–Whitney *U*-test, *statistical significance (*p* < 0.05).

The data show a statistically significant difference between the ED and cardiology departments regarding the perception of implementing palliative care. Differences emerged in the statements about clear information flow (*p* = 0.031; $\bar{x}_{ED} = 4.15 \pm 0.80$; $\bar{x}_{cardiology} = 4.56 \pm 0.51$), training in palliative care (*p* = 0.033; $\bar{x}_{ED} = 4.27 \pm 0.94$; $\bar{x}_{cardiology} = 4.68 \pm 0.56$), and ensuring consultation and support from the transdisciplinary palliative care team (*p* = 0.048; $\bar{x}_{ED} = 4.27 \pm 0.94$; $\bar{x}_{cardiology} = 4.68 \pm 0.56$). Moreover, further

education should be available to all nursing healthcare professionals and they should be offered collective training in palliative care, including the physicians involved in the patient's care ($p = 0.004$; $\bar{x}_{ED} = 4.10 \pm 0.99$; $\bar{x}_{cardiology} = 4.72 \pm 0.54$).

10.3.4 Attitudes towards palliative care

Below are the results about differences in attitudes towards palliative care in patients with heart failure between the ED and the cardiology departments (Tab. 10.5).

Tab. 10.5: Attitudes towards palliative care.

Items	Emergency department ($n = 79$)	Cardiology department ($n = 25$)	Total ($n = 104$)	p^c
	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	
There is a need for palliative care in treating patients with heart failure.	3.72 ± 0.91	4.28 ± 0.94	3.86 ± 0.94	0.003*
Demand for palliative care in treating patients with heart failure is increasing.	3.46 ± 0.86	3.96 ± 1.06	3.58 ± 0.93	0.009*
De-escalation of therapy makes more sense than continuing current treatment.	3.30 ± 0.82	3.84 ± 0.75	3.43 ± 0.84	0.004*
Cardiology, general medicine, and internal medicine can learn from expertise in palliative care.	3.63 ± 0.82	3.96 ± 0.79	3.71 ± 0.82	0.062
More intensive care is possible through palliative care.	3.70 ± 0.87	4 ± 0.87	3.77 ± 0.78	0.087
The quality of life of patients with advanced heart failure will be further reduced by introducing invasive therapies such as cardiac assist devices.	3.63 ± 0.88	3.88 ± 0.78	3.69 ± 0.86	0.193
The quality of remaining life can be improved in palliative care.	4.11 ± 0.85	4.44 ± 0.58	4.19 ± 0.80	0.112
Patients do not require palliative care.	3.06 ± 1.04	3.24 ± 1.33	3.11 ± 1.11	0.372
It is difficult to determine the right time to start palliative care because of the difficulty in assessing disease progression.	3.63 ± 0.88	3.76 ± 0.97	3.66 ± 0.60	0.524

Tab. 10.5 (continued)

Items	Emergency department (n = 79)	Cardiology department (n = 25)	Total (n = 104)	<i>p</i> ^c
	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	$\bar{x}^a \pm SD^b$	
Complex heart failure therapies can also be used in very elderly patients. Therefore, palliative care is not necessary.	2.99 ± 1.08	2.84 ± 1.21	2.95 ± 1.11	0.662
Major advances have been made in the treatment of heart failure. Therefore, palliative care is not necessary.	2.92 ± 0.92	3.16 ± 1.21	2.98 ± 0.99	0.313
Palliative care can be taken over entirely by the attending general practitioner/cardiologist/internist.	3.29 ± 1.06	3.60 ± 1.12	3.37 ± 1.08	0.220
A patient with chronic heart failure does not feel he/she is in a situation for palliative care.	3.43 ± 0.84	3.48 ± 0.92	3.44 ± 0.86	0.761
Patients may refuse further escalation of treatment when palliative care is available.	3.41 ± 0.81	3.92 ± 1.04	3.53 ± 0.89	0.005*

^aMean values; ^bstandard deviation; ^cMann–Whitney *U*-test; *statistical significance (*p* < 0.05).

Regarding nursing healthcare professionals' attitudes towards palliative care for patients with heart failure, there were statistically significant differences between the ED and the cardiology departments in some of the statements, namely that there remains a need for palliative care in treating patients with heart failure (*p* = 0.003; $\bar{x}_{ED} = 3.72 \pm 0.91$; $\bar{x}_{cardiology} = 4.28 \pm .94$). There is an increasing demand for palliative care in treating patients with heart failure (*p* = 0.009; $\bar{x}_{ED} = 3.46 \pm 0.86$; $\bar{x}_{cardiology} = 3.96 \pm 0.79$). Opinions also differed on de-escalation of therapy, which makes more sense than a continuation (*p* = 0.004; $\bar{x}_{ED} = 3.30 \pm 0.82$; $\bar{x}_{cardiology} = 3.84 \pm 0.75$), and on the idea that patients should be able to refuse further escalation of treatment when palliative care is available (*p* = 0.005; $\bar{x}_{ED} = 3.41 \pm 0.81$; $\bar{x}_{cardiology} = 3.92 \pm 1.04$).

We also looked at whether there were differences in the thresholds of palliative care benefits between the ED and cardiology departments (Tab. 10.6).

When comparing the ED and cardiology departments about the usefulness of palliative care for patients with chronic heart failure, 64.6% (*n* = 51) of the participants in the ED consider palliative care useful to patients. Only 10.1% (*n* = 8) consider it not useful, and 25.3% (*n* = 20) are unable to make up their minds. In the cardiology department, 84% (*n* = 21) felt that palliative care was useful, 8% (*n* = 2) could not decide, and 8% (*n* = 2) felt that palliative care was not useful. Overall, 69.2% (*n* = 72) agree that palliative care is useful, 9.6% (*n* = 10) disagree, and 21.2% (*n* = 22) could not decide.

Tab. 10.6: The benefits of palliative care.

Is palliative care beneficial for patients with chronic heart failure?	Emergency department (<i>n</i> = 79)	Cardiology department (<i>n</i> = 25)	Total (<i>n</i> = 104)
	%(<i>n</i>)	%(<i>n</i>)	%(<i>n</i>)
Yes, I think palliative care for patients with chronic heart failure is beneficial.	64.6(51)	84(21)	69.2(72)
I do not think palliative care for patients with chronic heart failure is beneficial.	10.1(8)	8(2)	9.6(10)
I have no opinion on this issue.	25.3(20)	8(2)	21.2(22)

n, sample size; %, per cent of participants.

Table 10.7 displays a correlation between work experience and nursing health-care professionals' attitudes towards palliative care for heart failure patients.

Table 10.7 shows the correlation matrix of work experience and nursing health-care professionals' attitudes towards palliative care. A significant positive association exists between the sub-domains related to attitudes towards palliative care and work experience. The correlation coefficient itself ranged between 0.001 and 1. The range for strong correlation was between 0.75 and 0.84. Of these, work experience and D13 ("A patient with chronic heart failure does not feel that he or she is in a situation for palliative care") ($r_s = 0.84$; $n = 104$; $p < 0.001$) was the strongest. The range for moderate correlation was between 0.46 and 0.59. Of the range of correlation coefficients, the highest coefficient was between work experience and D8 ("Patients do not require palliative care") ($r_s = 0.59$; $n = 104$; $p < 0.001$). The range for weakest correlation was between 0.12 and 0.33. Of this, the highest correlation coefficient was between work experience and D14 ("Patients may refuse further escalation of treatment when palliative care is available") ($r_s = 0.33$; $n = 104$; $p < 0.001$). The range for negligible correlation was between 0.001 and 0.04. Of these, work experience correlates most strongly with D4 ("Cardiology, general medicine and internal medicine can learn from expertise in palliative care") ($r_s = 0.04$; $n = 104$; $p = 0.038$).

10.4 Discussion

This study investigated nursing healthcare professionals' knowledge, perceptions, and attitudes towards palliative care in patients with heart failure in the ED and cardiology departments. Nursing healthcare professionals in both departments had similar views on their palliative care knowledge, with scores ranging from 4.13 to 4.42 in the ED and from 4.16 to 4.56 in the cardiology departments. In the context of

Tab. 10.7: Spearman correlations matrix of work experience and nursing healthcare professionals' attitudes towards palliative care.

	TL	WE	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14
TL	1															
WE	0.12	1														
D1	0.47	0.001*	1													
D2	0.47	0.001*	1	1												
D3	0.75	0.01*	0.001*	0.001*	1											
D4	0.04*	0.001*	0.001*	0.001*	0.001*	1										
D5	0.47	0.001*	0.001*	0.001*	0.001*	0.001*	1									
D6	0.32	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	1								
D7	0.12	0.001*	0.01*	0.07	0.001*	0.001*	0.01*	0.01*	1							
D8	0.59	0.48	0.66	0.04*	0.10	0.45	0.09	0.09	0.92	1						
D9	0.24	0.06	0.34	0.05*	0.001*	0.05*	0.04*	0.02*	0.001*	0.02*	1					
D10	0.53	0.47	0.51	0.02*	0.48	0.60	0.24	0.82	0.001*	0.001*	0.001*	1				
D11	0.51	0.45	0.13	0.001*	0.01*	0.16	0.001*	0.75	0.001*	0.001*	0.001*	0.001*	1			
D12	0.46	0.31	0.001*	0.001*	0.03*	0.94	0.06	0.79	0.29	0.04*	0.02*	0.001*	0.001*	1		
D13	0.84	0.19	0.001*	0.001*	0.42	0.25	0.01*	0.001*	0.24	0.01*	0.01*	0.07	0.01*	0.001*	1	
D14	0.33	0.20	0.02*	0.001*	0.08*	0.27	0.13	0.15	0.02*	0.01*	0.01*	0.03*	0.001*	0.001*	0.001*	1

D1, there is a need for palliative care in the treatment of patients with heart failure; D2, demand for palliative care in the treatment of patients with heart failure is increasing; D3, de-escalation of therapy makes more sense than continuing current therapy; D4, cardiology, general medicine, and internal medicine can learn from expertise in palliative care; D5, more intensive care is possible through palliative care; D6, the quality of life of patients with advanced heart failure will be further reduced by the introduction of invasive therapies such as heart-assist devices; D7, quality of remaining life can be improved with palliative care; D8, patients do not require palliative care; D9, it is difficult to determine the right time to start palliative care because of the difficulty in assessing disease progression; D10, complex heart failure therapies can also be used in very elderly patients; palliative care is therefore not necessary; D11, major advances have been made in the treatment of heart failure. Palliative care is therefore not necessary; D12, palliative care can be taken over entirely by the attending general practitioner/cardiologist/internist; D13, a patient with chronic heart failure does not feel that he/she are in a situation for palliative care; D14, patients may refuse further escalation of treatment when palliative care is available; TL of WE, total length of work experience; *statistical significance ($p < 0.05$).

barriers to palliative care, we found that both departments agree, with the mean value ranging from 3.01 to 3.92. However, according to the mean value of the statements, the biggest barrier is that the care partners want everything possible to cure the patient, which is what health professionals in the ED and cardiology departments consider the biggest barrier.

Nursing healthcare professionals in the cardiology departments have the same knowledge with regard to the definition and purpose of palliative care as those in the ED. The biggest difference was that cardiology departments were more likely to agree that physical symptoms, discomfort, and relief were most important, and that the terminal patient would be cared for in palliative care. Alshammari et al. [34] also came to similar conclusions, adding that they are united in their knowledge of pain management and distress symptom management.

From our survey, both departments placed the dignified death of patients first, followed closely by the important role of good communication with and the involvement of care partners in palliative care. Ziehm et al. [16] stress the importance of fostering good communication between the healthcare professionals, patients, and care partners, and the need for overcoming such perceived barriers. The third most important purpose of palliative care is defined as the aim to achieve/preserve the best possible quality of life for patients. Both departments define the third most important purpose of palliative care as, preserving the quality of life for patients. Many studies [35–38] have also found that early integration of palliative care in the acute treatment of a patient with a chronic non-communicable disease is a key component in maintaining the quality of life and preserving their dignity. Nursing healthcare professionals were presented with different views on palliative care, to which they responded with the extent to which they agreed with these views. We found a statistically significant association between work experience and the item “Cardiology, general medicine, and internal medicine can learn from the expertise in palliative care” ($r_s = 0.04$; $n = 104$; $p = 0.038$). In the study by Ziehm et al. [16], health professionals in both departments overwhelmingly agreed with the view that cardiology, general medicine, and internal medicine can learn from expertise in palliative care. This was the view most strongly shared by 90.9% of all nursing healthcare professionals. Our survey found that the mean value for this question was 3.71, indicating that health professionals are more likely to agree than disagree.

Despite advances in the recognition and treatment, heart failure is not yet eradicated and remains one of the most common reasons for patient hospitalization [39]. Palliative care provides a mechanism whereby the patient’s quality of care during the end of life period can be maintained. Nursing healthcare professionals should be aware of the importance and benefits of palliative care for patients with heart failure, and efforts should be made to include such patients in palliative care. There is a need to enhance education on palliative care, improve management of heart failure, and foster open communication within and across transdisciplinary healthcare teams on

treatment strategies. It is important to start early by talking to the patient about their prognosis. However, this requires a person-centred planning [40, 41].

This study has several limitations that need to be considered. For this study, we used a convenience sample of nursing healthcare professionals. The results should not be generalized and we should be cautious in applying our findings, as the survey sample was realistically small and local. The cross-sectional design limits conclusions about causality, as it only describes variables that influence or interact with each other. Self-assessment of nursing healthcare professionals' knowledge, perceptions, and attitudes was based on subjective judgements rather than objective criteria.

The findings are not representative of the entire population of nursing healthcare professionals in Slovenia or worldwide, but specifically about nursing healthcare professionals in the ED and cardiology departments. To explore the attitudes of nursing healthcare professionals towards palliative care for patients with heart failure further, it may be useful to adopt a qualitative design to gain a broader understanding of the experiences of nursing healthcare professionals and to identify some of the dimensions that the survey was not able to perceive. A qualitative approach could also provide insights into developing new factors to improve palliative care in patients with heart failure.

10.5 Conclusions

We found no differences in palliative care knowledge of nursing healthcare professionals between the cardiology and ED departments. Nursing healthcare professionals in the cardiology departments have the same knowledge of the definition and purpose of palliative care as those in the ED. Half of the nursing healthcare professionals cannot decide whether they are satisfied or not with their knowledge of palliative care. Still, the survey shows that more of them are satisfied than dissatisfied. We recommend organizing additional and continuous training on palliative care, as almost half of the nursing healthcare professionals who took part in our survey had not received any training in palliative care.

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