Transitional care from the hospital to the home in heart failure: implementation of best practices

ABSTRACT

Objectives: Assess the compliance of the implementation of better evidence in the transitional care of the person with heart failure from the hospital to the home. Methods: Evidence implementation project according to the JBI methodology in a cardiology hospital in São Paulo. Six criteria were audited before and after implementing strategies to increase compliance with best practices. 14 nurses and 22 patients participated in the audits. Results: In the baseline audit, compliance was null with five of the six criteria. Strategies: training of nurses; reformulation of the hospital discharge form and guidance on self-care in care contexts; and making telephone contact on the 7th, 14th and 21st days after discharge. In the follow-up audit, there was 100% compliance with five of the six criteria. Conclusion: The project made it possible to increase the compliance of transitional care practices in people with heart failure with the recommendations based on the best evidence.

Descriptors: Transitional Care; Heart failure; Nursing Education; Self-Care; Evidence-Based Practice.

RESUMO

Objetivos: Avaliar a conformidade da implementação de melhores evidências no cuidado transicional da pessoa com insuficiência cardíaca do hospital para o domicílio. Métodos: Projeto de implementação de evidências conforme metodologia do JBI em um hospital cardiológico em São Paulo. Seis critérios foram auditados antes e depois da implementação de estratégias para aumentar a conformidade com as melhores práticas. Participaram das auditorias 14 enfermeiros e 22 pacientes. Resultados: Na auditoria de base, a conformidade foi nula com cinco dos seis critérios. Estratégias: capacitação dos enfermeiros; reformulação da ficha de alta hospitalar e orientações sobre autocuidado nos contextos de cuidado; e realização de contato telefónico no 7º, 14º e 21º dias após alta. Na auditoria de seguimento, houve 100% de conformidade com cinco dos seis critérios. Conclusão: O projeto permitiu aumentar a conformidade das práticas de cuidado transicional em pessoas com insuficiência cardíaca com as recomendações baseadas nas melhores evidências.

Descritores: Transição hospitalar; Insuficiência Cardíaca; Educação em Enfermagem; Autocuidado; Prática Clínica Baseada em Evidência.

RESUMEN

Objetivos: Evaluar la conformidad de implementación de mejores evidencias en cuidado de transición de personas con insuficiencia cardíaca del hospital al domicilio. Métodos: Proyecto de implementación de evidencias conforme metodología del JBI en hospital cardiológico de São Paulo. Seis criterios fueron auditados antes y post implementación de estrategias para aumentar la conformidad con las mejores prácticas. Participaron de las auditorias 14 enfermeros y 22 pacientes. Resultados: Auditoria de base, la conformidad fue nula con cinco de los seis criterios. Estrategias: capacitación de enfermeros; reformulación de ficha de alta hospitalaria y orientaciones sobre autocuidado en contextos de cuidado; y realización de contacto telefónico al 7º, 14º y 21º días post alta. Auditoria de seguimiento, hubo 100% de conformidad con cinco de los seis criterios. Conclusión: El proyecto permitió aumentar la conformidad de las prácticas de cuidado de transición en personas con insuficiencia cardíaca con las recomendaciones basadas en las mejores evidencias.

Descriptores: Cuidado de Transición; Insuficiencia Cardíaca; Educación en Enfermería; Autocuidado; Práctica Clínica Basada en la Evidencia.
Transitional care from the hospital to the home in heart failure: implementation of best practices
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INTRODUCTION

Worldwide, heart failure (HF) is considered a pandemic that affects more than 64 million people\(^1\). It presents diversified symptoms, and daily self-care actions for the control, monitoring and management of symptoms are essential\(^2\).

Despite advances in the diagnosis and treatment of HF, hospital admissions in urgent and emergency situations are still a major public health challenge\(^3\). Hospitalization due to HF decompensation is a predictor of poor prognosis, since about 25\% of people in this situation die, and 40\% are readmitted for at least one more time in one year\(^4\). In Brazil, the main factor for decompensation is inadequate self-care, including low adherence to drug therapy and inadequate water control\(^5\).

One of the widely recommended strategies to improve this scenario is transitional care (TC)\(^6\), defined as health care during the change from one care context to another(s), especially during hospital discharge\(^6\). In people with HF, TC involves several interventions to continue treatment in order to reduce and/or prevent hospitalizations, providing follow-up in different contexts of health care, such as home and outpatient care\(^6\).

Systematic reviews present robust evidence on the superiority of TC compared to usual care\(^7\), with a reduction of up to 8\% in rates of hospital readmissions and 29\% in cases of urgency and emergency\(^8\), as well as a reduction in mortality and length of stay, in addition to improving therapeutic adherence and patient satisfaction\(^9\).

In order to obtain better outcomes in HF, it is recommended that the TC be composed of teaching the patient about the management of the symptoms of the disease, a structured and individualized discharge plan, early telephone contact after discharge, telemonitoring, home visiting program and outpatient follow-up\(^10\). And, according to the JBI, the best practices for people with HF in transition between care contexts are: 1) the TC must include interventions that include home visits, combined with telephone contact and/or clinical follow-up; 2) the hospital discharge plan must be structured and individualized; 3) all information about the patient must be shared among the health team professionals; 4) the TC must be provided by properly trained health professionals and 5) the patients/caregivers must receive guidance on the management of the syndrome, started in the hospital context and continued in the home and outpatient setting\(^11\).

Despite being recognizably indicated and resulting in satisfactory outcomes for people with heart failure\(^12\), transitional care is still incipient in the Brazilian context\(^13\). The need to improve it in patients hospitalized for heart failure decompensation was identified as an opportunity to adopt best practices in the chosen scenario.

OBJECTIVE

Assess the compliance of the implementation of better evidence in the transitional care of the person with heart failure from the hospital to the home.

METHODS

Ethical aspects

The present implementation project was approved by the Research Ethics Committee of the institution, with all ethical and legal criteria for research involving human beings being met. All participants who agreed to participate in the project received clarification on the objectives and procedures, as well as signed and received a free and informed consent form (ICF).

Population: inclusion and exclusion criteria

All 14 nurses who were working in the two sectors during the project period participated in the project. The total number of patients with HF and/or their companions was defined based on the 30-day time frame of the baseline audit (Phase 1), resulting in a sample of 11 people with HF included in this phase; and, in phase 3, regardless of its duration, another 11 people with HF were included. The patient participation criteria were: being discharged from the hospital, being 18 years of age or older, being hospitalized for HF decompensation, having clinical conditions that allowed them to participate in the interview and, in the follow-up audit, having active telephone contact.

Design, study location and period

This is an implementation project that used the JBI method of implementing evidence\(^10\)-\(^11\), using the tools: Practical Application of Clinical Evidence System - (PACES), an online tool for recording the processes of audit (basic and follow-up); and Getting Research Into Practice (GRIP), to record the barriers identified during the implementation process. Also, strategies were used to overcome these barriers and improve the degree of compliance with the audited criteria\(^11\).

Two sectors of a teaching hospital specialized in cardiology were located in the present project, located in the city of São Paulo, state of São Paulo (SP). The General Clinic Unit (GCU) is an inpatient unit composed of 48 beds arranged in 24 rooms and provides assistance to patients, mostly from the Emergency Room. Due to the high demand in the Emergency Room, the turnover of both sectors is high. During the months of October to December 2019, there were an average of 80 hospitalizations per month. The choice for GCU was due to the fact that most patients are hospitalized due to HF decompensation. The other sector was the Myocardiopathies outpatient clinic, which assists an average of 70 clinically stable patients per day, consisting of a multidisciplinary team that works during business hours.

Study Protocol

The best practices considered in this project were based on the results of a comprehensive review to answer the question: “What is the best evidence available on the TC of people with chronic HF from the hospital to the home?” The best practice recommendations, resulting from the review, were operationalized.
in six criteria of good TC practices of people with HF\textsuperscript{6}. These criteria were analyzed by the team of this project considering the potential to be met with the implementation of viable strategies, according to the reality of the scenario. The methods for verifying the compliance of the current practice with the criteria derived from the best practices have been defined, as well as the sources for obtaining the necessary information. Nurses, patients, with or without family members/caregivers, and patient records were the sources of information for verifying compliance with good practice criteria (audits). Chart 1 shows the selected criteria, the conformity assessment methods and the samples that were the sources of information.

The project was operationalized in three phases: in Phase 1, the project team was established, and the baseline audit was carried out in order to identify the degree of compliance of current practices with the established criteria. In Phase 2, the results of the baseline audit were analyzed and discussed with the project team, and strategies were devised and employed to increase the degree of compliance with the best TC practices. In Phase 3, a follow-up audit was carried out, using the same six criteria, to assess the impact of the strategies implemented and to identify possible barriers to the sustainability of the proposal.

### Analysis of results and statistics

Data from clinical audits were recorded on a data collection form with socio-demographic characterization variables for all participants; clinical characterization, only for patients; professional characterization, only for nurses; and compliance or not with the audited criteria (Chart 1). The characterization data of the participants were analyzed using descriptive statistics (SPSS\textsuperscript{6}, version 22), and the data of compliance with the criteria were inserted in the PACES program, which generates a bar graph allowing to view the compliance of the audited criteria in the two phases and, consequently, the impact of the implementation project.

### RESULTS

The baseline audit took place from May 17 to June 17, 2019. Of the 14 nurses, 13 worked at GCU; and at the outpatient clinic, 1 nurse, responsible for monitoring people with HF. Of the total number of nurses, 78.6\% were women, the average age was 43.64 (SD = 12.6) years, 78.6\% reported having taken a nursing assistant and / or technician course before taking a bachelor's degree. In nursing, 50\% worked during the day, the average time of work as a nurse was 10.1 years, and the average time in the institution was 10.2 years.

### Chart 1 – Audit criteria, sample and the method used to assess compliance with the criteria for good practice in transitional care, São Paulo, São Paulo, Brazil, 2020

| Audited criteria                                                                 | Sample                              | Method(s) used to verify (%) compliance with the criteria |
|---------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------|
| 1) Nurses participated in the educational intervention on Transitional Care (TC) of people with Heart Failure (HF). | Nurses  
Baseline audit: 14  
Follow-up audit: 14 | Individual questioning to nurses  
Question: Have you participated in any course/training on TC for people with HF?  
( ) Yes  ( ) No  
It will be considered “compliant” if the nurse participated in an educational intervention on TC of people with HF. |
| 2) People with HF/caregivers participated in the educational intervention on important topics for the TC of people with HF. | People with HF/caregivers  
Baseline audit: 11  
Follow-up audit: 11 | Individual questioning to the person with HF  
Question: Have you received any information/training on TC from people with HF?  
( ) Yes  ( ) No  
It will be considered “compliant” if the person with HF/caregiver has participated in the conversation circle/bedside on topics relevant to the effective TC. |
| 3) An individual hospital discharge plan was developed and documented in medical records. | Documented individualized discharge plan  
Baseline audit: 11  
Follow-up audit: 11 | Evaluation of individualized discharge planning delivered in one copy to the person with HF/caregiver, and another copy attached to the medical record.  
( ) Yes  ( ) No  
It will be considered “compliant” if the person with HF received the individualized discharge planning and another copy attached to the medical record. |
| 4) The TC happened in an individual way in order to interconnect the hospital contexts with the outpatient/specialized care. | Individualized discharge plan  
Baseline audit: 11  
Follow-up audit: 11 | Evaluation of discharge summary documentation with home care plan and outpatient referral / specialized medical records.  
( ) Yes  ( ) No  
It will be considered “compliant” if the discharge planning form has been attached to the medical record. |
| 5) The care needs of people with HF were communicated among health professionals from the hospital and outpatient/ specialized care contexts; | Hospital discharge process  
Baseline audit: 11  
Follow-up audit: 11 | Evaluation of the discharge process and guidance on the importance of the form for communication with the service to which it was sent.  
( ) Yes  ( ) No  
It will be considered “compliant” if the discharge planning form was delivered to the person with HF/caregiver and if the importance of this and the documentation in the medical record was given. |
| 6) Post-discharge follow-up took place to include a combination of home visits and/or telephone or outpatient clinic follow-up. | Telephone contact after hospital discharge  
Baseline audit: 11  
Follow-up audit: 11 | Telephone contact with the person with HF and/or caregiver with content:  
decompensation triggers after discharge, reinforcement of self-care actions and importance of outpatient monitoring.  
( ) Yes  ( ) No  
It will be considered “compliant” if the person with HF/caregiver responded to the telephone contact or message (mobile application) in three moments: 7, 14, 21 or 30 days after hospital discharge. |

TC: Transitional; HF: Heart Failure.
The results of the baseline audit were shared between the project team and nurses from the sectors involved, who, based on these results, identified feasible strategies to improve the degree of compliance of local practices with the criteria of the best practices of the TC of people with HF.

Chart 2 presents the identified barriers registered in the GRIP tool, as well as the strategies developed and the resources that were necessary/used to improve the degree of compliance with each criterion.

During the educational intervention with nurses, the importance of TC in clinical practice was highlighted, and nurses had the opportunity to share their impressions, experiences and suggestions of what actions were most relevant for patients with HF assisted by them, in order to encourage the active participation of those involved. Such impressions and suggestions were recorded in a field diary, which subsequently supported the creation of the script for the Conversation Wheel conducted by these nurses with the hospitalized people and their respective caregivers/family members. All nurses reported that the educational intervention contributed to the care practice, since it supported the guidelines in the hospital discharge process and allowed to update the necessary knowledge for the care of the person with HF who presents signs and symptoms of decompensation.

During the one month period of implementation of the strategies, the Conversation Wheel was accompanied by the creation of an intervention manual for the nurses involved. Five meetings were held with 50 people with HF and 20 caregivers/family members. Throughout the meetings, the following topics were addressed: what is HF, etiology, main signs and symptoms and main triggers of decompensation; the importance of pharmacological adherence; self-care actions (weight control, water, and saline restriction, monitoring of edema and dyspnea) and the importance of seeking health services in the event of worsening symptoms.

After implementing the strategies, a new audit was conducted during the period necessary to obtain the same number of people with HF assessed in the baseline audit. The 11 people with HF in this phase were men (63.6%); mean age of 58 years (SD = 7.79); 54.5% declared themselves brown; 36.4% reported having completed high school; 54.5% were married; 36.4% were unemployed; 36.4% were retired; 81.8% had HF of non-ischemic etiology; Mean LVEF of 40.9% (SD = 19.3); average time with HF diagnosis of 105.2 (SD = 107) months; 54.5% were in functional class III, according to NYHA;

### Chart 2 – Barriers identified, strategies and resources used and results, São Paulo, Brazil, 2020

| Barriers | Strategies | Resources | Results |
|----------|------------|-----------|---------|
| Nurses’ lack of knowledge about the TC theme of people with HF and their main actions and purposes | Development of an educational intervention with the content: 1) Criteria recommended by the JBI of the CT of people with HF; and 2) Implementation of a protocol on TC for people with HF for all nurses in the sector. | Multimedia with educational content; Training all nurses on the TC of people with HF. | The 14 nurses involved in the project participated in the educational intervention, individually or in a group, totaling seven meetings. |
| Lack of knowledge on the part of HF patients / caregivers about TC in HF | Creation of a weekly institutional routine of the “Conversation Wheel” about HF and self-care actions | Making playful and educational signs on the subjects covered | Creation of the institutional routine for the weekly holding of the “Conversation Wheel” |
| Difficulty in exchanging information between nurses in the GCU and outpatient sectors | Reformulation of hospital discharge planning form | Individualized hospital discharge form to interconnect care contexts | Reformulation of the hospital discharge form, in two copies: one was delivered to the person with HF/caregiver, and the other was attached to the patient’s medical record. |
| Follow-up of the patient after hospital discharge | Construction and implementation of a protocol for monitoring patients via telephone contact | Telephone contact in three moments, during the first 30 days after discharge | Telephone monitoring of patients to identify signs and symptoms of HF decompensation |

TC: Transitional; HF: Heart Failure; GCU: General Clinic Unit.
S AH was the most frequent comorbidity (81.2%); all reported having sought the emergency room in the last 12 months, with an average frequency of 9.5 (SD = 12.41) times; all (100%) indicated having a caregiver, and 72.75% of the caregivers were a member of the family; 90.9% reported having dyspnea, 45.5% of whom were on small exertion, and 63.6% were smokers at some point in their lives.

The telephone monitoring was carried out by the team leader, with 10 of the 11 participants, at a combined time, and the contents covered were recorded in a registration diary. This was structured by the researchers of the project in order to free the speech of the participants about the transition from the hospital to the home and in order to compile the most relevant subjects during this period: signs and symptoms of decompensation and/or side effects of the prescribed drugs, adherence to pharmacological treatment, reinforcement of self-care actions and the importance of attending the return visit to the clinic.

In addition to these topics, the ten people followed up had doubts related to the signs and symptoms of edema, vaccination, physical activity, adverse effects of medications and scheduling appointments at outpatient clinics. It is worth mentioning that, during the telephone contact period, which varied from 21 to 28 days after discharge, only one patient reported having been hospitalized for 7 days due to hypotension due to HF decompensation.

In the third and last telephone contact, the participants were asked about how they felt and how they evaluated the telephone follow-up after discharge. The evaluations were positive, with the suggestion of continuing to follow this route. Some statements about the evaluation were: “you can keep calling, very good”, “your support is very good”, “I am satisfied”, “I did not feel helpless”, “best thing, very good, I wish you to continue this monitoring”, “Very good to be able to clear up doubts with you”.

The criteria considered in the follow-up audit reached 100% compliance, except for the sixth criterion, with 91%, since 1 of the 11 participants did not respond to telephone contacts (Figure 2).

DISCUSSION

To adopt the best evidence from the TC of people with HF, it is necessary to promote the adoption, by health professionals, of teaching-learning strategies to foster the development of knowledge, attitudes and skills of patients and caregivers to monitor, recognize and manage symptoms of HF appropriately. In addition, it is necessary to contribute to the use by nurses of the best scientific evidence applied to clinical practice.

The contents dealt with in the Conversation Wheels and telephone contacts included knowledge about HF, monitoring of signs and symptoms of decompensation, engagement in self-care actions and adherence to pharmacological therapy and all of this knowledge was based on the latest Brazilian Chronic HF Guideline. There is evidence that teaching for the promotion of self-care and remote monitoring for medication adherence and for the management of signs and symptoms of decompensation improves the quality of life of people with HF. It is noteworthy that, during hospitalization, transitional care should be started as soon as possible (if possible, upon admission) and intensified during the preparation for hospital discharge. Along with the educational processes, the other care needs of patients with HF must be continuously identified, met, and shared among health professionals, based on structured and individualized discharge planning. This sharing characterizes the transition of care by the different health care devices, mainly in the referral and counter-referral system provided for in the Unified Health System's Health Care Network.

The patients’ manifestations that they were satisfied with the actions is a possible outcome on the impact of the implementation. However, it is necessary to emphasize that the evaluation of the effectiveness of implementing good practices in the TC in patients’ outcomes was not the objective of the present study. In other research, it will be necessary to verify the effect of these practices on outcomes such as the frequency of seeking emergency services. In the present study, the 11 patients in the audits reported having sought these services an average of approximately four times a year (the baseline audit patients) or an average of more than nine times a year (the audit patients after implementation).

Of the ten patients followed up by telephone for 21 to 28 days, only one was hospitalized due to HF decompensation. The first 30 days after discharge are the most vulnerable period for the risk of readmission, especially for those who are more symptomatic. Therefore, to identify signs and symptoms of decompensation, the three connections were divided over the first month after hospital discharge. This result is consistent with those of other studies in which telemonitoring or structured telephone contacts were more effective than the usual care for obtaining positive outcomes in HF.

Contributions to the nursing field

As a contribution to nursing, this study, carried out with the participation of professionals from the place where it was carried out, allowed us to verify that, in a relatively short period of time, these professionals were able to adopt evidence-based practices (Figure 2). Therefore, we can extrapolate that the JBI methodology for implementing evidence used in this study is feasible and can be a valuable tool for permanent nursing education in order to...
implement evidence-based practices and foster attitudes favorable to continuous learning.

**Study limitations**

Bearing in mind that one of the great challenges of implementing evidence is ensuring the sustainability of the proposal, the main limitation of this study was the relative short term between the realization of strategies for the adoption of good practices and the verification of compliance in the follow-up audit. In addition, the generalization of the results of this study needs to be cautious, especially since it was performed in a specialized cardiology service, which has peculiar characteristics in relation to the characteristics of patients, as well as in relation to professionals, structure and work processes.

**CONCLUSION**

The implementation of the best evidence of TC in HF, in clinical practice, reached 100% compliance in five of the six criteria recommended by the JBI. People with HF and/or their caregivers who participated in the implementation of the project were satisfied with the actions implemented and reported having acquired new knowledge about HF, its monitoring and control.

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