Original Article

The Effects of Nursing Care Based on Watson's Theory on Self-Care Ability in Patients with Congestive Heart Failure

Sima Babaei[1], Masoud Etedali[2], Masoumeh-Sadat Mousavi[1]

[1]Nursing and Midwifery Care Research Centre, Isfahan University of Medical Sciences, Isfahan, Iran, [2]Department of Nursing, Khomein University of Medical Sciences, Khomein, Iran

Abstract

Background: Patients with Congestive Heart Failure (CHF) require continuous self-care to manage potential complications and adverse effects of the disease. This study aims to evaluate the impact of Watson's care model on the self-care ability of these patients. **Materials and Methods:** This clinical trial was conducted between November 2021 and July 2022 on 72 patients with CHF at a cardiovascular research hospital in Esfahan, Iran. Participants were randomly assigned to either the intervention or control group. The intervention group received care based on Watson's theory, which included audio recordings to reduce anxiety and enhance hope, individualized sessions to improve knowledge about the disease and its complications, and a 3-month telephone follow-up. Both groups completed a self-care ability questionnaire before, immediately after, and 3 months after intervention. Data were analyzed using statistical tests, including analysis of variance, Kolmogorov–Smirnov, analysis of covariance, and paired *t*-test. **Results:** The findings demonstrated a significant difference in the total self-care ability scores within the intervention group before, immediately after, and 3 months following the intervention ($F_{1,67}$ = 15.73, $p < 0.001$). Three months after the intervention, the mean self-care ability score was 77.65 in the control group and 123.82 in the intervention group. **Conclusions:** The study suggests that a care program based on Watson's theory is an effective and cost-efficient approach to enhancing self-care ability in patients with CHF.

Keywords: *Heart failure, nursing theory, self-care*

Introduction

Cardiovascular disease is the leading cause of death and the second most common cause of adult mortality globally, particularly in developed countries.[1] Among these, Congestive Heart Failure (CHF), resulting from coronary artery failure, remains a significant global health issue. Despite advancements in medication and treatments, the prevalence of CHF continues to rise,[2] leading to reduced functional capacity, fatigue, and overall diminished quality of life.[3] Additionally, CHF imposes a substantial financial burden on both patients and healthcare systems, with estimated annual costs exceeding $30 billion in the United States alone.[1,4] Studies suggest that encouraging patients to take responsibility for organizing their own care can enhance the effectiveness of treatment programs,[5] leading to the development of the self-care ability concept to empower patients and control rising healthcare costs.[6] Self-care behaviors for CHF patients include daily weight monitoring, seeking medical attention upon noticing swelling in the lower extremities, adhering to prescribed medications, limiting fluid intake, following an exercise regimen, and maintaining a low-salt diet.[7,8] As self-care is fundamental to managing chronic diseases and improving overall health,[9,10] it plays a crucial role in disease prevention and symptom management. However, despite its significance, many CHF patients struggle to adhere to self-care recommendations, and the reasons behind this non-compliance remain unclear.[11] Addressing these barriers is essential to improving patient outcomes and reducing the economic burden of CHF.

The significantly reduced quality of life among heart failure patients underscores the critical importance of effective self-care behaviors in managing their condition and preventing further decline. However, challenges in adherence to self-care highlight

How to cite this article: Babaei S, Etedali M Mousavi MS. The effects of nursing care based on Watson's theory on self-care ability in patients with congestive heart failure. Iran J Nurs Midwifery Res 2025;30:497-504.

Submitted: 04-Sep-2023. **Revised:** 03-Mar-2025. **Accepted:** 08-Mar-2025. **Published:** 24-Jul-2025.

Address for correspondence:
Dr. Masoud Etedali, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
E-mail: m.etedali@nm.mui.ac.ir

Access this article online

Website: https://journals.lww.com/jnmr

DOI: 10.4103/ijnmr.ijnmr_266_23

Quick Response Code:

the need for nursing approaches rooted in Watson's human care theory, which provides a comprehensive framework addressing both the physical and psychological needs of patients, ultimately enhancing their overall well-being. Nursing practices based on established theories offer a systematic and holistic approach to care, forming a solid foundation for the nursing profession. In general, nursing adheres to recognized scientific problem-solving methods[12] and aims to help individuals achieve balance between their mind, body, and soul.[13] This is accomplished through human-to-human interactions, as emphasized in Watson's theory, which serves as a fundamental framework for fostering therapeutic relationships and creating a healing environment.[14] A key principle of this theory is adopting a comprehensive view of individuals,[15] acknowledging that heart failure not only causes physical discomfort and psychological stress for patients but also poses challenges for healthcare providers.[16] Watson's theory positions care as the central focus of nursing and considers it a moral ideal, aiming to accelerate recovery by addressing all aspects of a person's mental and physical well-being.[17] A crucial aspect of this theory is its emphasis on interpersonal relationships centered around love, empathy, and service to others.[15] Watson introduced the concept of "Caritas" as an alternative to conventional medical interventions, defining it as a "recovery factor" in Turkey.[13] Her theory identifies ten essential recovery factors that encompass the entire nursing process, including: acting with a selfless belief system, inspiring faith and hope, fostering self-awareness and empathy, building trusting relationships, encouraging emotional expression, providing problem-solving oriented care, facilitating personal growth, creating a supportive healing environment, assisting in meeting basic human needs, and promoting spiritual growth and recovery.[17] By integrating these principles, nursing care based on Watson's theory can play a vital role in improving the quality of life for heart failure patients and supporting their holistic well-being.

Applying Watson's human care theory in nursing expands patient care beyond medical necessities, adopting a holistic approach that fosters healing on multiple levels. According to this theory, nurses can integrate one or more of its core factors into their care plans, allowing patients not only to adapt to their illness but also to discover new aspects of themselves and their inner strength, which contributes to their unique healing process.[18] Heart failure not only negatively impacts various organs and leads to physical disabilities but also induces feelings of inadequacy and loss of independence, which can result in depression.[19-21] Watson's theory emphasizes that nursing care should help individuals achieve balance and harmony between their mind, body, and spirit, fostering self-awareness, self-esteem, self-care, and self-control.[22] A study titled *"Palliative Care Based on Watson's Human Care Theory"* highlighted the applicability of this framework in addressing the diverse physical, social, and spiritual needs of patients, demonstrating that a holistic, patient-centered approach enhances overall well-being.[23] By incorporating Watson's principles, nursing care can provide comprehensive support that not only addresses physical ailments but also nurtures psychological and emotional resilience, ultimately improving patients' quality of life.

This study aimed to assess the impact of Watson's theory-based nursing care on the self-care ability of patients with CHF. The intervention included anxiety-reducing audio recordings, educational sessions, and follow-ups.

Materials and Methods

This is a clinical trial (IRCTID: IRCT20201228049858N1) that was conducted between November 2021 to July 2022 on 72 patients with CHF in a cardiovascular research hospital in Esfahan, Iran. The study data was collected at three different times: before, immediately after, and 3 months after the intervention. The method consists of four parts [Table 1]. The study involved two groups, comprising a total of 72 eligible patients. With an effect size (Δ) of 0.4 and an ICC coefficient (ρ) of 0.7, the number of observations obtained from each person (ω) was 3. The sample size for each group was calculated to be 30 people, considering a 20% dropout rate, resulting in a sample size of 36 people for each group. Eligible patients were randomly assigned to the intervention or control group. A third person, independent of the study researchers, visited the center for multiple consecutive days to collect the necessary samples. These samples were then randomly assigned to the test and control groups using a random number table. The inclusion criteria for the study required patients to have CHF, a medical record, a history of hospitalization, and a willingness to participate. Patients who had previously attended relevant training sessions or discontinued participation due to personal or family conflicts were excluded from the study.

The study used two data collection tools: a demographic questionnaire and the Kearny and Fleischer self-care ability questionnaire to assess patients' self-care ability. The demographic questionnaire collected information on gender, age, marital status, occupation, and education. The Kearny and Fleischer self-care ability questionnaire comprised 43 questions that evaluated self-care behaviors. Each question was rated on a 5-point Likert scale, with certain items indicating negative self-care potential. Respondents indicated their level of agreement with each statement on the scale, ranging from "strongly disagree" to "strongly agree." Scores ranged from 0 to 4, with higher scores indicating greater self-care ability. The maximum score possible was 172, representing the highest degree of self-care, while the lowest score was 0. In Iran, the questionnaire's content validity was assessed by 10 members of the faculty of the Islamic Azad University of Tehran Medical Faculty, and their opinions and suggestions were incorporated. To check

Table 1: Intervention phases

Phase	Each meeting's title	Session number	Meeting content
Zero	Conducting the initial assessment	-	Welcome
	Familiarizing oneself with the group members		Introduce nurses to patients
	Providing a brief description of topics relevant to the intervention group		Explain the number of sessions and the structure of each
			Provide a session for patients to complete satisfaction forms
			Have patients' complete questionnaires in the first stage before the intervention
First	Establishing and developing interpersonal learning and training	1	Discuss the factors leading to heart failure and its symptoms such as edema and shortness of breath, as well as available treatments and their potential side effects
	Increasing individuals' understanding of lifestyle and promoting lifestyle changes based on the disease, taking into account the patient's comprehension and literacy. This is supported by studies inspired by Maslow's model, which suggest that meeting higher-level needs depends on first meeting lower-level needs		Conclude the session with a Q and A segment aimed at assessing the patients
		2	Provide information on appropriate nutrition and cooking techniques for patients with congestive heart failure
			Conclude the session with a Q and A segment aimed at assessing the patients
		3	Share articles on fatigue, its causes, and the use of suitable exercise programs recommended in scientific literature to alleviate fatigue in heart failure patients
			Conclude the session with a Q and A segment aimed at assessing the patients
		4	Explore non-pharmacological methods for reducing anxiety and improving sleep quality tailored to the specific needs of heart failure patients
Second	Developing awareness of oneself and others	-	Sharing a 15-min audio recording about self-awareness and problem-solving techniques
	Understanding the concepts of health, illness, death, and life		Being present and offering support
	Educating on proper lifestyle choices		Assisting with religious ceremonies for the patient
	Encouraging patients to take responsibility for their own well-being and that of others		
	Addressing the spiritual needs of the patient		
Third	Working based on a humanistic and friendly belief system	-	The researcher actively performs care at the patient's bedside during each stage
	Instilling faith and hope		Patient comfort and safety conditions are ensured, such as providing oxygen therapy for shortness of breath and placing the patient in a comfortable position
	Establishing caring relationships based on trust and support, using a systemic problem-solving approach for decision-making		The nurse provides their phone number to the patients and also receives the numbers of each patient to ensure continuous availability to address their problems and facilitate easier follow-up
Fourth	Encouraging the patient to confront their fears and concerns subsequently improving anger control, and managing anxiety and stress caused by the illness	-	Presenting a 15-minute audio file to patients and their companions, prepared with the assistance of a hospital psychologist, on the topic of "Living Beautifully Without Anxiety and Stress"
			Presenting assignments such as abdominal breathing that are aimed at reducing anxiety

the face validity of the questionnaire, Mohammad Hosni and his colleagues conducted a pilot study before sampling, and the questionnaire was made available to 30 people suffering from coronary artery disease. The findings indicated that the questionnaire is suitable for various types and culturally appropriate for the respondents. To assess

its reliability, a retesting method was used with the same 30 individuals over a 10-day period, revealing an 86% correlation between the two sets of results. Additionally, the questionnaire demonstrated internal consistency with a Cronbach's alpha of 0.92.[1]

The intervention content was developed based on Watson's theory and sourced from scientific texts and reliable sources. Additional information was collected through interviews with 7 senior nursing students, one PhD, nursing student, two nurses from the section of cardiovascular research hospital, and three patients' companions to ensure the accuracy and effectiveness of the identified needs. The gathered information was analyzed, and educational content was compiled accordingly. Before the intervention, the nurses were introduced to the patients and provided an explanation of the number and structure of sessions. Subsequently, the patients were asked to complete an informed consent form and a self-care ability questionnaire, which is documented in Table 2 as phase zero. The intervention design was then carried out based on the information obtained from these individuals and Watson's care factors. It's important to note that the factors of "creating a supportive, protective, or corrective environment for all dimensions of the patient" and "creating the possibility for spiritual growth in care and healing" were excluded from Watson's 10 factors due to lack of requirements and time constraints. Additionally, due to overlapping subsets within Watson's factors, the intervention was divided into four phases. To ensure content and form validity of the checklist, the opinions of ten experts and faculty members were used, and its rate was 0.71. Reliability was obtained by Cronbach's alpha method, which yielded a Cronbach's alpha of 0.82. To check the reliability of the checklist, the method of agreement between observers and the Kappa coefficient was used, which was also 0.89.

Table 2: Statistical indicators of self-care ability in the experimental group 3 months after the intervention

		Chi-square test	
	Count (%)	**Mean (SD)**	**Significant**
Age			
35–48	8 (24.24)	114.75 (38.25)	p=0.260, F=1.405
48–61	6 (18.22)	98 (22.36)	
61–74	14 (42.41)	95.21 (22.57)	
74–87	5 (15.22)	85.2 (23.70)	
Sex			
Male	17 (51.50)	87 (22.16)	t=2.77, p=0.010
Female	16 (48.50)	111.63 (28.17)	
Occupation			
Illiterate	11 (33.31)	110.36 (27.67)	F=1.511, p=0.220
Primary	7 (21.22)	77.43 (26.23)	
Secondary	2 (6.14)	114 (32.52)	
Diploma	7 (21.22)	95.14 (22.54)	
College	2 (6.13)	108.5 (31.82)	
Bachelor	4 (12.13)	99.5 (28.52)	
Education			
Unemployed	5 (15.22)	103.6 (22.73)	F=2.84, p=0.034
Housewife	16 (48.50)	111.63 (28.17)	
Employee	1 (3)	75 (0)	
Retired	4 (12.12)	90 (7.87)	
Worker	3 (9.13)	89 (3)	
Freelance	4 (12.14)	64.75 (26.05)	

The current intervention consists of four phases outlined below: Due to COVID-19 restrictions, the first and second sessions of the initial phase were conducted individually at the patient's bedside with a companion present. Each meeting lasted 20 to 30 min and followed health protocols set by the Iran Ministry of Health and the World Health Organization (WHO). A training booklet with necessary information was provided in both physical and digital formats. At least one close family member of the patient was required to be present in each session to offer support. An evaluation was conducted at the end of each session using a question-and-answer approach. Supportive methods were used to ensure clients remained clear and calm, including providing the researcher's phone number for telephone consultations. Individual circumstances of the patients and their families were also taken into consideration.

- Phase 1: Interpersonal Learning and Education: This phase aims to establish and enhance interpersonal learning and improve patients' knowledge about their condition. The activities in this phase include:
  Patients receive comprehensive information about the factors leading to heart failure, symptoms of the disease (e.g., shortness of breath and swelling), and possible side effects of treatments. Education covers details on appropriate social activities, healthy nutrition, and necessary lifestyle adjustments. Patients are guided to meet their basic needs first (e.g., proper nutrition) before addressing higher-level needs (e.g., social activities), in line with Maslow's hierarchy of needs. Practical instructions on a low-salt, low-fat diet are provided. Patients learn how to prepare balanced meals that are compatible with their heart condition.
  The causes of fatigue and how to identify it are explained to patients. Exercise programs recommended by scientific literature, customized to the patient's specific limitations, are introduced. Non-pharmacological techniques such as relaxing music, abdominal breathing exercises, and distraction methods are taught to patients. These strategies are specifically designed to address the anxiety and sleep issues common in heart failure patients.
- Phase 2: Promoting Self-Awareness and Empathy: This phase emphasizes developing patients' self-awareness and fostering empathy towards themselves and others. Activities include: A 15-min audio file titled "Self-Awareness and Coping with Challenges" is created and shared with patients.

This resource helps patients better cope with the challenges of their disease. The researcher actively listens to patients' concerns through verbal and non-verbal communication and addresses their needs. Patients are supported in performing their religious rituals, with necessary facilities provided.

Patients are encouraged to take responsibility for their own health and actively contribute to improving their quality of life.

- Phase 3: Instilling Faith, Hope, and Systemic Support: This phase focuses on instilling faith and hope and creating a supportive system for patients. The key activities include: The researcher ensures the patient's comfort and confidence by maintaining respectful and friendly communication, following health protocols, and explaining all treatment steps clearly. Families are involved in the treatment process, creating a collaborative care environment. The researcher employs systemic approaches to identify and resolve patients' challenges. This approach involves active coordination with other healthcare staff and enhancing teamwork within the care unit. Educational sessions are conducted for nurses to ensure that all hospitalized patients in relevant wards receive similar supportive services.
- Phase 4: Managing Anxiety and Stress: This phase specifically addresses anxiety and stress management for patients. Key actions include: A 15-min audio file titled "A Beautiful Life Without Anxiety and Stress," developed with input from a hospital psychologist, is shared with patients. This file helps patients better manage stress caused by their condition. Patients are instructed in techniques like abdominal breathing to reduce anxiety and stress effectively.

The researcher regularly follows up with patients to ensure they are performing the exercises correctly and benefiting from reduced anxiety and stress. Following the intervention, both the intervention and control groups completed the self-care ability questionnaire immediately and 3 months later. Once the sampling was completed and the intervention group sessions concluded, and the questionnaires from both groups were collected, the data was entered into SPSS software version 21 (IBM SPSS Statistics, developed by IBM Corporation, Armonk, New York, United States).

Ethical considerations

After receiving the ethical code with the number (IR.MUI.RESEARCH.REC.1399.575) and the introduction letter, the researcher first visited the cardiology sections. With the help of the head nurse, he/she obtained information about the number of patients eligible for the study. The research objectives were also communicated to the relevant authorities. The working method was explained to heart failure patients who met the admission criteria, and after their agreement to participate in the study, they were selected as samples. Then, informed consent was obtained from the selected individuals.

Results

This image presents a CONSORT table illustrating the enrollment and follow-up process of 72 participants in a study. The participants were divided into two groups: Test Group (36) and Control Group (36). During the study, 2 participants from the Test Group and 3 from the Control Group dropped out. Ultimately, after 3 months, 33 participants in the Test Group and 34 in the Control Group were investigated [Figure 1].

There were no significant differences between the groups in terms of age, sex, occupation, level of education, and duration of disease. The mean (standard deviation [SD]) age of participants was 65.41 (13.21) years in the intervention group and 64.26 (17.95) years in the control group ($p = 0.21$), respectively. The demographic information of the participants is shown in Table 3. The mean duration of the disease in the intervention and control groups was 8.94 (SD = 6.46) and 10.94 (SD = 7.01), respectively. The results indicate that both groups were similar in terms of demographic variables. The independent *t*-test showed that before the intervention ($p > 0.05$) and immediately after the intervention ($p > 0.05$), there was no significant difference in the average self-care ability between the two groups. However, 3 months after the intervention, a significant difference in the average self-care ability between the two groups was observed ($p < 0.05$).

Additionally, the average self-care ability before the intervention was not significantly different between the

Table 3: Specifications of research units in test and control groups

Variable	Count (%)		*p*
	Control group	Test group	
Gender			
Male	20 (58.81)	17 (51.50)	$p>0.05$
Female	14 (41.20)	16 (48.50)	
Occupation			
Unemployed	5 (15.20)	5 (15.23)	$p>0.05$
Housewife	13 (39.42)	16 (48.51)	
Employee	1 (3)	1 (3)	
Retired	2 (6.12)	4 (12.14)	
Worker	7 (21.21)	3 (9.13)	
Freelance	5 (15.23)	4 (12.12)	
Education			
Illiterate	15 (44.10)	11 (33.33)	$p>0.05$
Primary	8 (32.51)	7 (21.20)	
Secondary	5 (14.73)	2 (6.13)	
Diploma	1 (2.9)	7 (21.24)	
College	1 (2.90)	2 (6.12)	
Bachelor	3 (8.81)	4 (12.10)	
Master	1 (2.90)	0 (0)	

test and control groups ($p > 0.05$), which was expected considering the random allocation of samples in the two groups and the lack of intervention. According to the results of the independent *t*-test, the average self-care ability increased significantly in the test group compared to the control group 3 months after the intervention ($p < 0.05$). The average changes in self-care ability 3 months and immediately after the intervention compared to before the intervention in both groups had a significant difference ($F_{1.67} = 15.73$, $p < 0.001$ for the test group; $F_{1.67} = 5.25$, $p = 0.008$ for the control group), as shown in Table 4.

Discussion

This study aimed to address the comprehensive mental, physical, and social needs of patients with heart failure by applying Watson's human care model. According to Watson's theory, effective nursing care fosters balance and harmony between an individual's mind, body, and spirit. This is achieved through authentic human connections, marked by empathetic communication and meaningful relationship-building that resonate with patients' inner experiences. The effectiveness of this care was systematically assessed using a multifaceted approach, including questionnaires, telephone follow-ups, and home visits conducted 3 months after the intervention.

The findings reveal that implementing the Watson care model within a hospital setting significantly enhances self-care behaviors among heart failure patients. Specifically, 54.50% (18 patients) exhibited good self-care ability, 42.41% (14 patients) showed moderate ability, and only 3% (1 patient) demonstrated poor ability [Table 5]. This distribution indicates that a substantial majority of patients are capable of sustaining effective self-care practices. The observed high levels of self-care ability can be attributed to the model's holistic approach, which synergizes with chronic disease management strategies, fostering an environment that encourages patient empowerment. These results are consistent with those of Saeidzadeh e*t al*. and corroborate Yildiz's findings that indicated favorable self-care abilities and quality of life among patients with coronary artery disease.[2,3] Moreover, research by Akyol *et al*. and Mohammad *et al*.

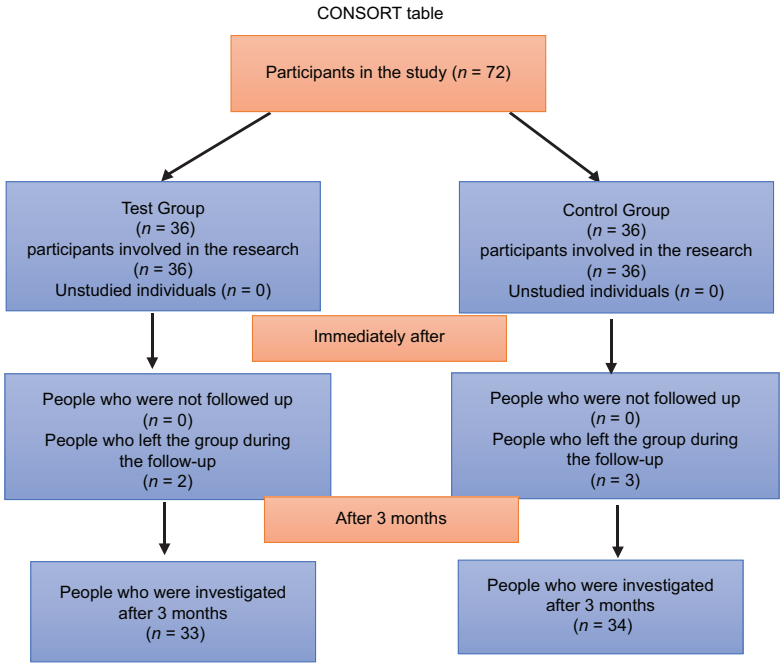

Figure 1: CONSORT flow diagram of participant enrollment, allocation, follow-up, and analysis

Table 4: Comparison of the mean self-care ability in each group in three times

Average	Repeated measures ANOVA, mean (SD)			Variance analysis with repeated observations	
	Before intervention	Immediately after the intervention	3 months after the intervention	*F*	*p*
Self-care ability					
Test	96.82 (1.692)	98.94 (4.842)	123.82 (3.918)	15.73	<0.001
Control	94.27 (1.489)	91.77 (3.875)	77.65 (6.15)	5.25	0.008

SD=Standard deviation

Table 5: Frequency distribution of research units according to self-care power levels in each group in three times

Self-care ability level	Intervention	Chi-square test (%)	
		Control count (%)	Test count (%)
Weak	Before	6 (17.61)	5 (15.24)
Average		28 (82.43)	28 (48.81)
Good		0 (0)	0 (0)
Weak	Immediately after	10 (29.42)	12 (36.42)
Average		21 (61.80)	13 (39.41)
Good		3 (8.81)	8 (24.22)
Weak	After 3 months	21 (61.80)	1 (3)
Average		9 (26.51)	14 (42.21)
Good		4 (11.81)	18 (54.50)

reported moderate self-care abilities among patients with hypertension in Turkey and coronary artery disease in Iran, respectively.[1,4]

Importantly, the data from this study revealed no significant correlation between age and self-care ability, aligning with the findings of Mohammad *et al*. and Chen *et al*., who similarly found no relationship between age and self-care capacities in patients with mental disorders.[1,5] However, Atashpikar *et al*. suggested a direct correlation between age and self-care ability.[6] The lack of significant findings in our study may be attributed to the active involvement of family members in patient care, enhancing collaboration and promoting improved self-care behaviors.

Additionally, the current study identified a noteworthy relationship between gender and self-care ability, with male patients exhibiting higher levels of self-care than their female counterparts. This finding resonates with research on quality of life and self-care abilities in individuals with spinal cord injuries.[7,8] Conversely, Noohi *et al*. reported that women demonstrated superior self-care abilities.[9] The predominance of self-care among men in our study may be linked to culturally defined roles, wherein men often perceive themselves as key providers for their families, thus prioritizing their own health.

The intervention, grounded in the Watson care model, encompassed various dimensions of patient care, including medication adherence, dietary practices, and the recognition of worsening heart failure symptoms. Family involvement was also integral to the intervention strategy. Remarkably, after approximately 3 months, the frequency of follow-up calls from the intervention group decreased, potentially reflecting early symptom recognition and better patient adaptation due to enhanced knowledge gained during the intervention. Statistical analysis indicated that while there was no significant difference in average self-care ability over time ($p > 0.05$), the interaction between time and group did yield significant differences ($p < 0.05$). These findings are consistent with Yildiz's study, which explored self-care ability and quality of life in patients with coronary artery disease.[3] Conversely, Saeidzadeh *et al*. found that caregiver involvement had no significant effect on patients' self-care abilities post-coronary interventions.[2] Additionally, patients in the intervention group reported a reduced necessity for hospital visits to address disease-related concerns following home visits from the researcher, aligning with Dalir *et al*.'s findings that similarly noted fewer hospital visits among patients managing their disease needs.[10]

While no significant difference in self-care ability was observed immediately post-intervention, a substantial improvement was evident 3 months later, suggesting the necessity for sustained interventions and ongoing follow-up. Huang *et al*. similarly highlighted that interventions such as telemonitoring and effective counseling can enhance self-care ability in chronic patients.[11] Mesbahi *et al*. also noted a reduction in rehospitalization rates among heart failure patients due to improved self-care knowledge and abilities.[12]

Interestingly, the self-care abilities among participants did not significantly vary across different educational backgrounds. Yoshinaga *et al*. argued that higher education correlates with better job opportunities and income, thereby influencing self-care abilities.[13] Similarly, Tangus *et al*. found a positive relationship between education level and self-care in dialysis patients.[14] The divergence of our findings may stem from the relatively small proportion of educated individuals within our study group.

Lastly, the analysis revealed a statistically significant relationship between occupational status and self-care ability, with housewives exhibiting higher self-care capabilities. This trend may be linked to the availability of time for education and exercise, alongside fewer mental distractions. However, a contrasting study by Axelle *et al*. suggested that employed individuals showed greater self-care abilities.[15] Mohammad Hasani *et al*. emphasized that occupational status is closely tied to education and income levels, suggesting that these factors collectively influence self-care capacities.[1,24]

In conclusion, this study underscores the importance of implementing a holistic care model, such as Watson's, to enhance self-care behaviors in heart failure patients. The findings reveal critical insights into the multifaceted nature of self-care and the various factors that influence it, paving the way for more targeted interventions in future research.

The study's limitations, including COVID-19-related constraints such as restricted follow-up opportunities and the unavailability of heart failure specialists, may have impacted patient education and support. Although participants completed the questionnaires in a low-stress environment, factors like fatigue, financial concerns, and family obligations could have influenced their responses.

Conclusion

This study examined nursing care for heart failure patients through the lens of Watson's model and the Caritas caring process. By meticulously planning, coordinating, and implementing care tailored to patients' specific needs and challenges, it aligned with the ten factors integral to Watson's caring framework. The findings, supported by previous research, highlight that a holistic approach—coupled with intensive, systematic, and well-structured education and support from nurses—significantly enhances patients' self-care behaviors. This improvement is particularly evident in their adherence to heart failure regimens and their willingness to seek help when symptoms worsen. Nurses play a crucial role in assessing patients' self-care abilities, identifying gaps, and selecting appropriate interventions accordingly.

The study's findings underscore the importance of whole-person nursing care based on Watson's theory. Implementing this approach requires engaging patients in self-care, addressing their educational needs, providing continuous training, and removing barriers to effective self-care behaviors. Nursing managers and policymakers can leverage these insights to enhance chronic disease care by organizing in-service training programs and ensuring access to comprehensive, evidence-based guidance on applying Watson's model in practice.

Acknowledgements

The authors would like to express their gratitude to the Deputy of Research and Technology at Isfahan University of Medical Sciences for their financial support. They would also like to thank the staff and honorable management of the nursing faculty, as well as the participating patients in the research project (grant number: 399506).

Financial support and sponsorship

Isfahan University of Medical Science

Conflicts of interest

Nothing to declare.

References

1. Mohammad HM, Farahani B, Zohour A, Panahi AS. Self-care ability based on Orem's theory in individuals with coronary artery disease. J Crit Care Nurs 2010;3:15-6.
2. Saeidzadeh S, Darvishpoor Kakhki A, Abed Saeedi J. Factors associated with self-care agency in patients after percutaneous coronary intervention. J Clin Nurs 2016;25:3311-6.
3. Yildiz FT, Kaşikçi M. Impact of training based on Orem's theory on self-care agency and quality of life in patients with coronary artery disease. J Nurs Res 2020;28:e125.
4. Akyol AD, Cetinkaya Y, Bakan G, Yaralı S, Akkuş S. Self-care agency and factors related to this agency among patients with hypertension. J Clin Nurs 2007;16:679-87.
5. Chen C, Chen Y, Huang Q, Yan S, Zhu J. Self-care ability of patients with severe Mental disorders: Based on community patients investigation in Beijing, China. Front Public Health 2022;10:847098.
6. Atashpeikar S, Jalilazar T, Heidarzadeh M. Self-care ability in hemodialysis patients. J Caring Sci 2012;1:31-5.
7. Abu-Baker NN, Al-Zyoud NmH, Alshraifeen A. Quality of life and self-care ability among individuals with spinal cord injury. Clin Nurs Res 2021;30:883-91.
8. Mohammad Talebi H, Firouzkouhi M, Alimohammadi N, Azizi N, Amiri F. Pressure ulcer in diabetic older adults with Covid-19; A narrative review. J Diabetes Nurs 2021;9:1503-603.
9. Noohi S, Karamitanha F, Shoghli A. Self-care ability of the elderly and related factors. Prev Care Nurs Mid J 2022;12:19-25.
10. Dalir Z, Reihani Z, Mazlom R, Vakilian F. Effect of training based on teach back method on self-care in patients with heart failure. J Mazandaran Univ Med Sci 2016;25:209-20.
11. Hua CY, Huang Y, Su YH, Bu JY, Tao HM. Collaborative care model improves self-care ability, quality of life and cardiac function of patients with chronic heart failure. Braz J Med Biol Res 2017;50:e6355.
12. Mesbahi H, Kermansaravi F, Kiyani F. The effect of teach-back training on self-care and readmission of patients with heart failure. Med Surg Nurs J 2020;9:e111465
13. Yoshinaga R, Tomita K, Wakayama K, Furuta S, Miyamoto K, Matsuda Y, *et al*. Factors related to self-care behaviors among hospitalized patients with heart failure in Japan, based on the European Heart Failure Self-Care Behaviour Scale. J Phys Ther Sci 2022;34:416-21.
14. Tangus C, Githemo G, Onsongo L. Self-care abilities of patients on maintenance hemodialysis at kenyatta national hospital renal unit, Kenya. Kenyan Journal of Nursing and Midwifery. 2022;7.
15. Oksel E, AkbiyIk A, Kocak G. FP32 Self-care behaviour analysis of patients with chronic heart failure. Eur J Cardiovasc Nurs 2009;8 (1_suppl):S22-S22.
16. Watson J. Unitary caring science: Philosophy and praxis of nursing: University Press of Colorado; 2018.
17. Cirelli MA, Lacerda MS, Lopes CT, de Lima Lopes J, de Barros ALBL. Correlations between stress, anxiety and depression and sociodemographic and clinical characteristics among outpatients with heart failure. Archives of Psychiatric Nursing. 2018;32:235-41.
18. McEwan M, Wills EM. Theoretical basis for nursing: Lippincott Williams & Wilkins; 2021.
19. Tektaş P, Çam O. The effects of nursing care based on Watson's theory of human caring on the mental health of pregnant women after a pregnancy loss. Archives of psychiatric nursing. 2017;31:440-6.
20. Halakou S, Sanagoo A, Kalantari S, Jouybari L. Application Of Watson Human Care Theory On Anxiety And Frustration Of An Adolescent With Trauma And Burn Injury: An Educational Report. Education & Ethic In Nursing. 2020;9:17-25.
21. Moradi M, Doostkami M, Behnamfar N, Rafiemanesh H, Behzadmehr R. Global prevalence of depression among heart failure patients: a systematic review and meta-analysis. Current problems in cardiology. 2022;47:100848.
22. Bayuo J. Case study in caring application of Watson's theory of human caring to end of life care in the burns intensive care unit: A case report. International Journal of Human Caring. 2017;21:142-4.
23. Aghaei MH, Vanaki Z, Mohammadi E. Watson's human caring theory-based palliative care: a discussion paper. International Journal of Cancer Management. 2020;13.
24. Mohammad HM, Farahani B, Zohour A, Panahi AS. Self-care ability based on Orem's theory in individuals with coronary artery disease. 2010.