

ASSESSMENT OF SELF-CARE IN HEART FAILURE PATIENTS

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ABSTRACT: The objective in this study was to characterize the clinical and sociodemographic profile of heart failure patients and to describe the self-care behavior. Descriptive and cross-sectional study with a non-probabilistic sample of 57 cardiology nursing patients at a public hospital in Recife, Brazil, between May and September 2016. The self-care was assessed by means of the Self-Care of Heart Failure Index version 6.2, Brazilian version. The participants' mean age was 62.9 years; 31 (54.4%) men; 36 (63.2%) literate; 26 (45.6%) suffering from hypertensive etiology and 30 (52.6%) in functional class III. The mean scores for the subscales indicated inappropriate self-care (self-care maintenance: 43.3; self-care management: 37.5 and confidence in self-care: 54.3). Higher scores were associated with education, with literate participants obtaining a mean score of 61 points ($p=0.002$). Investments are needed to improve self-care and nursing can play a relevant role in this improvement.

DESCRIPTORS: Self-care; Heart failure; Cardiovascular nursing; Quality of life; Chronic illness.

AVALIAÇÃO DO AUTOCUIDADO NOS PORTADORES DE INSUFICIÊNCIA CARDÍACA

RESUMO: O objetivo deste estudo foi caracterizar o perfil clínico e sociodemográfico dos portadores de Insuficiência Cardíaca e descrever o comportamento de autocuidado. Estudo transversal descritivo, com amostra não probabilística de 57 pacientes da enfermagem cardiologia de hospital público do Recife, Brasil, entre maio e setembro de 2016. O autocuidado foi avaliado pela *Self-Care of Heart Failure Index* versão 6.2, versão brasileira. A idade média dos participantes foi de 62,9 anos; 31 (54,4%) homens; 36 (63,2%) alfabetizados; 26 (45,6%) de etiologia hipertensiva e 30 (52,6%) em classe funcional III. As médias dos escores nas subescalas indicaram autocuidado inadequado (manutenção do autocuidado: 43,3; manejo do autocuidado: 37,5 e confiança do autocuidado: 54,3). Escores mais elevados foram associados com escolaridade, os alfabetizados obtiveram média de 61 pontos ($p=0,002$). São necessários investimentos para melhorar o autocuidado e a enfermagem pode ter papel relevante nessa melhora.

DESCRIPTORIOS: Autocuidado; Insuficiência cardíaca; Enfermagem cardiovascular; Qualidade de vida; Doença crônica.

EVALUACIÓN DEL AUTOCUIDADO EN LOS PORTADORES DE INSUFICIENCIA CARDÍACA

RESUMEN: El objetivo de este estudio fue caracterizar el perfil clínico y sociodemográfico de los portadores de Insuficiencia Cardíaca y describir el comportamiento de autocuidado. Estudio transversal descriptivo, con muestra no probabilística de 57 pacientes de la enfermería cardiología de hospital público de Recife, Brasil, entre mayo y septiembre de 2016. El autocuidado fue evaluado por la *Self-Care of Heart Failure Index* versión 6.2, versión brasileña. El promedio de edad de los participantes fue de 62,9 años; 31 (54,4%) hombres; 36 (63,2%) alfabetizados; 26 (45,6%) de etiología hipertensiva y 30 (52,6%) en clase funcional III. Los promedios de los scores en las subescalas indicaron autocuidado inadecuado (mantenimiento del autocuidado: 43,3; gestión del autocuidado: 37,5 y confianza en el autocuidado: 54,3). Puntuaciones superiores fueron asociadas con escolaridad, los alfabetizados alcanzaron promedio de 61 puntos ($p=0,002$). Son necesarias inversiones para mejorar el autocuidado y la enfermería puede tener papel relevante en esa mejora.

DESCRIPTORIOS: Autocuidado; Insuficiencia cardíaca; Enfermería cardiovascular; Calidad de vida; Enfermedad crónica.

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● INTRODUCTION

Heart Failure (HF) is a chronic and progressive syndrome, associated with hospital readmissions, low quality of life, risk of early mortality, and causing high costs for the health system. It is a systemic disease, defined as a cardiac dysfunction that causes inadequate blood supply to meet the metabolic needs of tissue in case of normal venous return, or does so only under high filling pressure. Evidenced by a set of signs and symptoms of pulmonary and systemic congestion, it is characterized as the final stage of all cardiovascular diseases⁽¹⁾.

In Brazil, it is estimated that 6.4 million Brazilians suffer from HF. This disease is responsible for high hospital costs, for a large number of emergency care cases, it causes loss of quality of life and, often, early retirements with high costs for the country⁽²⁾.

The treatment of HF involves the association of pharmacological and non-pharmacological therapy. Pharmacological treatment consists of the optimization of drugs with proven impact on morbidity and mortality. Associated with pharmacological treatment, measures related to adherence to medications and lifestyle changes related to self-care offer proven benefits⁽³⁾.

The success of treatment depends on patients' compliance, who need to modify behaviors and lifestyles. Therefore, proper knowledge about the disease, signs and symptoms of decompensation and its treatment is necessary to avoid hospitalization and improve the quality of life⁽³⁾.

In HF, self-care refers to people's behaviors to maintain their health and the decisions they make about the worsening of symptoms when they occur. Self-care maintenance involves compliance with pharmacological recommendations, consumption of low-salt diet, cessation of tobacco use, limited alcohol consumption, daily monitoring of weight, and signs or symptoms of HF decompensation. In this perspective, self-care is a decision-making process that patients use in choosing behaviors that maintain physiological stability, and how they respond to symptoms when they occur⁽⁴⁾.

Studies show that self-care in HF is inadequate and that individuals who participated in a self-management educational program showed better self-care behavior. Sociodemographic characteristics, cultural aspects, level of education and clinical characteristic of HF are described in the literature as variables that influence the self-care of HF patients⁽⁴⁾.

The little knowledge about HF and its treatment, as well as self-care measures, has been considered a predictor of clinical instability and consequent hospital readmission. Studies show that hospital readmissions could be avoided in approximately 40-59% of HF patients, through discharge planning, adequate rehabilitation, identification of problems regarding correct medication use, and patient and family orientation for the early recognition of signs and symptoms of HF⁽⁵⁾.

Lack of knowledge contributes to the worsening of patients' quality of life, social isolation, increased comorbidities, absence of self-care, lack of knowledge about signs and symptoms, and non-compliance with the treatment. These factors are inherent to increasing health spending, since patients' knowledge about their condition is determinant for the treatment compliance and success⁽⁶⁾.

Little research has been done in Brazil on self-care behavior, which justifies this study. Knowing the habit of Brazilians with HF contributes to the nurses' recognition of behaviors that need to be modified or included to control the disease and, consequently, achieve a better quality of life.

The objective of this study was to characterize the clinical and sociodemographic profile of patients with HF and to describe the self-care behavior of adult patients with HF, using the Brazilian version of the Self-Care of Heart Failure Index (SCHFI).

● METHOD

A cross-sectional, observational study was carried out with data obtained through a face-to-face interview, involving a non-probabilistic sample of 57 adult patients with a background diagnosis of HF, admitted to the cardiology ward of a public hospital specialized in cardiology in the metropolitan

region of Recife, Brazil. The study took place from May to September 2016.

For recruitment, the researchers previously checked the medical records of potentially eligible patients. The following inclusion criteria were applied: patients aged ≥ 18 years; of both sexes, diagnosed with HF; second or other hospitalization; cause of hospitalization decompensated HF; the patient is stable. Patients with first hospitalization, in a compromised or severe condition or without a confirmed diagnosis of HF were excluded.

Self-care behavior was evaluated using the Brazilian version of the Self-Care of Heart Failure Index (SCHFI)⁽⁷⁾. The SCHFI is a self-care measure composed of 22 items, divided into three scales: self-care maintenance (10 items) related to behaviors to maintain physiological stability; self-care management (6 items) related to patients' behavior when symptoms occur and confidence in self-care (6 items). The scores for each domain range from 0-100 points, calculated by transforming the pure scores (each scale item ranges from 1 to 4). Higher scores reflect higher self-care and scores ≥ 70 points for each subscale indicate adequate self-care⁽⁷⁾.

Regarding the sociodemographic variables, we considered age, sex, education, race, marital life and family income. The clinical variables studied were: functional class of HF (according to the researchers' evaluation at the time of data collection, according to the New York Heart Association (NYHA) guidelines)⁽⁶⁾ and etiology of HF (as recorded in the patient's chart).

The data were analyzed in IBM® SPSS® v. 24.0 for Microsoft Windows®. Descriptive statistics were applied to the sociodemographic variables. The variables of the Self-Care Heart Failure Index were presented as means, standard deviations and 95% confidence intervals. Finally, the difference of means was analyzed between the Self-Care Heart Failure Index scores and the variables gender, education, functional class and etiology of heart failure. Education was dichotomized into literate and illiterate. The functional class was analyzed in four categories and the etiology was analyzed in six categories, which were included in the research.

The dichotomous variables (gender and education) were analyzed using Student's t-test for independent samples. Functional class was analyzed by means of ANOVA and etiology using the Kruskal-Wallis test. For all tests, statistical significance was set at $p < 0.05$.

The study received approval from the Research Ethics Committee of the Instituto de Medicina Integral Professor Fernando Figueira - IMIP / PE under opinion 1.541.090.

● RESULTS

Fifty-seven patients were evaluated, with an average age of 62 years, ranging from 29 to 89 years, predominantly male, with hypertension as the cause of HF and in functional class III. In Table 1, the participants' sociodemographic and clinical characteristics are presented.

Table 1 – Sociodemographic and clinical characteristics of participants (N=57). Metropolitan Region of Recife, PE, Brazil, 2016 (continues)

Variables	Mean	SD	N	%
Age (years)	62,9	12,2		
Gender				
Male			31	54.4
Female			26	45.6
Ethnic origin				
White			16	28.1
Afro-American			5	8.8
Mulatto			36	63.2
Education				

Illiterate	21	36.8
Literate	36	63.2
Marital Status		
Single	15	27.3
Married	29	52.7
Divorced	5	9.1
Widowed	6	10.9
Family income		
< 1 minimum wage	7	12.3
1 minimum wage	43	75.4
> 1 minimum wage	7	12.3
Etiology		
Hypertensive	26	45.6
Chagas' disease	2	3.5
Ischemic	10	17.5
Idiopathic	13	22.8
Valvar	3	5.3
Alcoholic	3	5.3
Functional class		
I	6	10.5
II	16	28.1
III	30	52.6
IV	5	8.8

In Table 2, the descriptive statistics are presented for the scales: self-care maintenance (maintenance), self-care management (management) and trust in self-care (trust). The proportions of patients with appropriate self-care (score ≥ 70 points) were: maintenance = two patients (3.5%), management = eight patients (14%) and trust = 15 (26.3%).

Table 2 – Descriptive statistics of Self-Care Heart Failure Index, Brazilian version (N=57). Metropolitan Region of Recife, PE, Brazil, 2016 (continues)

	Mean	Standard Deviation	95% CI
Self-care maintenance			
1. Do you weigh yourself?	1.8	1	1.5-2
2. Do you check if your ankles are swollen?	2.3	1.3	1.9-2.6
3. Do you try to avoid getting sick (for example: be vaccinated against flu, avoiding contact with sick people)?	2.6	1.3	2.3-3
4. Do you practice any physical activity?	1.4	0.9	1.1-1.6
5. Are you assiduous in the consultations with the doctor or nurse?	3.3	1.1	3.0-3.6
6. Do you ingest a low-salt diet?	2.7	1.3	2.4-3.1
7. Do you exercise for 30 minutes?	1.5	1	1.2-1.7
8. Do you forget or fail to take any of your medicines?	1.8	1.2	1.5-2.2
9. Do you request foods with little salt when eating out or visiting someone?	2.0	1.3	1.6-2.3
10. Do you use a system (pillbox or reminders) to remind you about your medicines?	2.5	1.4	2.1-2.9
Total score – Self-care maintenance	43.3	2.5	38.3-48.2

Self-care management			
11. How quickly did you recognize them as symptoms of heart failure?	1.6	1.6	1.1-2
12. Reduce the salt in your diet	1.7	1.2	1.4-2
13. Reduce fluid intake	1.6	1	1.3-1.8
14. Take a further diuretic	1.2	0.6	1.0-1.3
15. Contact your doctor or nurse for guidance	3.1	1	2.8-3.4
16. Think of one of the above features you tried the last time when you had trouble to breathe or swollen ankles. Are you sure this feature helped you?	2.5	1.4	2.1-2.8
Total score – Self-care management	37.5	3.1	31.4-43.9
Trust in self-care			
17. Be free of the heart failure symptoms	1.7	0.9	1.4-1.9
18. Follow the recommended treatment	3.2	0.9	2.9-3.4
19. Assess the importance of your symptoms	2.6	1	2.4-2.9
20. Recognize changes in health if they occur	2.7	1	2.5-3
21. Do something that can relieve your symptoms	2.8	0.9	2.6-3
22. Assess whether a drug works	2.8	0.9	2.6-3
Total score – Trust in self-care	54.3	2.8	48.6-60

Tables 3, 4 and 5 present the results of the association tests among selected variables and the SCHFI. In the subscale trust in self-care, the variable education ($p=0.002$) was significant for better self-care (Table 5).

Table 3 – Analysis of difference of means between selected variables and Self-Care Heart Failure Index, subscale self-care maintenance, Brazilian version (N=57). Metropolitan Region of Recife, PE, Brazil, 2016

Variables	Mean	SD	p-value
Gender			0,46
Male	45	20,7	
Female	41,3	16	
Education			0,12
Illiterate	38,2	19,2	
Literate	46,2	17,9	
Functional class			0,466
I	37,8	13,9	
II	47,5	16,2	
III	40,9	21	
IV	50,7	14,8	
Etiology			0,513
Hypertensive	43,3	15,8	
Chagas' disease	70	33	
Ischemic	42,8	22,2	
Idiopathic	43,8	19,9	
Valvar	40	18,6	
Alcoholic	27,8	1,9	

Table 4 – Analysis of difference of means between selected variables and Self-Care Heart Failure Index, subscale self-care management, Brazilian version (N=57). Metropolitan Region of Recife, PE, Brazil, 2016

Variables	Mean	SD	p-value
Gender			0.391
Male	40.2	24.8	
Female	34.8	21.7	
Education			0.095
Illiterate	31	20.8	
Literate	41.7	24.2	
Functional class			0.841
I	33.3	11.7	
II	38.1	21.4	
III	37	26.1	
IV	46	27	
Etiology			0.126
Hypertensive	34	20.1	
Chagas' disease	72.5	3.5	
Ischemic	39.1	19.8	
Idiopathic	44.2	25.1	
Valvar	38.3	46.5	
Alcoholic	13.3	2.9	

Table 5 – Analysis of difference of means between selected variables and Self-Care Heart Failure Index, subscale trust in self-care, Brazilian version (N=57). Metropolitan Region of Recife, PE, Brazil, 2016

Variables	Mean	SD	p-value
Gender			0.548
Male	52.8	22.7	
Female	56.2	20.2	
Education			0.002
Illiterate	42.9	22	
Literate	61	18.4	
Functional class			0.218
I	70.4	19.4	
II	51.1	21.1	
III	51.9	21.4	
IV	60	21.7	
Etiology			0.685
Hypertensive	55	22.1	
Chagas' disease	61.2	15.7	
Ischemic	54.6	23	
Idiopathic	54.7	24.2	
Valvar	57.5	19.5	
Alcoholic	38.9	0	

● DISCUSSION

In this study, the mean scores obtained on the maintenance, management and trust in self-care scales of the SCHFI, version 6.2, were all inferior to 70 points (Table 2), which is the minimum limit for scores indicating adequate self-care.

These results are similar to the study conducted in the state of Rio Grande do Sul, where scores for self-care maintenance (47; standard deviation-sd = 28.3) and confidence in self-care (58; sd = 25.5)⁽⁸⁾ were similar to the scores in this study (43.3; sd = 2.5 and 54.3; sd = 2.8, respectively, according to Table 2). This was not the case for self-care management though, which in the study mentioned had a mean score of 57 (sd = 14.3), against 37.5 in this study (sd = 3.1, Table 2).

The content of the self-care maintenance scale deals with behaviors to maintain physiological stability⁽⁴⁾. The proportion of adequate self-care (3.5%) in the self-care maintenance scale was relatively similar to the result of an evaluation performed in the city of São Paulo, which was 6.9%⁽⁴⁾. In another study conducted in Italy, however, the observed value was higher (55.26%) than the result of this study, even though it was inferior to the scale classified as adequate, showing a significant difference⁽⁹⁾.

This can be explained by patients' lack of knowledge about the disease and adequate care. Participation in multidisciplinary programs aimed at symptom control is a common strategy in other realities, different from the reality of the study population, which could explain the results regarding maintenance of self-care⁽⁴⁾.

Among the items in the self-care maintenance subscale, the lowest mean scores were for behaviors: "Do you practice any physical activity?", "Do you exercise for 30 minutes?" (Table 2). These findings are similar to those of other studies, showing that low level of physical activity is common among patients with heart failure, despite possible cultural differences^(4,9-10).

The low level of physical activity may be related to activity intolerance and exacerbation of symptoms in case of exertion, common in patients with HF, and to the lack of programs to promote the practice of physical activities by HF patients in Brazil⁽⁴⁾. Evidence on the benefits of physical activity turns physical exercise into an important form of disease control and treatment.

Guidance on the exercise to be performed should be individualized according to the degree of HF and the age of the patient. A home walking program is one of the best options to prevent the negative consequences, both physiologically and psychologically, of inactivity. Patients should be instructed to identify if there is absence or presence of fatigue and shortness of breath to perform daily activities and, thereafter, gradually begin physical exercise if there is no medical restriction⁽¹¹⁾.

The subscale self-care management is related to the behavior of patients when symptoms occur. The proportion of patients with adequate self-care (14%) was equal to the result found in a study conducted in the city of São Paulo (14.7%), higher than that found in a study with a Thai population (5.0%)⁽¹²⁾, but lower than that found in samples of Italians (24.4%)⁽⁹⁾ and Chinese (34.9%)⁽¹⁰⁾.

The item "ingesting an additional diuretic" had one of the lowest scores in the self-care management scale (Table 2), which may have contributed to the fact that the mean score on this scale was far below adequate, as observed in other studies^(4,9-10). In the hospital where this research was conducted, recommending the use of an extra diuretic is not a routine practice.

The proportion of patients with confidence in adequate self-care (26.3%) was higher than in the study conducted in São Paulo (19.0%)⁽⁴⁾ and in developed countries such as Italy (21.2%)⁽⁹⁾. It is believed that confidence in self-care has a moderating effect on self-care in different outcomes, such as compliance.

The implementation of multidisciplinary programs with home visits and telephone follow-up, so that the patient properly recognizes and manages his symptoms, is a combination whose effectiveness for self-care can strengthen the patient's confidence in the dominion of his health condition. Another important consideration is that the scale of confidence in self-care may be influenced by social desirability, which requires caution in the interpretation of results related to this scale⁽⁴⁾.

Male patients scored higher than women on the self-care maintenance and management subscales, but the score was not significant ($p = 0.460$ and $p = 0.391$, respectively). This result is different from another study carried out in Italy, in which women's self-care was greater than men's⁽⁹⁾. This can be explained by the fact that the number of men interviewed has been higher than the number of female

participants. Men and women with HF may have different experiences and thus use distinct strategies to confront the disease. Women can have a better perception of health and construct more effective coping strategies than men⁽¹³⁾.

The literate patients had better self-care compared to the illiterate in the three subscales, but only the self-care confidence scale was significant ($p = 0.002$). The result supports a survey conducted in Rio Grande do Sul, in which patients with higher education levels presented higher self-care scores⁽¹⁴⁾. As in our study, the greater the patient's level of education, the greater his/her ability to understand the disease, signs/symptoms and the easier the decision making for health promotion, recovery and protection.

Patients with functional class IV had better self-care in the subscales self-care maintenance and management, but without significance. This result differs from the study conducted in Italy⁽⁹⁾, in which patients with functional class IV obtained worse self-care in the three subscales. In the confidence subscale, the patient with functional class I had good self-care while, in a Chinese study, patients with functional class II had better self-care in the confidence subscale⁽¹⁰⁾.

Regarding the etiology, there was no significance in the results of the three subscales. No studies were found in the literature that related the etiology to the self-care of patients with heart failure.

The study showed that participating patients have poor self-management. This result suggests the need for urgent interventions to promote self-care in the population.

Nurses have a fundamental role in promoting the health of these patients, promoting actions so that they can be trained for self-care, and thus possess autonomy to maintain their health condition and, hence, a better quality of life.

The evaluation of self-care behavior in HF is fundamental in the approach of HF clients, so that nurses can contribute effectively to the development of cognitive and instrumental skills that facilitate the adoption of adaptive strategies that contribute to the maintenance of independence in self-care, in a process of empowerment and autonomy. The actions aim to promote improvements in patients' quality of life, making them more active in decision making about the way of life, taking responsibility for the behaviors that lead to the improvement of their health⁽¹¹⁾.

This study was limited by the patients' lack of knowledge about the disease, which made it difficult to understand some of the questions in the questionnaire.

● FINAL CONSIDERATIONS

The study showed that self-care in this group of Brazilian is improper, but similar to other countries. Further studies are needed to get to know the self-care models in cases of HF and identify relevant variables in the self-care response. These research results will be useful to develop nursing interventions that can promote and improve this population's self-care.

Studies that produce and summarize evidence about the interventions to maintain and manage self-care in HF patients are needed to guide the team's therapeutic decisions, with a view to offering the best possible quality of life to these patients.

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