

Research Article

Anxiety, Dyspnea Management, and Quality of Life in Palliative Care Patients: A Randomized Controlled Trial

Ahmet Seven¹, Havva Sert²¹Department of Nursing, Afsin Faculty of Health Sciences, Kahramanmaraş Sütçü İmam University, Kahramanmaraş, Turkey²Department of Internal Medicine Nursing, Faculty of Health Sciences, Sakarya University, Sakarya, Turkey

Cite this article as: Seven, A., & Sert, H. (2023). Anxiety, dyspnea management, and quality of life in palliative care patients: A randomized controlled trial. *Florence Nightingale Journal of Nursing*, 31(S1), 13-21.

Abstract

AIM: This study aimed to determine the influence of nursing care grounded on Watson's Human Care Model on anxiety, dyspnea control, and life quality in palliative care patients.

METHOD: A randomized controlled study was designed. It was conducted on 64 participants hospitalized in a training and research hospital and 2 state hospital palliative care services in Turkey. The data were collected face to face using the patient information form, the Beck Anxiety Scale, the Hospital Anxiety and Depression Scale, the Medical Research Council Dyspnea Scale, and the Short Form-36 Quality of Life Scale.

RESULTS: It was detected that there was no statistically considerable difference in the median points of the Beck Anxiety Scale, Hospital Anxiety and Depression Scale, Medical Research Council Dyspnea Scale, and Short Form-36 domains between the two groups in the pretest. However, the posttest median points were remarkably lower and the posttest median points of the Short Form-36 scale were meaningfully higher in the intervention group ($p < 0.05$).

CONCLUSION: Nursing care grounded on Human Care Model reduced the grade of anxiety and dyspnea in patients and raised their life quality.

Keywords: Anxiety, dyspnea, palliative care, quality of life

Introduction

According to the World Health Organization (WHO), palliative care has been defined as "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering, by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual" (WHO, 2009).

Symptom management is important to augment the life quality of patients needing palliative care (Del Fabbro et al, 2006). There are many symptoms affecting the life quality in palliative care patients (Musser, 2021). Some of the most common of these symptoms are anxiety and dyspnea (Baltaji et al, 2021).

A common symptom in palliative care patients is anxiety, which is depending on factors such as uncertainty about the future, fear of death, dyspnea-induced inability to breathe during the terminal period, and air hunger (Dudgeon et al, 2001; Henoch et al, 2008; Kwok et al, 2016; Potter et al, 2003). In a meta-analysis performed by Mitchel et al. (2011), anxiety was noticed in a majority of palliative care patients.

The other most widespread symptom in palliative care patients is dyspnea, which is usually expressed in patients as shortness of breath, asphyxia, feeling or hearing their own breathing, and inability to get enough air. This negatively affects the life quality of patients (Buckholz & von Gunten, 2009; Corcoran, 2013; Del Fabbro et al, 2006; Greer et al, 2015; Janssens et al, 2000; LaDuke, 2001; Mercadante et al, 2001). Advanced-stage cancer patients constitute the majority of patients taking palliative care, and dyspnea is observed in approximately 15–70% of cancer patients. In the studies carried out, it is reported that dyspnea in cancer patients increased the anxiety levels and the fear of death in patients (Dudgeon et al, 2001; Henoch et al, 2008; Kwok et al, 2016; Potter et al, 2003; Reuben & Mor, 1986). In the literature, it is reported that the life quality of patients increased along with the reduction or elimination of symptoms as a result of the nursing care given to patients (Bayram et al, 2014; Charalambous et al., 2016; Tzelepis et al, 2017; Wang et al, 2016).

Nursing care models have been created to provide a general approach to patient care, to ensure professional professionalization, to encourage the use of common language, and to raise critical thinking skills (Arslan & Okumuş, 2012; Cara, 2003; Öner et al, 2011). One of these models shaping patient care is Jean

Corresponding author: Ahmet Seven

E-mail: ahmetseven@ksu.edu.tr



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License

Received: March 03, 2023

Accepted: April 09, 2023

Publication Date: May 9, 2023

Watson's Human Care Model (HCM). It is structured on three fundamental concepts, such as "interpersonal care relationship," "care status and the moment of care," and "improvement processes" (Öner et al., 2011; Watson, 2003; 2009; 2012). The HCM is based on providing quality care and continuing to keep in touch with the patient (Arslan & Okumuş, 2012; Watson, 2003; 2009; 2012).

In the literature, it is demonstrated that HCM-based care is influential in decreasing the symptoms of patients with chronic illness and developing their mental soundness and life quality (Erci et al, 2003; Mullaney, 2000; Pipe et al, 2010). The management of dyspnea and anxiety should be well performed by the palliative care team in order to ensure peaceful death, which is one of the purposes of palliative care, and to improve the life quality of patients. The HCM that may have applicability in palliative care has not been studied much. Thus, the aim of this study was to appraise the effects of nursing care grounded on Watson's HCM on quality of life, anxiety, and dyspnea management in palliative care patients.

Hypotheses

- H1: Nursing care based on Watson's Human Care Model is effective in decreasing the anxiety levels of palliative care patients.
- H2: Nursing care based on Watson's Human Care Model is effective in reducing dyspnea in palliative care patients.
- H3: Nursing care based on Watson's Human Care Model is effective in increasing the quality of life of palliative care patients.

Method

Study Design

A randomized controlled design was used in the current study.

Sample

The study was applied to a training and research hospital with 15 beds and 2 state hospital palliative care services with 18 beds in Turkey. Within the scope of the country's health system, patients can stay in palliative care services for a maximum of 6 months. All participants, except 8 (3 participants from the intervention group and 5 participants from the control group who were followed up at home) of our 64 participants in the control and intervention groups who completed the study, were followed up in the hospital for 8 weeks.

The patients admitted to the palliative care services constituted the population of the study. The participants inclusion criteria were as follows: aged over 18 years, conscious and oriented to time and space, no visual, audial, or lingual disabilities, and no mental disorder, being a volunteer to participate in the study.

It was determined from the power analysis that the sample should consist of 32 participants for the intervention group and 32 participants for the control group, including a mean difference of 0.5, a variance of 0.6, a type I error (α) of 0.05, and a type II error (β) of 0.10. Statistical calculations were made using the Power Analysis & Sample Size 13 program.

The research sample was randomly distributed to two groups using the simple random sampling method. Randomization was conducted using a random number table. The intervention group was formed according to the patients staying in the even-numbered room, and the control group was formed in the odd-numbered rooms with the same method. The participants did not know which group they were in.

Data Collection

This study was implemented between September 2017 and June 2018. The data collection stage in the study was initiated by determining the patients meeting the study criteria. Participant information and permission forms were signed by all participants before starting the study. They were also told that they could retreat from the research at any time. The total number of participants assessed for eligibility was 90 patients in the data collection period. Two participants were excluded due to not providing inclusion criteria. Eighty-eight participants were randomized into two groups, of which 46 participants were from the intervention and 42 participants were from the control. Three weeks after randomization, 14 participants were lost to death in the intervention group. Second and fifth weeks after randomization, a total of 10 participants were lost to death in the control group. The study was completed with 64 participants, with 32 in the intervention group and 32 in the control group. The Consolidated Standards of Reporting Trials (CONSORT) flow diagram of the randomized controlled trial was presented in Figure 1 (Hemming et al., 2018).

Procedure

Nursing approaches grounded on HCM were applied twice a week for at least 15–20 minutes per session for 8 weeks for the intervention group by the corresponding author.

Within the framework of the model in order to increase the quality of life of the participants, patients were given care physically (oral care, bathing, personal care, etc.), psychologically (where necessary, patients received psychiatric support, expressing their emotions of sadness and grief, such as the determination of situations such as approach, distraction, relaxation, etc.) and socially (role in the family, communication with the close environment, introducing individuals with similar diseases, etc.) with a holistic approach.

Within the framework of the model in order to decrease anxiety, the following approaches were done: using communication techniques to approach patients (e.g., therapeutic touch, eye contact, empathy, and bringing together individuals with the same or similar disease), supporting patients' existing feelings about positive outcomes in treatment and care in the faith–hope process of the model, supporting feelings and creating the appropriate environment (prayer, meditation, and artistic activities), forgiveness, supporting feelings of gratitude and compassion in the process of sensitivity to self and others, ensuring that the patient expresses feelings of fear, joy, and anger, and supporting emotion controls in the protective, supportive and/or therapeutic, physical, mental, social, and spiritual environmental process, arranging the patient's environment, distractions, relaxation techniques,

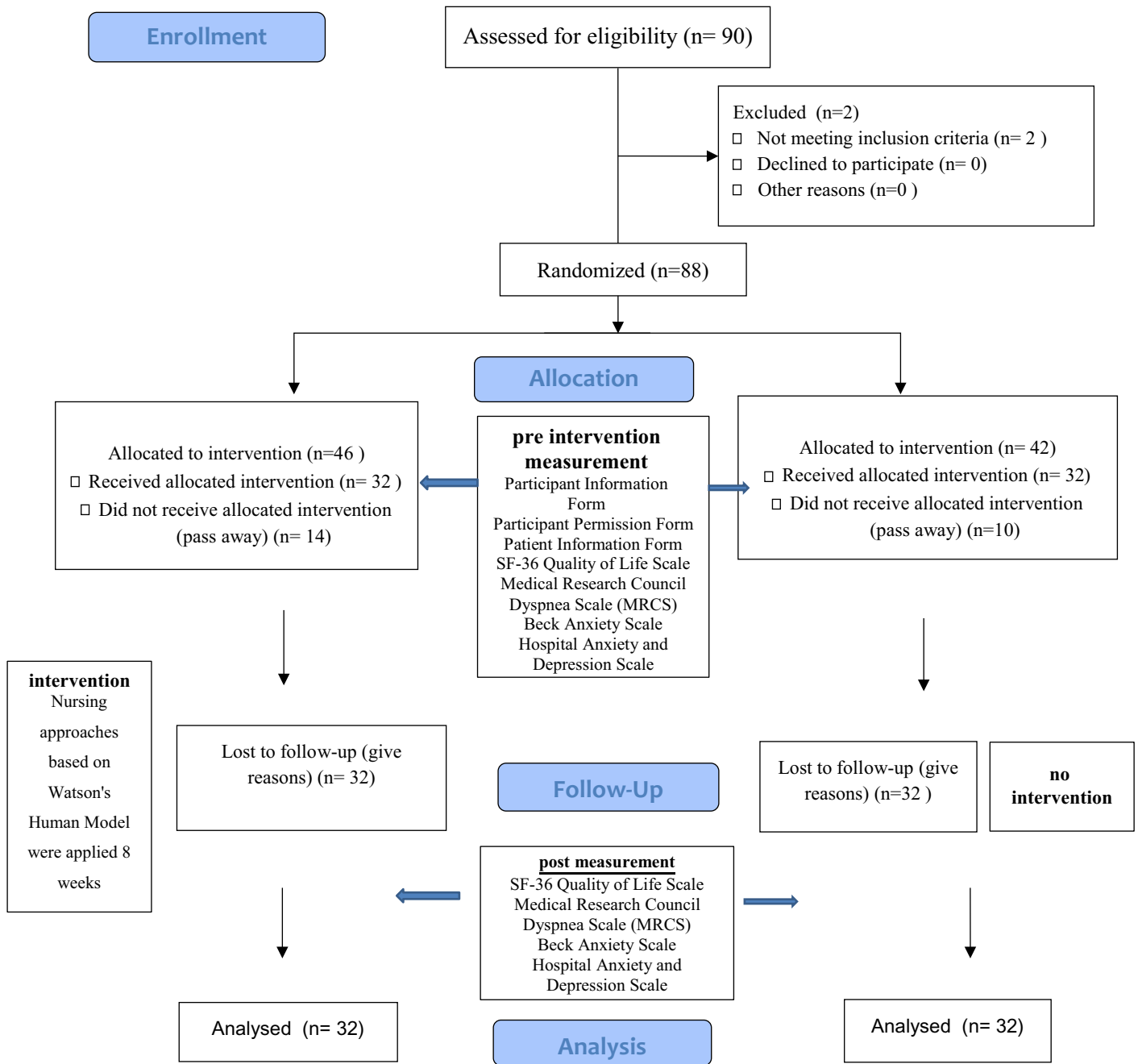


Figure 1. CONSORT Flow Diagram of the Study.

imagination, visual stimulation, music, painting, occupation, performing exercises to the extent that they can tolerate in the process of helping human needs, effective communication, respect for spiritual beliefs, supporting spiritual rituals, fulfilling religious duties, and keeping hope at the highest level in the existentialist-phenomenological spiritual force process.

Within the framework of the model in order to decrease dyspnea, breathing exercises for each participant (pursed lip, diaphragmatic respiration, and use of triflo), support positions

(sitting upright on the bed, leaning over the pillows on the table next to the bed, sitting by leaning to knee and leaning back, and leaning arms or back against back to a support by standing), relaxation techniques, and all processes in the interpersonal learning-teaching process were provided according to the model.

Procedures were provided so that the applications would be performed by participants and their relatives in the days during which the researcher was not in the clinic. Procedures were followed by a checklist.

Pretest was applied to both groups for evaluation of the quality of life, anxiety, and dyspnea. No intervention was performed in the control group. The standard nursing care was used for the control group. After 8 weeks, posttest was implemented to the same attendees in the intervention and control groups (Figure 1).

Data Collection Tools

In the study, the data were gathered using the patient information form, the Short Form-36 (SF-36) Quality of Life Scale, the Beck Anxiety Scale (BAS), the Hospital Anxiety and Depression Scale (HADS), and the Medical Research Council Dyspnea Scale (MRCs).

Patient Information Form

This form was prepared by the researchers. It contains nine questions on gender, age, education status, marital status, diagnosis, family structure, income status, smoking, and alcohol use (Greer et al, 2015; Salle et al, 2017; Sunde et al, 2014; Sung et al, 2010).

Beck Anxiety Scale

Beck Anxiety Scale was used to assess the anxiety of participants in the hospital or home. The scale was developed by Beck and colleagues (1988), which assesses the frequency of anxiety symptoms experienced by the individual. It is a self-evaluation scale consisting of 21 items scored between 0 and 3. Questions are asked to understand the level of discomfort caused by feelings of distress in the past week. The score range is from 0 to 63. The higher the score on the scale, the more severe the anxiety experienced by the individual. For BAS, 0–7 points indicate minimal anxiety, 8–15 points indicate mild anxiety, 16–25 points indicate moderate anxiety, and 26–63 points indicate severe anxiety.

Hospital Anxiety and Depression Scale

The HADS was used to assess the anxiety of the participants in the hospital. The HAD consists of 14 questions divided into 2 subscales. It consists of seven questions for the anxiety screening and seven questions for the depression screening. The scoring of these questions comprises of number from 0 to 3 that results in minimal score of 0 and maximum score of 21 for each subscale. Values of 0–7 are taken as the norm, and values of 8–10 indicate mild anxiety or depressive disorder. Results in the range 11–21 are assumed to indicate severe anxiety or depressive disorder.

Medical Research Council Dyspnea Scale

Medical Research Council Dyspnea Scale was used to assess participants' dyspnea. The MRC dyspnea scale that measures the effects of dyspnea on daily life activities consists of five items to evaluate dyspnea. Options are scored from 0 to 4; 0 means no shortness of breath, 1 means mild shortness of breath, 2 means moderate, 3 means severe dyspnea, and 4 means very severe dyspnea.

Short Form-36 Quality of Life Scale

Short Form-36 was used to assess the participants' quality of life. The SF-36 is a popular multidimensional questionnaire used to measure the self-perception of quality of life in a particular relevant population. The SF-36 individual items and domains were traditionally scored, including physical function, physical role, body pain, general health, vitality, social function, emotional role,

and mental health: item scores for each of the eight domains were coded, summed, and scaled from 0 to 100 (Pinar, 2005).

Statistical Analysis

The evaluation of the data was carried out in the IBM Statistical Package for the Social Sciences (IBM SPSS Corp.; Armonk, NY, USA) version 23 packet program. Homogeneity of the two groups was evaluated with the *t*-test and Chi-square test. The Shapiro-Wilk test was used to test whether the data had a normal distribution. The data did not show a normal distribution. Non-parametric tests were used for the data. Numbers and percentages, median, Chi-Square Test, Mann-Whitney *U* Test, Wilcoxon Signed Rank Test were used in summarizing the data obtained from the study. Significance was evaluated at $p < 0.01$ and $p < 0.05$ levels.

Ethical Considerations

The purpose, risks, and benefits of the research were explained to the potential participants, and it was stated that their answers would be kept confidential and anonymous, participation was voluntary, and they could retractable at any time. Permission for clinical research was obtained from the relevant institutions and from the ethics committee (Date: 13.09.2017, Number: 16214662/050.01.04/70).

Results

It was determined that there was no difference between the patients in the intervention and control groups according to their demographic characteristics, and the patients were homogeneously distributed to the groups (Table 1).

There was no statistically significant difference between the control and intervention groups in the pretest median scores of MRCs ($m=3.0$; $p=0.073$), BAS ($m=22.0$; $p=0.356$), and HADS anxiety ($m=8.0$; $p=0.085$), but there was a statistically significant difference in posttest median score of the scales ($p=0.000$). Accordingly, the MRCs ($m=3.0$; $p=0.000$), BAS ($m=23.0$; $p=0.000$), and HADS anxiety ($m=10.0$; $p=0.000$) posttest median scores of the participants in the intervention group were significantly lower than those of the participants in the control group.

In the control group, there was no statistically significant difference between the MRCs ($m=3.0$; $p=0.437$), BAS ($m=21.5$; $p=0.381$), and HADS anxiety ($m=8.0$; $p=0.180$) pretest and posttest median scores ($p > 0.05$) in the two measurements, but there was a statistically significant difference between the pretest and posttest median score measurements in the intervention group ($p=0.000$). Accordingly, the MRCs ($m=1.0$; $p=0.000$), BAS ($m=11.0$; $p=0.000$), and HADS anxiety ($m=6.0$; $p=0.000$) posttest median score measurement of the participants in the intervention group were significantly lower than the pretest median score measurement (Table 2).

In the control group, there was no statistically significant difference between the SF-36 physical main dimension ($m=44.1$; $p=0.180$), mental main dimension ($m=41.0$; $p=0.317$), physical function ($m=21.5$; $p=0.065$), pain ($m=7.1$; $p=1.000$), general health ($m=12.0$; $p=0.317$), vitality ($m=11.0$; $p=0.317$), social function ($m=6.0$; $p=1.000$), and mental health ($m=20.0$; $p=1.000$)

Table 1.
Demographics of Participants

	Control		Intervention		χ^2	p	Effect Size
	n (32)	%	n (32)	%			
Age							
<65	10	31.2	14	43.7	1.067	.302	0.017
≥65	22	68.8	18	56.3			
Gender							
Woman	17	53.1	13	40.6	1.004	.316	0.016
Man	15	46.9	19	59.4			
Marital status							
Single	1	3.1	4	12.5	2.176	.189	0.035
Married	31	96.9	28	87.5			
Education							
Illiterate	18	56.3	14	43.8	1.000	.317	0.016
Literate	14	43.7	18	56.2			
Family structure							
Nuclear	23	71.9	21	65.6	0.291	.590	0.004
Extended	9	28.1	11	34.4			
Diagnoses							
Cancer	15	46.9	16	50.0	0.085	.958	0.000
Cardiovascular diseases	10	31.2	9	28.1			
Neurological diseases	7	21.9	7	21.9			
Income status							
Good	9	28.13	11	36.7	0.300	.584	0.005
Middle	23	71.87	19	63.3			
Smoking							
Never used	19	59.4	16	50.0	1.004	.316	0.016
Have used before	13	40.6	16	50.0			
Alcohol use							
Never used	30	93.8	32	100.0	2.065	.492	0.032
Have used before	2	6.2	0	0.0			

pretest and posttest median scores in the two measurements ($p > 0.05$), but there was a statistically significant difference between the pretest and posttest median score measurements in the intervention group ($p < 0.05$). Accordingly, the SF-36 physical dimension ($m=49.1$; $p=0.000$), mental main dimension ($m=51.0$; $p=0.000$), physical function ($m=22.0$; $p=0.000$), pain ($m=8.2$; $p=0.000$), general health ($m=15.4$; $p=0.000$), vitality ($m=16.0$; $p=0.000$), social function ($m=7.0$; $p=0.000$), and mental health ($m=25.0$; $p=0.000$) posttest median score measurement of the participants in the intervention group were significantly higher than the pretest measurement (Table 3).

Table 2.
Differences Between the Control and Intervention Groups in Terms of MRCS, Beck Anxiety, and HADS Anxiety Measurement

	Control		Intervention		p*	Effect Size
	Median	IQR	Median	IQR		
MRCS pretest measurement	3.0	3.0	3.0	1.5	.073	0.050
MRCS posttest measurement	3.0	3.0	1.0	0.0	.000	0.287
p**	.437		.000			
Beck anxiety pretest measurement	22.0	4.5	23.0	6.0	.356	0.000
Beck anxiety posttest measurement	21.5	5.0	11.0	5.0	.000	0.619
p**	.381		.000			
HADS anxiety pretest measurement	8.0	2.5	10.0	5.0	.085	0.034
HADS anxiety posttest measurement	8.0	2.5	6.0	2.0	.000	0.298
p**	.180		.000			

Note: HADS=Hospital Anxiety and Depression Scale; IQR=interquartile range; MRCS=Medical Research Council Dyspnea Scale.
 $p < 0.001$.
 *Mann-Whitney U test.
 **Wilcoxon test.

Discussion

In palliative care patients with life-menacing chronic illness, the incidence of anxiety increases depending on the factors such as uncertainty about the future, fear of death, dyspnea-induced inability to breathe during the terminal period, and air hunger. In the meta-analysis performed by Mitchel et al. (2011), anxiety was found in the majority of palliative care patients. In a research conducted to determine the effectiveness of nursing care given to reduce anxiety, it was identified that the anxiety of the intervention group patients given supportive nursing care for anxiety significantly decreased compared to the control group (Cho & Hong, 2001). In a randomized controlled study, the patients in the intervention group were given care accompanied by music and the patients in the control group were given routine care. As a result of the study, it was observed that the anxiety of the patients who were given care accompanied by music decreased significantly compared to the control group (Sung et al, 2010).

In this study, it was observed that patients' anxiety was effectively reduced according to the content of all processes within Watson's HCM and in accordance with the literature by nursing care given in the form of (Table 2). As a result of the study, it was observed that nursing care given according

Table 3.
Difference Between the Control and Intervention Groups in Terms of SF-36 Measurement

	Control		Intervention		p*	Effect size
	Median	IQR	Median	IQR		
Physical function pretest measurement	21.0	4.5	19.0	8.0	.023	0.076
Physical function posttest measurement	21.5	3.5	22.0	3.0	.680	0.015
p**	.065		.000			
Role—physical pretest measurement	4.0	0.0	4.0	0.0	.317	0.016
Role—physical posttest measurement	4.0	0.0	4.0	0.0	.310	0.016
p**	.987		.317			
Pain pretest measurement	7.1	0.0	7.1	3.5	.854	0.000
Pain posttest measurement	7.1	0.0	8.2	2.1	.000	0.230
p**	.996		.000			
General health pretest measurement	12.0	4.5	10.7	4.0	.384	0.005
General health posttest measurement	12.0	3.5	15.4	0.7	.000	0.531
p**	.317		.000			
Vitality pretest measurement	11.0	2.5	12.0	3.0	.674	0.005
Vitality posttest measurement	11.0	3.0	16.0	2.0	.000	0.615
p**	.317		.000			
Social function pretest measurement	6.0	1.0	6.0	2.5	.782	0.000
Social function posttest measurement	6.0	1.0	7.0	1.0	.000	0.344
p**	.869		.000			
Role—emotional pretest measurement	3.0	0.0	3.0	0.0	.154	0.026
Role—emotional posttest measurement	3.0	0.0	3.0	0.0	1.000	-
p**	.756		.180			
Mental health pretest measurement	20.0	3.0	19.5	6.0	.327	0.013
Mental health posttest measurement	20.0	3.0	25.0	1.5	.000	0.489
p**	.578		.000			
Physical health main dimension pretest measurement	44.6	7.1	40.7	7.0	.046	0.043
Physical health main dimension posttest measurement	44.1	7.1	49.1	3.1	.000	0.291
p**	.180		.000			
Mental health main dimension pretest measurement	41.0	6.5	40.5	8.5	.497	0.000
Mental health main dimension posttest measurement	41.0	6.5	51.0	2.0	.000	0.606
p**	.317		.000			

Note: IQR=interquartile range; SF-36=Short Form-36.

p < 0.05. p < 0.001.

*Mann–Whitney U test.

**Wilcoxon test.

to Watson’s HCM was effective in reducing patients’ anxiety in accordance with the literature.

Dyspnea, which is usually expressed by patients as shortness of breath, asphyxia, feeling/hearing their own breathing, and inability to get enough air, negatively affects the quality of life of patients (Buckholz & von Gunten, 2009;

Corcoran, 2013; Del Fabbro et al, 2006; Greer et al, 2015; Janssens et al, 2000; LaDuke, 2001). There are many factors that cause dyspnea. The elimination/removal of all these factors that cause dyspnea and the betterment improvement of the life quality of patients are possible by implementing an effective dyspnea management (Del Fabbro et al., 2006).

There are many methods used in the management of patients' dyspnea. Among these methods, pulmonary rehabilitation (breathing exercises, supporting positions, and relaxation techniques) is effective in reducing the dyspnea levels of patients. As a result of a study on the effectiveness of the application of relaxation techniques, it was observed that dyspnea of patients decreased (Louie, 2004). In another study carried out by Greer et al. (2015) on 32 lung cancer patients with dyspnea, the application of relaxation techniques was observed to be effective in reducing dyspnea. In many studies, it was stated that the administration of breathing exercises (pursed lip and diaphragmatic breathing) in patients with dyspnea along with relaxation techniques was effective in reducing dyspnea of patients (Nield et al, 2007; Salle et al, 2017; Spahija et al, 2005).

At the end of work, it was noticed that the scores of the MRCS used to evaluate the dyspnea levels of the patients significantly decreased in the intervention group compared to the control group (Table 2). As a result of the research performed by Louie (2004), similar to our study, it was observed that MRCS scores of the patients decreased after the education provided. In another study carried out by Sudo et al. (2001), it was determined that dyspnea of patients decreased at the end of 6-week education (respiratory exercises) provided to patients to reduce their dyspnea (Lorenzi et al., 2004). In the same way, in another study, it was also determined that dyspnea of patients decreased at the end of the education. In another randomized controlled study, it was observed that there was an important decrease in dyspnea levels of the patients in the intervention group as a result of pulmonary rehabilitation applied to patients for 4 weeks (Hermiz et al., 2002). As a result of the study, it was observed that the nursing care given according to Watson's HCM was effective in reducing dyspnea of patients in accordance with the literature.

Life quality is described as a complete goodness/satisfaction physically, psychologically, and socially, happiness of individuals, and their satisfaction with life, which is included in the definition of health (Altay et al, 2016; Hazer, & Ateşoğlu, 2017).

Effective management of life-threatening chronic diseases in physical, psychological, and social aspects has a prominent place in increasing the life quality of people (Ohlsson-Nevo et al, 2016). It is important to use integrative methods to increase the life quality of palliative care patients.

In a randomized controlled study, it was determined that pulmonary rehabilitation performed in patients increased their life quality (Goldstein et al, 1994). Similarly, in a study on dyspnea management of chronic obstructive pulmonary disease (COPD) patients, it was found that SF-36 quality of life scores increased (Stulbarg et al., 2002). As a result of the research performed by Sunde et al. (2014) applied nursing care and advising grounded on home visits and telephone follow-up in COPD patients, it was observed that the quality of life of patients was increased. As a result of supportive care (breathing exercises and physiotherapy) given to cancer patients who received palliative care, it was determined that the quality of life of patients was increased (Hatelly et al, 2003).

In this study, the patients in the intervention group were given nursing care according to HCM. In this study, it was observed that the posttest median score measurement of the intervention

group patients were significantly higher in all main and sub-dimensions other than SF-36 physical and emotional role power sub-dimensions after the nursing care and approaches grounded on HCM compared to the control group (Table 3).

In conclusion, it was determined in this study that nursing care given according to Watson's HCM was effective in improving the life quality of patients in accordance with the literature.

Palliative care patients have many symptoms affecting their life quality. Some of the most common of these symptoms are dyspnea and anxiety. The management of dyspnea and anxiety should be well performed by the palliative care team to improve the life quality of patients. Using one of nursing model in the care of palliative care patients is effective symptom management.

In the study, it was determined that nursing care grounded on HCM

- decreased the anxiety levels of palliative care patients,
- was effective in reducing dyspnea in palliative care patients, and
- increased the quality of life of palliative care patients.

Study Limitations

According to WHO, palliative care is "an approach that improves the quality of life of patients (adults and children) and their families facing problems associated with life-threatening diseases." Pediatric patients who needed palliative care were not included in our study. The study is limited to participants over the age of 18. Therefore, the research findings cannot be generalized to all palliative care patients.

Conclusion and Recommendations

In conclusion, the number of studies examining the effect of HCM with palliative care is limited; therefore, further research is needed in this field. Randomized controlled studies should be conducted to using HCM in palliative care patients for increasing the quality of life and reducing symptoms.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Sakarya University (Date: 13.09.2017, Number: 16214662/050.01.04/70).

Informed Consent: Written informed consent was obtained from palliative care patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – A.S.; Design – A.S.; Supervision – A.S., H.S.; Resources – A.S., H.S.; Materials – A.S., H.S.; Data Collection and/or Processing – A.S.; Analysis and/or Interpretation – A.S.; Literature Review – A.S.; Writing – A.S.; Critical Review – H.S.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

References

- Altay, B., Çavuşoğlu, F., & Çal, A. (2016). The factors affecting the perception of elderly patients towards health, quality of life and health-related quality of life. *TAF Preventive Medicine Bulletin*, 15(3), 181–189. [\[CrossRef\]](#)
- Arslan, Ö. İ., & Okumuş, H. (2012). A model where caring and healing meets: Watson's Theory of Human Caring. *Turkish Journal of Research and Development in Nursing*, 2, 61–72. <http://hemarge.org.tr/ckfinder/userfiles/files/2012/2012-2/2012-vol14-sayi2-280.pdf>
- Baltaji, S., Cheronis, N., Bajwa, O., & Cheema, T. (2021). The role of palliative care in COPD. *Critical Care Nursing Quarterly*, 44(1), 113–120. [\[CrossRef\]](#)
- Bayram, Z., Durna, Z., & Akin, S. (2014). Quality of life during chemotherapy and satisfaction with nursing care in Turkish breast cancer patients. *European Journal of Cancer Care*, 23(5), 675–684. [\[CrossRef\]](#)
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893–897. [\[CrossRef\]](#)
- Bucher, T., Davies, C. C., Clements-Hickman, A. L., et al. (2020). The effect of education on nursing personnel's knowledge and attitudes regarding the use of integrative care techniques with hospice and palliative care patients. *Nursing Forum*, 1–6. [\[CrossRef\]](#)
- Buckholz, G. T., & von Gunten, C. F. (2009). Nonpharmacological management of dyspnea. *Current Opinion in Supportive and Palliative Care*, 3(2), 98–102. [\[CrossRef\]](#)
- Cara, C. (2003). A pragmatic view of Jean Watson's Caring Theory. *International Journal of Human Caring*, 7(3), 51–62. [\[CrossRef\]](#)
- Charalambous, A., Radwin, L., Berg, A., Sjøvall, K., Patiraki, E., Lemonidou, C., Katajisto, J., & Suhonen, R. (2016). An international study of hospitalized cancer patients' health status, nursing care quality, perceived individuality in care and trust in nurses: A path analysis. *International Journal of Nursing Studies*, 61, 176–186. [\[CrossRef\]](#)
- Cho, M. J., Hong, M. S. (2001). A study on the effect of supportive nursing care to anxiety reduction of the patient immediately before surgery in the operating room. *Journal of Korean Academy of Adult Nursing*, 13(4), 632–640. <http://acikerisim.deu.edu.tr:8080/xmlui/handle/20.500.12397/4493>
- Corcoran, E. (2013). Palliative care and dyspnea. *Clinical Journal of Oncology Nursing*, 17(4), 438–440. [\[CrossRef\]](#)
- Del Fabbro, E., Dalal, S., & Bruera, E. (2006). Symptom control in palliative care—Part III: Dyspnea and delirium. *Journal of Palliative Medicine*, 9(2), 422–436. [\[CrossRef\]](#)
- Dudgeon, D. J., Kristjanson, L., Sloan, J. A., Lertzman, M., & Clement, K. (2001). Dyspnea in cancer patients: Prevalence and associated factors. *Journal of Pain and Symptom Management*, 21(2), 95–102. [\[CrossRef\]](#)
- Erci, B., Sayan, A., Tortumluoğlu, G., Kiliç, D., Şahin, O., & Güngörmüş, Z. (2003). The effectiveness of Watson's Caring Model on the quality of life and blood pressure of patients with hypertension. *Journal of Advanced Nursing*, 41(2), 130–139. [\[CrossRef\]](#)
- Goldstein, R. S., Gort, E. H., Stubbing, D., Avendano, M. A., & Guyatt, G. H. (1994). Randomised controlled trial of respiratory rehabilitation. *Lancet*, 344(8934), 1394–1397. [\[CrossRef\]](#)
- Greer, J. A., MacDonald, J. J., Vaughn, J., Viscosi, E., Traeger, L., McDonnell, T., Pirl, W. F., & Temel, J. S. (2015). Pilot study of a brief behavioral intervention for dyspnea in patients with advanced lung cancer. *Journal of Pain and Symptom Management*, 50(6), 854–860. [\[CrossRef\]](#)
- Hately, J., Laurence, V., Scott, A., Baker, R., & Thomas, P. (2003). Breathlessness clinics within specialist palliative care settings can improve the quality of life and functional capacity of patients with lung cancer. *Palliative Medicine*, 17(5), 410–417. [\[CrossRef\]](#)
- Hazer, O., & Ateşoğlu, L. (2017). Gerontological perspective on quality of life. *Journal of Academic Social Science Studies*, 63, 471–486. [\[CrossRef\]](#)
- Henoch, I., Bergman, B., Gustafsson, M., Gaston-Johansson, F., & Danielson, E. (2008). Dyspnea experience in patients with lung cancer in palliative care. *European Journal of Oncology Nursing*, 12(2), 86–96. [\[CrossRef\]](#)
- Hermiz, O., Comino, E., Marks, G., Daffurn, K., Wilson, S., & Harris, M. (2002). Randomised controlled trial of home based care of patients with chronic obstructive pulmonary disease. *BMJ*, 325(7370), 938. [\[CrossRef\]](#)
- Janssens, J. P., & de Murlat, B. (2000). Titelion, V. Management of dyspnea in severe chronic obstructive pulmonary disease. *Journal of Pain and Symptom Management*, 19(5), 378–392. [\[CrossRef\]](#)
- Kwok, A. O., Yuen, S. K., Yong, D. S., & Tse, D. M. (2016). The symptoms prevalence, medical interventions, and health care service needs for patients with end-stage renal disease in a renal palliative care program. *American Journal of Hospice and Palliative Care*, 33(10), 952–958. [\[CrossRef\]](#)
- LaDuke, S. (2001). Terminal Dyspnea & Palliative Care. *American Journal of Nursing*, 101(11), 26–31. [\[CrossRef\]](#)
- Lorenzi, C. M., Cilione, C., Rizzardi, R., Furino, V., Bellantone, T., Lugli, D., & Cline, E. (2004). Occupational therapy and pulmonary rehabilitation of disabled COPD patients. *Respiration; International Review of Thoracic Diseases*, 71(3), 246–251. [\[CrossRef\]](#)
- Louie, S. W. S. (2004). The effects of guided imagery relaxation in people with COPD. *Occupational Therapy International*, 11(3), 145–159. [\[CrossRef\]](#)
- Mercadante, S., Fulfaro, F., & Casuccio, A. (2001). The use of corticosteroids in home palliative care. *Supportive Care in Cancer*, 9(5), 386–389. [\[CrossRef\]](#)
- Mitchell, A. J., Chan, M., Bhatti, H., Halton, M., Grassi, L., Johansen, C., & Meader, N. (2011). Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: A meta-analysis of 94 interview-based studies. *Lancet. Oncology*, 12(2), 160–174. [\[CrossRef\]](#)
- Mullaney, J. A. B. (2000). The lived experience of using Watson's actual caring occasion to treat depressed woman. *Journal of Holistic Nursing*, 18(2), 129–142. [\[CrossRef\]](#)
- Musser, A. E. (2021). Palliative care. In R. T. Maziarz & S. S. Slater (Eds.). *Blood and marrow transplant handbook* (pp. 791–805). Springer
- Nield, M. A., Soo Hoo, G. W., Roper, J. M., & Santiago, S. (2007). Efficacy of pursed-lips breathing: A breathing pattern retraining strategy for dyspnea reduction. *Journal of Cardiopulmonary Rehabilitation and Prevention*, 27(4), 237–244. [\[CrossRef\]](#)
- Ohlsson-Nevo, E., Karlsson, J., & Nilsson, U. (2016). Effects of a psycho-educational programme on health-related quality of life in patients treated for colorectal and anal cancer: A feasibility trial. *European Journal of Oncology Nursing*, 21, 181–188. [\[CrossRef\]](#)
- Öner, A. H., Şengün, F., & Üstün, B. (2011). Care: Concept analyse. *DEUHYO ED*, 4(3), 137–140. <http://www.deuhyoedergi.org>
- Parisien-La Salle, S., Rivest-Abel, E., Gosselin Boucher, V., Lalande-Gauthier, M., Poirier, C., Dube, B., Manganas, H., Morisset, J., & Comtois, A. S. (2017). Effect of pursed lip breathing on dyspnea and walking distance in interstitial lung disease: A randomized crossover study. *European Respiratory Journal*, 50(61), PA2246. [\[CrossRef\]](#)
- Pinar, R. (2005). Reliability and construct validity of the SF-36 in Turkish cancer patients. *Quality of Life Research*, 14(1), 259–264. [\[CrossRef\]](#)
- Pipe, T. B., Mishark, K., Hansen, R. P., Hentz, J. G., & Hartsell, Z. (2010). Rediscovering the art of healing by creating the tree of life poster. *Journal of Gerontological Nursing*, 36, 47–55. [\[CrossRef\]](#)
- Potter, J., Hami, F., Bryan, T., & Quigley, C. (2003). Symptoms in 400 patients referred to palliative care services: Prevalence and patterns. *Palliative Medicine*, 17(4), 310–314. [\[CrossRef\]](#)
- Spahija, J., de Marchie, M., & Grassino, A. (2005). Effects of imposed pursed-lips breathing on respiratory mechanics and dyspnea at rest and during exercise in COPD. *Chest*, 128(2), 640–650. [\[CrossRef\]](#)
- Stulberg, M. S., Carrieri-Kohlman, V., Demir-Deviren, S., Nguyen, H. Q., Adams, L., Tsang, A. H., Duda, J., Gold, W. M., & Paul, S., Gold, W. M., & Paul, S. (2002). Exercise training improves outcomes of a dyspnea self-management program. *Journal of Cardiopulmonary Rehabilitation*, 22(2), 109–121. [\[CrossRef\]](#)
- Sudo, E., Tanuma, S., Yoshida, A., Takahashi, Y., Kobayashi, C., & Ohama, Y. (2001). The effect of pulmonary rehabilitation with COPD. *Nihon Ronen Igakkai Zasshi. Japanese Journal of Geriatrics*, 38(6), 780–784. [\[CrossRef\]](#)
- Sunde, S., Walstad, R. A., Bentsen, S. B., Lunde, S. J., Wangen, E. M., Rustøen, T., & Henriksen, A. H. (2014). The development of an integrated care model for patients with severe or very severe chronic obstructive pulmonary disease (COPD), The COPD-Home model. *Scandinavian Journal of Caring Sciences*, 28(3), 469–477. [\[CrossRef\]](#)
- Sung, H. C., Chang, A. M., & Lee, W. L. (2010). A preferred music listening intervention to reduce anxiety in older adults with dementia in

nursing homes. *Journal of Clinical Nursing*, 19(7–8), 1056–1064. [\[CrossRef\]](#)

Tzelepis, F., Hanna, J. H., Paul, C. L., Boyes, A. W., Carey, M. L., & Regan, T. (2017). Quality of patient-centred care: Medical oncology patients' perceptions and characteristics associated with quality of care. *Psycho-Oncology*, 26(11), 1998–2001. [\[CrossRef\]](#)

Wang, T. C., Huang, J. L., Ho, W. C., & Chiou, A. F. (2016). Effects of a supportive educational nursing care programme on fatigue and quality of life in patients with heart failure: A randomised controlled trial. *European Journal of Cardiovascular Nursing*, 15(2), 157–167. [\[CrossRef\]](#)

Watson, J. (2003). Love and caring ethics of face and hand – An invitation to return to the heart and soul of nursing and our deep humanity. *Nursing Administration Quarterly*, 27(3), 197–202. [\[CrossRef\]](#)

Watson, J. (2009). Caring as the essence and science of nursing and health care. *O Mundo da Saúde*, 33(2), 143–149. [\[CrossRef\]](#)

Watson, J. (2012). Viewpoint: Caring science meets heart science: A guide to authentic caring practice. *American Nurse Today*, 7(8). <https://www.americannursetoday.com/viewpoint-caring-science-meets-heart-science-a-guide-to-authentic-caring-practice/>

World Health Organization. WHO definition of palliative care. <http://www.who.int/cancer/palliative/definition/en/>