







EFFECT OF THE TRANSITION PROGRAM ON SELF-CARE OF PATIENTS WITH HEART FAILURE: A RANDOMIZED CLINICAL TRIAL

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ABSTRACT

Objective: analyze the effect of transitional care on self-care, quality of life and knowledge of disease of patients admitted with heart failure.

Method: this is a blind randomized clinical trial with 74 patients with heart failure in two quaternary hospitals in Rio de Janeiro-RJ between December 2017 and February 2020. The intervention group received transitional care with educational management by a nurse at the bedside from admission until hospital discharge and telephone consultation for 30 days after discharge. The control group received usual follow-up. The primary outcomes included maintenance skills, management and confidence in self-care, and the secondary outcomes included quality of life and knowledge of disease. Both were assessed using questionnaires validated for use in Brazil. Data were analyzed by repeated measures ANOVA.

Results: the intervention group had higher scores for maintenance (74.3 vs 44.2; $p < 0.001$) and self-care confidence (79.3 vs 56.4; $p < 0.001$) and knowledge of disease (41.3 vs 27.5; $p < 0.001$) and lower quality of life scores (42.1 vs 64.5; $p < 0.001$) 30 days after discharge.

Conclusion: transitional care was effective in improving quality of life, knowledge of disease, maintenance and confidence in self-care. This study was registered in the Brazilian Clinical Trials Registry, under RBR-2dpc6b.

DESCRIPTORS: Heart failure. Nursing. Transitional care. Selfcare. Quality of life. Knowledge. Clinical trial.

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EFEITO DO PROGRAMA DE TRANSIÇÃO NO AUTOCUIDADO DE PACIENTES COM INSUFICIÊNCIA CARDÍACA: ENSAIO CLÍNICO RANDOMIZADO

RESUMO

Objetivo: analisar o efeito do cuidado de transição no autocuidado, qualidade de vida e conhecimento da doença de pacientes hospitalizados com insuficiência cardíaca.

Método: ensaio clínico randomizado cego com 74 pacientes com insuficiência cardíaca em dois hospitais quaternários do Rio de Janeiro-RJ, entre dezembro de 2017 e fevereiro de 2020. O grupo intervenção recebeu cuidados de transição com gerenciamento educativo por enfermeira, à beira do leito, desde a admissão até a alta hospitalar e consulta telefônica por 30 dias após a alta. O grupo controle recebeu acompanhamento usual. Os desfechos primários incluíram habilidades de manutenção, manejo e confiança no autocuidado, e os desfechos secundários, qualidade de vida e conhecimento da doença. Ambos foram avaliados por questionários validados para uso no Brasil. Os dados foram analisados pelo ANOVA de medidas repetidas.

Resultados: o grupo intervenção apresentou maiores escores para manutenção (74,3 vs 44,2; $p < 0,001$) e confiança do autocuidado (79,3 vs 56,4; $p < 0,001$) e conhecimento da doença (41,3 vs 27,5; $p < 0,001$) e menores escores de qualidade de vida (42,1 vs 64,5; $p < 0,001$) em 30 dias após a alta.

Conclusão: o cuidado de transição foi efetivo na melhora da qualidade de vida, conhecimento da doença, manutenção e confiança no autocuidado. Estudo registrado no Registro Brasileiro de Ensaios Clínicos, sob o número RBR-2dpc6b.

DESCRITORES: Insuficiência cardíaca. Enfermagem. Cuidado transicional. Autocuidado. Qualidade de vida. Conhecimento. Ensaio clínico.

EFEITO DEL PROGRAMA DE TRANSICIÓN EN EL AUTOCUIDADO DE PACIENTES CON INSUFICIENCIA CARDÍACA: ENSAYO CLÍNICO ALEATORIZADO

RESUMEN

Objetivo: analizar el efecto de los cuidados transicionales sobre el autocuidado, la calidad de vida e y el conocimiento de la enfermedad de pacientes hospitalizados con insuficiencia cardíaca.

Método: ensayo clínico aleatorio ciego con 74 pacientes con insuficiencia cardíaca en dos hospitales cuaternarios de Río de Janeiro-RJ entre diciembre de 2017 y febrero de 2020. El grupo de intervención recibió cuidados de transición con manejo educativo por parte de una enfermera al lado de la cama desde el ingreso hasta el alta hospitalaria y Consulta telefónica durante 30 días después del alta. El grupo de control recibió el seguimiento habitual. Los resultados primarios incluyeron habilidades de mantenimiento, gestión y confianza en el autocuidado, y los resultados secundarios incluyeron calidad de vida y conocimiento de la enfermedad. Ambos fueron evaluados mediante cuestionarios validados para su uso en Brasil. Los datos fueron analizados mediante ANOVA de medidas repetidas.

Resultados: el grupo de intervención tuvo puntuaciones más altas en mantenimiento (74,3 vs 44,2; $p < 0,001$) y confianza en el autocuidado (79,3 vs 56,4; $p < 0,001$) y conocimiento de la enfermedad (41,3 vs 27,5; $p < 0,001$) y puntuaciones de calidad de vida más bajas (42,1 frente a 64,5; $p < 0,001$) 30 días después del alta.

Conclusión: la atención de transición fue eficaz para mejorar la calidad de vida, el conocimiento de la enfermedad, el mantenimiento y la confianza en el autocuidado. Estudio inscrito en el Registro Brasileño de Ensayos Clínicos, con el número RBR-2dpc6b.

DESCRIPTORES: Insuficiencia cardíaca. Enfermería. Cuidado de transición. Autocuidado. Calidad de vida. Conocimiento. Ensayo clínico.

INTRODUCTION

Heart failure (HF) is a chronic and complex clinical syndrome, often fatal, considered an emerging epidemic¹⁻². Among the most prevalent factors for decompensation and consequent hospital admission, the main cause continues to be individuals' poor self-care, which is difficult and complex as it involves polypharmacy and requires changes in daily lifestyle habits³. Low self-care is associated with new episodes of decompensation and readmissions within 30 days of discharge (23%), with mortality within one year (27%)⁴.

Self-care comprises decision-making and maintaining healthy lifestyle habits and symptom management⁵⁻⁶. It involves the development of skills by individuals for activities such as measuring weight and edema, physical activity, attendance at appointments, diet, medications, recognition of signs and symptoms of decompensation and management of signs and symptoms and confidence in decision-making regarding HF⁵⁻⁶.

Patients with HF who demonstrate more effective self-care have been proven to have better quality of life and lower readmission and mortality rates⁴⁻⁵. Despite this, it has been shown that only between 7% and 18% of people with HF report adequate self-care behaviors⁷.

National and international HF treatment guidelines currently recognize the critical role of promoting self-care in decreasing unplanned hospital readmissions and improving quality of life in people with HF³⁻⁵. Among the recommended strategies are interventions linked to transitional care, which is defined as the implementation of practices coordinated by nurses to ensure continuity of care when transferring a patient admitted to hospital to hospital discharge⁸.

In the Brazilian health system, nurses have the role of providing transitional care in different areas of health care networks, especially in the hospital-outpatient care network transition⁹. This practice has been justified by the need to expand access to care for people managing chronic diseases⁹. Studies have used the strengths-based care approach as a theoretical framework to support nurses' clinical practice in transitional care, which strengthens nurses' participation in the management of chronic diseases, such as HF⁹. This practice model is centered on the individual or family and works on the development of self-care according to the context that patients experience⁸. In the aforementioned context, such practices are in line with the Brazilian Health System (SUS – *Sistema Único de Saúde*) principles, such as preservation of autonomy, comprehensive care, right to information and hierarchy of the network in health services⁸⁻⁹.

Systematic reviews with meta-analyses have already shown that combined strategies of transitional care programs based on educational management by nurses are effective in improving self-care in HF¹⁰⁻¹¹. Despite this, in Brazil, interventions implemented by nurses at the bedside have not yet been tested to measure self-care in patients with HF. In southern Brazil, a previous study assessed the effect of a strategy consisting of home visits with telephone consultations by nurses with improved self-care and knowledge of disease in patients with HF; however, care was implemented after hospital discharge¹².

This study presents a transitional care program with combined educational management actions by a nurse at the bedside, during hospital admission and by telephone consultation after discharge, developed based on the best evidence for admitted patients with HF.

There is still a gap regarding the hospital discharge process, which is poorly optimized for adequate preparation of patients with HF so that they can adequately carry out their self-care at home. Thus, the present clinical trial brought a proposal for a model based on international literature that makes it possible to innovate nursing care for patients with HF from hospital admission to 30 days post-discharge.

Therefore, it was hypothesized that the effectiveness of this program improves self-care skills within 30 days post-discharge. Furthermore, knowledge of disease and quality of life were assessed as secondary outcomes, as they directly influence self-care assessment³⁻⁵. This study aimed to analyze the effect of transitional care on self-care, quality of life and knowledge of disease of patients admitted with HF.

METHOD

This is a randomized clinical trial carried out in two distinct parallel groups: control group (CG), consisting of patients who received usual hospital follow-up, according to the institutional protocol; intervention group (IG), consisting of patients who received, in addition to the usual hospital follow-up, transitional care with combined educational management actions by a nurse at the bedside during hospital admission and by telephone consultation after discharge. The study has the code RBR-2dpc6b in the Brazilian Registry of Clinical Trials and was written in accordance with CONSORT recommendations¹³.

In this study, patients admitted aged 18 years and over, with a previous medical diagnosis of HF regardless of etiology, admitted with decompensated HF (ICD I50), with normal or reduced ejection fraction were included. Patients with hemodynamic instability, neurological and/or cognitive impairment reported in medical records, who were in studies with educational interventions, in the perioperative period, transferred to another hospital institution and in preparation for heart transplantation were excluded.

The research was carried out in two centers in the state of Rio de Janeiro between December 2017 and February 2020. Both are quaternary hospitals that assist the population of this state in a referenced manner and follow the Brazilian HF Guideline⁵.

The study protocol was conducted by independent teams for recruitment, intervention and follow-up and followed the following steps:

1) Collection – once a patient was admitted due to a medical diagnosis of decompensated HF, their medical records were consulted. A period of 72 to 96 hours was waited to check the clinical evolution and compliance with eligibility criteria. The patient who agreed to participate in the study signed an Informed Consent Form (ICF).

2) Initial assessment – patients' sociodemographic and clinical data were collected using an instrument created by the authors, with the following information: age; sex; self-declared race; marital status; source of income; length of study; length of stay (days); presence of a caregiver; duration of illness and treatment; left ventricular ejection fraction (LVEF); previous hospitalization for HF in the last three months; reason for HF decompensation; New York Heart Association (NYHA) functional class; HF etiologies; comorbidities; smoking; alcoholism; vaccination status; and medications in use.

Furthermore, at this stage questionnaires were applied to assess the outcomes studied, such as self-care (maintenance, management and confidence), considered the primary outcomes¹³, and quality of life and knowledge of disease¹⁴⁻¹⁵, defined as secondary outcomes.

Self-care was assessed using the translated and validated version for Brazil of the Self-Care of Heart Failure Index (SCHFI) questionnaire version 6.2, which has 22 questions divided into three scales: Self-care maintenance (10 items), Self-care management (6 items) and Self-care confidence (6 items)¹⁴. Total scores for each subscale were calculated separately, each of which could range from 0 to 100 points; a score of 70 and above is considered adequate self-care. To calculate the maintenance score, item 8 is reversed, being the only one that has a negative answer¹⁴.

Quality of life, defined as an individual's perception of their life and the discrepancy between expectations and lived reality, was assessed using the translated and validated version in Brazil of the Minnesota Living with Heart Failure Questionnaire (MLHFQ)¹⁵. This consists of twenty-one (21)

questions relating to the limitations presented by patients with HF. The last month should be considered to answer the questions. The response scale for each question ranges from 0 to 5, where 0 (zero) is “none” and 5 (five) is “very much”. The higher the score, through summation, the worse the quality of life. According to the value of this score, quality of life is classified as good (< 24 points), moderate (between 24 and 45 points) and poor (> 45 points)¹⁵.

Knowledge of disease, which is related to the need for information about what patients really know about their syndrome, was assessed by the Knowledge of disease Questionnaire for Patients with Heart Failure (*Questionário de Conhecimentos da Doença para Pacientes com Insuficiência Cardíaca*), constructed and validated in Brazil¹⁶. This consists of nineteen (19) questions, which present four multiple-choice alternatives, with one correct answer (3 points); one incomplete (1 point); one wrong (0 points) and one “do not know” (0 points). The final score is calculated by the sum of all items and presents the following stratification: insufficient knowledge (below 17 points), little knowledge (between 17 and 28 points), acceptable (between 29 and 39 points), good (between 40 and 50 points) and excellent (between 51 and 57 points)¹⁶.

3) Randomization for CG or IG – to implement the simple random allocation sequence, the website <http://randomization.com> was used. A separate randomization was performed for each center. Patients who met the eligibility criteria were recruited into the study. Allocation among groups met a 1:1 ratio. In case of clinical instability and/or death after allocation, patients were discontinued.

4) Intervention – patients randomized to the IG were referred to the intervention team, which initiated the transitional care program protocol. Patients referred to the CG received follow-up according to institutional routine. This step is detailed in the next subtopic. The intervention team did not have access to information about the gatehrring and assessment steps.

5) Reassessment of outcomes – at the end of the 30-day post-discharge follow-up, the questionnaires recommended for the outcomes already described were reapplied.

In both study centers, patients from the CG and IG received usual hospital care. Admitted patients were assessed by a multidisciplinary team. Patients were weighed daily on an empty stomach upon awakening and their abdominal circumference was measured. The discussion about their clinical evolution took place through daily rounds, in which each team member presented patients’ health history.

Moreover, the prescription for hydrosaline restriction was carried out by the attending cardiologist. Water control occurred during meals, with limited supply of glasses of mineral water per day by the pantry team. Saline control was carried out by providing 1g sachets of salt at main meals, lunch and dinner. Both services were coordinated by the institutional nutrition service.

At the time of hospital discharge, patients were referred to HF outpatient clinics and invited to participate in guidance groups.

Patients allocated to the IG, in addition to receiving the usual follow-up described above, participated in the transitional care program, consisting of two steps: A) Educational management by a nurse specializing in HF at the bedside, which occurred during hospital admission; B) Telephone nursing consultation, carried out after hospital discharge.

The theoretical bases of the intervention protocol were Brazilian HF Guideline and the nursing interventions “Discharge plan” and “Telephone consultation”, recommended by the Nursing Interventions Classification (NIC)^{5,17}.

Step A of the transitional care intervention was bedside educational management, which occurred in five meetings, immediately after randomization, with 48-hour intervals between them. These meetings were previously scheduled between admitted patients and the nurses responsible for the intervention. The meetings lasted from 40 minutes to 1 hour (25 minutes of guidance + 15 minutes to clarify doubts) and the participation of family members took place with prior authorization from patients.

To enable the number of meetings in this intervention, a previous study was considered that demonstrated a mean hospital stay of 21 days in hospital beds in the SUS¹⁸.

The topics covered in educational management were: definition of HF; etiologies, main signs and symptoms and limitations imposed on daily activities; non-pharmacological treatment; way of controlling fluid and salt intake; fasting weighing; recognition of signs and symptoms of HF; limits imposed by HF; sleep hygiene; prevention against diseases that can decompensate HF; updating the vaccination record; attendance at appointments; conduct in case of decompensation of the syndrome; organization of patient documents; and the role of family/caregiver in the HF management process.

An educational kit was used as a teaching resource, which was made available to patients on the first day of intervention. The kit consisted of a measuring cup, fluid intake monitoring, daily weight recording form, vital signs, signs and symptoms, graduated scale and educational booklet.

It is noteworthy that the CG did not receive the kit, as it was material that was part of the educational management intervention. At the last meeting, on the day of hospital discharge, a discharge plan was provided to patients. Patients also received the nurses' telephone numbers (landline and mobile) to clarify doubts via call and text messages via SMS (short message service).

Step B of the transitional care intervention consisted of a telephone nursing consultation. Within 72 hours of hospital discharge, patients received their first consultation. The remaining consultations were held every seven days for four weeks. The consultations lasted 30 minutes and were guided by an instrument with 14 topics that dealt with self-care maintenance and management.

The study sample size was calculated based on a previous randomized clinical trial that used the same assessment instrument for the self-care outcome in patients with HF¹⁹. The variable "final self-care maintenance score" was chosen to calculate the sample, whose final values presented in the study were IG (69.0±13.9) and CG (56.9±17.2). This outcome presented the highest sample value for conducting the present study when compared to the self-care management and confidence outcomes. A 95% confidence level and 90% power were considered.

Sample size was determined using the application available on the website <http://www.openepi.com>. It was concluded that, to detect a significant difference between the means, a minimum sample of thirty-four patients in each group was necessary.

The summary of selection of the study participants was described according to the Consort diagram¹³ (Figure 1) Data were tabulated and analyzed using the Statistical Package for the Social Sciences (SPSS) version 24.0. Sociodemographic and clinical variables were described in relation to the total sample and also according to the IG and CG (Table 1). Categorical variables were expressed through absolute and percentage frequency distributions. Continuous variables were summarized by mean and 95% confidence interval. In the absence of normal distribution using the Shapiro-Wilk test, the variables were presented as median values with an interquartile range. There were no additional analyzes.

The outcomes were presented in graphs, with combinations between the two time categories (hospitalization vs 30 days after discharge) and the two group categories (intervention vs control). Normal distribution was used to represent the outcomes. Gamma distribution was used in case of asymmetric data to converge them to a normal distribution.

Self-care maintenance, management and confidence (primary outcomes), quality of life and knowledge of disease (secondary outcomes) scores were analyzed and compared using Generalized Linear Models (GLM) for repeated measures to verify the effects of interaction, time and group in the study (repeated measures ANOVA). GLM were adopted with analysis at more than one moment in time. If there are significant results, a post-test (post-hoc) would be applied using the Bonferroni correction, in order to compare which means differ between the IG and CG in hospital admission and 30 days post-discharge follow-ups (Figure 2).

Bivariate p-value < 0.05 was considered statistically significant for all analyses. There were no adjusted analyzes.

As per Resolution 466/2012 of the Brazilian National Health Council, this research guaranteed the maintenance of secrecy, confidentiality and privacy of research subjects' data.

RESULTS

Figure 1 presents the CONSORT diagram for selecting study participants¹³. Of 173 eligible patients during the data collection period, 89 were excluded. Therefore, 84 patients were randomized. Of these, 42 patients were allocated to the intervention group and 42 to CG. Five patients per group were lost to follow-up due to death, totaling 10 losses. At the end of the study, 37 patients per group were analyzed, totaling 74 participants.

Table 1 presents the initial sociodemographic and clinical characterization of patients admitted with HF as well as the outcomes measured at baseline (n=84). There was no statistically significant difference between the CG and IG. The groups were homogeneous regarding clinical and sociodemographic variables.

The GLM method with repeated measures verified the existence of group and time effects. There was an interaction effect on self-care maintenance (p<0.001) and confidence (p=0.002), quality of life (p<0.001) and knowledge of disease (p=0.003) scores. Regarding self-care management scores, there was only the isolated effect of time (p<0.001), with no significant difference in the isolated effect of group (p=0.172) and in the interaction factor of group and time (p=0.061).

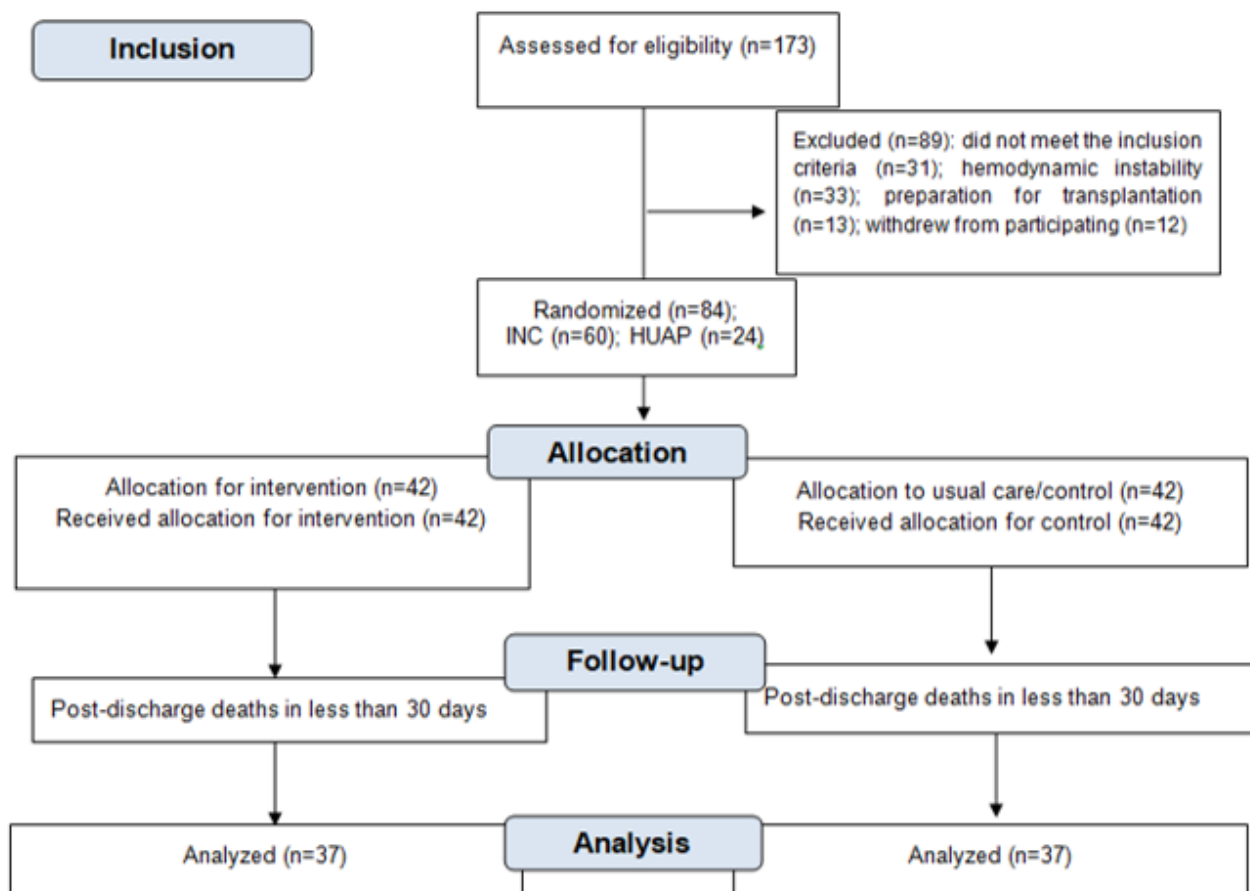


Figure 1 – CONSORT diagram. Niterói, RJ, Brazil, 2020.

Table 1 – Sociodemographic and clinical characterization of patients admitted with heart failure. Niterói, RJ, Brazil, 2020 (n=84).

Variables	Control group (CG; N=42)	Intervention group (IG; N=42)	Total group (N=84)	p-value
Age (years)*	54.2 (50.9-57.3)	52.6 (48.5-58.6)	53.4(50.8-56.1)	0.568
Male†	28 (66.7)	25 (59.5)	53 (63.1)	0.326 [§]
Self-declared color, brown†	25 (59.5)	21 (50.0)	46 (54.8)	0.51 [§]
Marital status, married/in a relationship†	24 (57.1)	22 (52.4)	46 (54.8)	0.827 [§]
Source of income, inactive†	23 (54.7)	25 (59.6)	48 (57.1)	0.706 [§]
Length of study (years)*	9.4(8.5-10.3)	9.0(7.9-10.1)	9.2 (8.5-9.9)	0.591
Presence of caregiver†	23 (54.8)	29 (69.0)	52 (61.9)	0.594 [§]
Length of illness (years) ‡	4.0 (2.0-10.5)	5.0 (15.0-7.5)	4.0 (2.0-8.0)	0.471 [¶]
Treatment time (years)‡	5.0 (2.0-10.5)	2.0 (1.0-6.5)	4.0 (1.0-7.0)	0.074 [¶]
Left ventricular ejection fraction (%)‡	31.0 (22.2-47.0)	30.0 (22.0-42.0)	30.0 (22.5-45.0)	0.731 [¶]
Length of stay (days) *	19.5 (9.7-24.5)	15.0 (11.5-21.5)	17.0 (10.0-23.0)	0.224
Reason for HF decompensation, poor hydrosaline adhesion†	31 (73.8)	37 (88.1)	68 (81.0)	0.095 [§]
Etiologies of HF, non-ischemic†	24 (57.1)	25 (59.5)	49 (58.3)	0.825
Most prevalent comorbidity				
Hypertension†	33 (78.6)	26 (61.9)	59 (70.2)	0.095 [§]
Smoking†	7 (16.7)	5 (11.9)	12 (14.3)	0.533 [§]
Alcoholism†	4 (9.5)	8 (19.0)	12 (14.3)	0.247 [§]
Not vaccinated for influenza †	27 (64.3)	23 (54.8)	50 (59.5)	0.302 [§]
Not vaccinated for <i>pneumococcus</i> †	36 (85.7)	34 (81.0)	70 (83.3)	0.39 [§]
Medication in use †				
Furosemide	22 (52.4)	31 (73.8)	53 (63.1)	0.948 [§]
Beta blocker	21 (50.0)	29 (69.0)	50 (59.5)	0.81 [§]
Spirolactone	17 (40.5)	21 (50.0)	38 (45.2)	0.474 [§]
Angiotensin-converting enzyme inhibitor/Angiotensin II receptor blocker	15 (35.7)	21 (50.0)	36 (42.8)	0.051 [§]
Initial self-care scores				
Maintenance*	46.0 (40.9-59.9)	46.7 (42.0-51.4)	46.3 (42.8-49.6)	0.836
Management*	49.8(42.8 – 56.9)	50.2 (43.3-57.0)	50.0 (45.2-54.8)	0.941
Confidence‡	61.1 (44.8-73.6)	66.7 (48.6-83.4)	61.1(45.8-77.8)	0.383 [¶]
Knowledge of disease‡	30.0 (15.7-40.2)	32.5(22.5-41.2)	31.5(20.2-40.7)	0.827 [¶]
Quality of life‡	81.0 (65.0-87.2)	73.0 (66.0-85.5)	74.5 (66.0-86.0)	0.275 [¶]

Caption: *Mean (95% CI); †n(n%); ‡ median (interquartile range); §chi-square test; ||Student's t test; ¶ Mann-Whitney test.

Figure 2 presents the results of the post-hoc test, demonstrating that the IG, compared to the CG, in the period of 30 days post-discharge, presented higher self-care maintenance (74.3 vs 44.2; $p < 0.001$) and confidence (79.3 vs 56.4; $p < 0.001$) and knowledge of disease (41.3 vs 27.5; $p < 0.001$) means. The IG also showed lower quality of life scores compared to the CG (42.1 vs 64.5; $p < 0.001$). The IG presented higher mean scores in the 30-day post-discharge period compared to length of hospital admission for self-care maintenance (74.3 vs 46.5; $p < 0.001$) and confidence (79.3 vs 61.0; $p < 0.001$) and knowledge of disease (41.3 vs 31.9; $p < 0.0001$) scores. And the quality of life score decreased (42.1 vs 75.2; $p < 0.0001$).

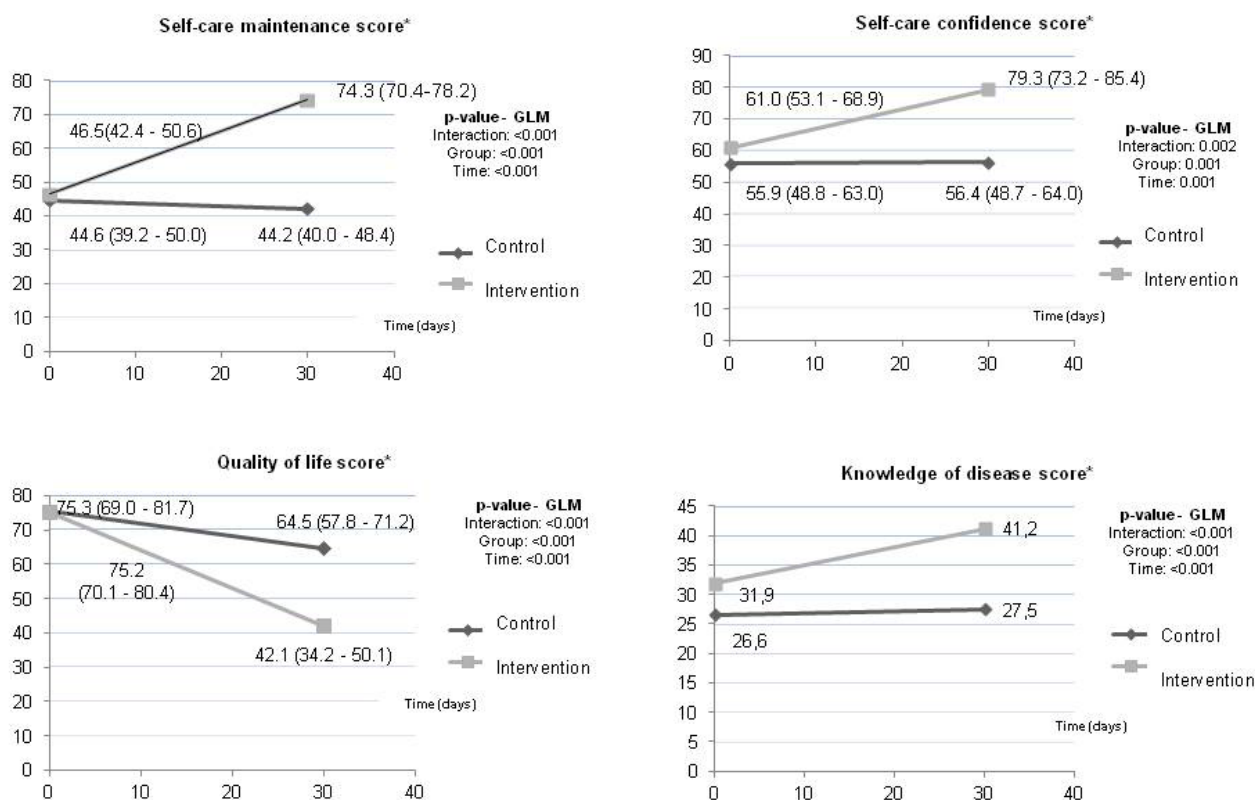


Figure 2 – Mean self-care maintenance and confidence, quality of life and knowledge of disease scores in relation to the group and time and summary of post-hoc tests. Niterói, RJ, Brazil, 2020. (n=74).

DISCUSSION

Transitional care with combined educational management actions by a nurse at the bedside, during hospital admission and by telephone consultation after discharge, improved self-care maintenance skills and confidence in patients with HF in the IG compared to the CG. There was also an effect on quality of life and knowledge of disease.

Corroborating these results, more recent clinical trials on transitional care in HF conducted by nurses showed improved self-care. In these studies, patient follow-up occurred after discharge, with educational sessions in the outpatient clinic or at home and telemonitoring^{20–22}. Self-care maintenance scores had approximate values, but higher than those of our patients (89 ± 11 ; 79.11 ± 11.8 , respectively)^{20–22}.

When admitted patients are discharged from the hospital, they are faced with important changes in their medication regimen and must follow recommendations to avoid new episodes of decompensation.

Among the factors that influence low self-care, the Brazilian reality shows that patients with HF treated in the SUS have mostly incomplete elementary school and have less access to the health system as well as specialist doctors and nurses⁴.

Considering that low education is a factor that hinders the understanding of guidelines on the pharmacological and non-pharmacological treatment of HF, implementing transitional care during hospital admission allows patients to improve learning and have greater confidence in carrying out self-care at home²³.

Hospital admission is a valuable opportunity to invest in transitional care with educational management by nurses. Hospital admission-discharge follow-up is a great moment of vulnerability for patients, who are overcoming a phase of decompensation of the disease, but who are still susceptible to cardiovascular events resulting from HF decompensation in the next six months⁴⁻⁵.

In this context, Brazilian HF guidelines advise that patients with HF should receive care from multidisciplinary teams to facilitate the implementation of the self-care approach, especially at this time of hospital admission, in order to early reduce the risk of readmission and improve survival⁵.

Regarding quality of life, there was a reduction in evaluative scores in the CG and IG in the 30-day post-discharge follow-up compared to the initial assessment. It was considered that, in this case, there was an influence on patients' clinical improvement after hospital admission. However, patients in the IG had an improvement in this outcome compared to the CG, with quality of life levels classified as moderate, according to the MLHFQ^{15,24}.

In comparison to this research, international clinical trials studied the quality of life outcome through interventions in patients with HF post-discharge and with longer follow-up times²⁵⁻²⁶.

A study carried out in the USA with 89 patients post-hospital discharge due to HF showed that weekly educational counseling via video calls and daily monitoring of vital signs had a beneficial effect on quality of life in six months (IG=39.5 vs CG= 45.2; p=0.02). The quality of life assessment instrument was the MLHFQ²⁵. Another clinical trial, a Chinese study carried out on 84 patients, showed the effect of telephone consultations associated with home visits on improving quality of life at the end of the 30-day and 12-week post-discharge follow-ups (IG=7.87 vs CG= 6.84). The assessment instrument used was the McGill Quality of Life Questionnaire-Hong Kong²⁶.

The difference of this clinical trial in relation to previous studies involving quality of life is in the context of hospital admission as an opportune moment to start the bedside transition care strategy, with early promotion of self-care before hospital discharge.

Regarding the knowledge of disease outcomes, the IG had a better average compared to the CG at the end of follow-up. This result is corroborated by results from recent international research, which presented interventions conducted by nurses, but in an outpatient setting and post-discharge²⁷⁻²⁹. Furthermore, the age profile of the samples was older (between 65 and 70 years old) and with better education than patients in the present study²⁷⁻²⁹.

Two clinical trials had telemonitoring and a multidisciplinary program in an HF clinic as transitional care strategies²⁷⁻²⁸. The teaching resources used were educational booklets based on HF guidelines²⁷⁻²⁸. One of the studies used a tablet as an educational tool²⁷. Only one quasi-experimental research was similar to the present study, which carried out a structured health education program by a nurse at the bedside during hospital admission²⁹.

The present study brought, as a differential teaching resource in transitional care, a hospital admission kit that aimed to promote knowledge about self-care to be developed at home as early as possible. The kit included teaching on proper weighing, counting liquids ingested using a measuring cup and a diary with notes monitoring symptoms, vital signs and water intake.

This resource, composed of lightweight and low-cost technologies, can be considered to improve knowledge of HF during transitional care, combined with post-discharge telephone consultation.

This clinical trial assessed outcomes that are interrelated in the life context of admitted HF patients. Low knowledge of disease combined with worse quality of life due to disease progression impairs self-care and adherence to treatment, causing short-term readmissions³⁰.

Implementing a transitional care program with educational management by a nurse initiated since hospital admission values patients' trajectory and highlights collaborative factors for HF decompensation. Furthermore, it provides a relationship of trust and bond between nurse/patient, essential for promoting individual-centered self-care. Transitional care helps to cope with the syndrome after discharge and maintain health balance, enabling a better quality of life.

The results of this study reinforce the need for research that consolidates the effect of transitional care on the self-care of patients with HF, as it is an incipient intervention in Brazil.

It is also noteworthy that, although the research was conducted in the state of Rio de Janeiro, the intervention protocol was based on international guidelines and literature according to the NIC. Furthermore, the participants in the present study presented a profile similar to that of international studies regarding self-care skill assessment, enabling the replicability of results in future research²⁰⁻²².

The limitation of this research was the short follow-up time, which may have influenced the lack of effect on the self-care management outcome.

CONCLUSION

The transitional care program applied to patients admitted with HF showed an effect on self-care maintenance and confidence skills as well as on knowledge of disease and quality of life scores. There was no effect on self-care management skills.

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NOTES

ORIGIN OF THE ARTICLE

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Data analysis and interpretation: Cavalcanti ACD.

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CONFLICT OF INTEREST

There is no conflict of interest.

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