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Exploration of discharge planning components in heart failure patients: A literature review

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Abstract

Background: Discharge planning is a major focus of healthcare systems worldwide. Coordinating services from the hospital to the community, ensuring smooth patient discharge, reducing length of stay (LOS) in the hospital, and reducing patient readmission rates.
Purpose: To explore the components discharge planningin heart failure patients.
Method: A systematic search for relevant peer-reviewed articles was conducted using electronic database sources. This literature review used 10 qualitative journal articles obtained through ProQuest, ScienceDirect, and ClinicalKey with a publication period of 2020-2024 using the keywords “exploration” AND “discharge planning” AND “heart failure”.
Results: The analysis showed that discharge planning programs were effective in reducing the number of readmission days in the hospital compared to the previous duration of care. In addition, this program also increased patient compliance in taking medication, expanded knowledge about self-care management for heart failure patients at home, and reduced treatment costs.
Conclusion: The integration of these key components in discharge planning can increase the success of heart failure patient care and prevent re-hospitalization.
Recommendation: It is expected that discharge planning can be applied in all inpatient services to reduce readmissions, especially in heart failure patients.

Keywords: Component Exploration; Discharge Planning; Heart Failure.

INTRODUCTION

Heart disease is one of the chronic diseases that has a high risk of being readmitted to hospital after the patient has undergone treatment in hospital. Research conducted in 21 hospitals in Western countries (United States, Australia, and Europe) showed that chronic diseases that often cause patients to be readmitted to the hospital (readmissions) include heart failure, Chronic Obstructive Pulmonary Disease (COPD), pneumonia, atrial fibrillation, myocardial infarction, hypertension, stroke, and diabetes. The study also found that around 17.7% of readmission cases occurred in patients with chronic diseases (Brunner-La Rocca, Peden, Soong, Holman, Bogdanovskaya, & Barclay, 2020; Center for Disease Control, 2024). The results of research conducted at RSJPD Harapan Kita showed that during two years of observation, there were 59 people (37.3%) with heart failure who had to be re-hospitalized in the hospital (Tinah, 2020). These findings are certainly an important concern for hospitals to be able to optimize their services in preventing readmissions (rehospitalization) in patients. The high number of readmissions places a significant burden on the overall health care system. Therefore, special initiatives or efforts are needed from the hospital to

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reduce the risk of readmissions in the future (Alvarado, Lahijanian, Zhang, & Lawley, 2023; Kash, Baek, Cheon, Coleman, & Jones, 2018).

Discharge planning is a major focus of healthcare systems worldwide. It aims to improve coordination of services from the hospital to the community, ensure smooth patient discharge, reduce length of stay (LOS) in the hospital, and reduce readmission rates (Giatrininggar, Rahman, & Meilina, 2023; Departement of Global Health, 2020). Active involvement of patients and families in the discharge planning process can help ensure an effective transition of care. Discharge planning for patients from the hospital is a complex process, requiring good coordination between the patient, family, and a multidisciplinary team such as doctors, nurses, physiotherapists, pharmacists, and social workers (Ibrahim, Harhara, Athar, Nair, & Kamour, 2022; Omonaiye, Ward-Stockham, Darzins, Kitt, Newnham, Taylor, & Considine, 2024). The purpose of the literature reviewew is to see what components support discharge planning in helping the transition of care in heart failure patients.

RESEARCH METHOD

This type of study uses a literature review to see the components that support discharge planning in helping the transition of care in heart failure patients. This study uses a qualitative method where the steps of the literature review methodology carried out include eligibility criteria, search strategies, study selection, and synthesis of results. Using the keywords “exploration” AND “discharge planning” AND “heart failure”.

Journal analysis was conducted using the PRISMA method which aims to help authors report various systematic reviews and meta-analyses that assess benefits. The steps in the search are divided into several processes, namely identification, screening, eligibility, and inclusion. The articles used are articles that are research that has been reviewed and published in Indonesian and English language journals.

Based on the results of literature search through publications in several databases such as ProQuest, ScienceDirect, ClinicalKey, the author obtained 58,148 articles that match the keywords. Then after checking the articles, there were 57,842 articles that did not match the theme and abstract, 157 articles were not full text, 89 non-academic journal articles, 28 were not in English. so that the selected articles were in accordance with the abstract and full text criteria (n = 10) articles whose themes were adjusted to the literature review theme.

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RESEARCH RESULTS

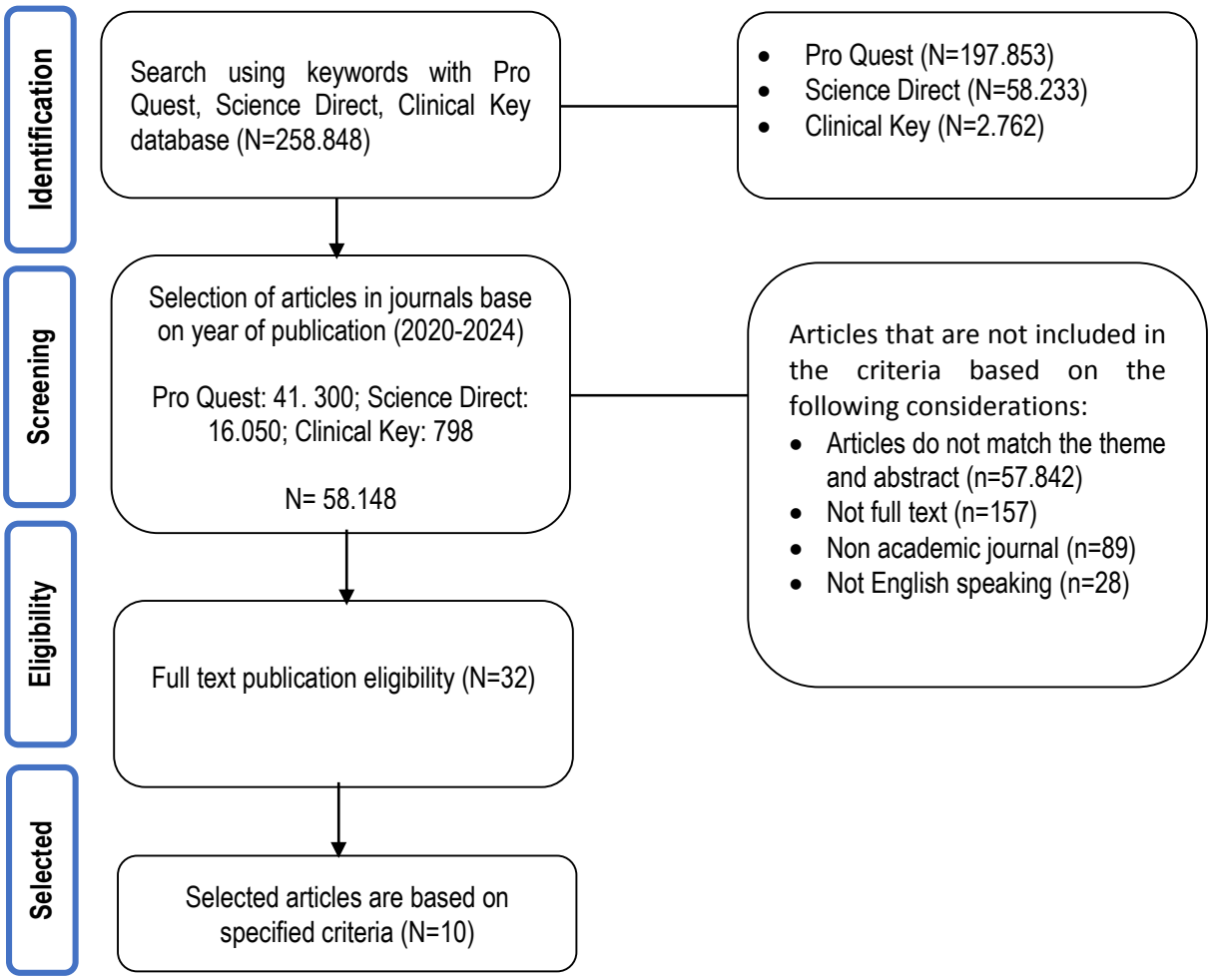


Figure: PRISMA Flow Diagram

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Table Summary of the Articles' Review

(Author, Year) (Country)	Purpose	Design and Sample	Findings
(Sinaga, Dewi, & Khairani, 2023) (Indonesia)	Knowing the relationship between discharge planning and the need to take medication.	Case study, there are 2 participants	Findings during the study after the provision of discharge planning regarding medication compliance in participants I and II, participants took medication 3x1 day regularly and patients knew the correct principles of taking medication.
(Abouzid & Siddiqi, 2024) (USA)	To determine the relationship between age (65–74, 75–85, and 85 years and above) and gender (male, female) with discharge planning in chronic heart failure patients.	Cross-sectional study, 1,584 samples aged > 65 years from April 2021 to April 2022	There is no significant correlation between age and gender on the discharge plan of chronic heart failure patients. However, other variables play an important role in patient discharge, namely patient discharge planning according to the resources needed, as in the results of this study showed that 55.6% were discharged for independent care at home, 27.3% with external health support at home, and 17.1% to skilled nursing facilities.
(Xu et al., 2023) (Beijing)	To determine whether CHF checklist management is more beneficial than usual care in reducing adverse health outcomes in the medium and long term among CHF patients.	*In our open-label randomized trial.*A study sample of 132 patients with CHF were randomly assigned to the CHF management group and the usual care group. Patients in the CHF management group were assessed through a CHF checklist by cardiologists and general practitioners. Patients assigned to usual care were	Management of CHF checklist by cardiologists and general practitioners can significantly reduce hospitalization and improve heart function. Management of CHF through heart failure checklist can improve the prognosis of CHF patients in Indonesia in the medium and long term. Evidenced by the readmission rate for heart failure in the management group of 18.5% was significantly lower than the usual care group of 38.3% after 18 months of

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(Author, Year) (Country)	Purpose	Design and Sample	Findings
		treated by a non-stationary medical group without a checklist. All groups were followed up to 18 months.	follow-up.
(Marano et al., 2022) (USA)	To determine whether an evidence-based discharge checklist is effective in reducing 30-day all-cause readmissions in patients treated for heart failure at an urban safety-net hospital.	*Prospective Cohort Study*. The study sample was 290 with the intervention group 103 vs control 187 during October 2018 to April 2019 with inclusion criteria The average age was 60 years, 71% were male, 42% black, 22% Hispanic/Latinx, 28% homeless, 35% used illicit stimulants, and 73% had a left ventricular ejection fraction ≤40%.	Use of the checklist was effective in reducing 30-day HF readmissions associated with an absolute reduction of 12.4% (29.9% vs 17.5%). The intervention group was more likely to be discharged with guideline-concordant medical therapy to reduce systolic function.
(Sokan et al., 2022) (USA)	To determine whether the Integrated Health Community Paramedic Program (MIH-CP) affiliated with the University of Maryland Medical Center is effective in improving patient transitions from hospital to home (medication adherence) by addressing medical and social determinants of health.	*A pilot study*, a sample of 83 patients were involved in this study; 43 patients were placed in the intervention group and 40 were controls.	In patients undergoing the MIH-CP program, medication adherence was higher compared to controls during the first 30 days after discharge from hospital, especially among patients diagnosed with CHF (8% difference in PDC and COPD (14% difference).
(Bensimhon et al., 2021) (USA)	To determine whether the use of remote dielectric sensing (ReDS) technology to measure pulmonary congestion at hospital discharge in patients admitted with acute heart failure and to see whether targeted interventions on the device can reduce the rate of	*A pilot study*, a sample of 108 heart failure patients with inclusion criteria (50% male, age 73.6 years, BMI 29.3 kg/m2, EF 38.5%, BNP 1138 pg/mL). <39% indicates residual pulmonary	Patient discharged as planned with residual pulmonary congestion with ReDS ≥39% had a higher 30-day readmission rate compared to patients who experienced adequate decongestion at discharge with*ReDS*<39% with a percentage of 11.8% vs. 1.4%.

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(Author, Year) (Country)	Purpose	Design and Sample	Findings
	readmission for heart failure.	congestion. ReDS measurements were performed for all patients after they were deemed ready for discharge.	ReDS-guided therapy induced additional diuresis in 30% (18/60) of patients in the treatment group (mean weight loss 5.6 pounds). HF readmission rates within 30 days in the treatment and control groups were 1.7% vs. 4.2.
(Zhong et al., 2023) (Hong Kong)	To determine whether GRADE Evidence to Decision (EtD) is effective in reducing 30-day readmissions among patients with Heart Failure (HF) and COPD in the context of the Hong Kong public healthcare system.	*Delphi Study*, A sample of 18 participants was recruited to conduct a two-step process. In Step 1 participants were asked to prioritize Interventions and suggest important Intervention combinations. In Step 2, based on the priority list, participants were invited to conduct a two-round Delphi study to generate consensus-based Interventions to reduce 30-day hospital readmissions. The GRADE EtD framework was used to guide the decision-making process, considering benefits, harms, values and preferences, equity, acceptability, and feasibility.	Five of the ten Interventions achieved positive consensus on heart failure, while six achieved positive consensus on COPD. Case management, discharge planning, patient education, self-management, and telephone follow-up were common components, and were considered core elements to reduce 30-day hospital readmissions among HF and COPD patients in Hong Kong. Initial implementation issues primarily included governance and leadership, financing, health workforce development, service access and readiness, and patient and caregiver empowerment.
(Robinson et al., 2023) USA	To determine whether the Focused Discharge Handoff Tool (FDHT) and remote patient monitoring home telehealth/RPM-HT are effective in reducing HF veteran readmissions within 30 days. This study aimed to	*Quality Improvement Project*, Sample of 35 patients (veterans in telehealth and primary care appointments 7 days post-hospitalization)	The overall compliance rate with FDHT was 67.3% (n = 35); remote patient monitoring at home, telehealth follow-up appointments increased from 18.8% (n = 8) to 50% (n = 26). Most risk factors for HF exacerbations

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(Author, Year) (Country)	Purpose	Design and Sample	Findings
	improve adherence to post-discharge follow-up among veterans with all-cause heart failure (HF).		were considered preventable, such as failure to understand discharge instructions, lack of timely follow-up care, and medication errors. Few veterans were readmitted within 30 days during the 3-month intervention period.
(Miró et al., 2024) (Europe)	To determine whether loop and thiazide re-introduction is effective in reducing AHF readmissions within 30 days	*Study Cohort*, sample of 14,403 patients. Inclusion criteria The mean age was 81 (range 73-86) years, 53% were female, and most patients were discharged from cardiology departments (42%), internal medicine or geriatric departments (29%) and emergency departments (19%).	There were 1,367 patients discharged with thiazide and loop diuretics, while the remaining 13,036 were discharged with only loop diuretics on top of the remaining standard of care. The combination of thiazide and loop diuretics showed a neutral effect.
(Charais et al., 2020) (USA)	To determine whether the development of HF disease management programs through the implementation of structured programs including self-care education using the teach-back method, multimodal medication reconciliation, multidisciplinary consultation, telephone is effective in reducing the number of HF patient readmissions within 30 days (follow-up within 48-72 hours after discharge from the hospital, and follow-up visits within 7-10 days after discharge from the hospital).	*Retrospective Cohort Study*, Sample of 84 patients.	The multidisciplinary disease management program effectively reduced 30-day readmissions. Overall 30-day readmissions decreased from 27% to 10.2% during the implementation period, a 38% decrease. Ninety-three percent of patients completed self-care education, and telephone follow-up was successful in 96%. Only 4 patients in the HF disease management program were readmitted within 30 days.

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This literature consists of 10 articles exploring the components of discharge planning in heart failure patients. Based on the analysis of 10 journals, the study used a quantitative method with a Cohort Study approach., cross-sectional, A pilot study, Delphi Study, Quality Improvement Projectand qualitative methods using an approach Case study which examines the use of discharge planning in preparing patient care in hospitals. Data collection was done through observation and medical records.

The sample in this study were heart failure patients, who returned to hospital care. To assess compliance in the treatment of discharge planning that has been given by nurses, the distribution of samples came from several countries including Indonesia, China, Hong Kong, USA, and European countries.

The results of the analysis showed that discharge planning programs were effective in reducing the number of readmission days in the hospital compared to the previous duration of care. In addition, this program also increased patient compliance in taking medication, expanded knowledge about self-care management for heart failure patients at home, and reduced treatment costs.

DISCUSSION

Based on the research results that have been reviewed, it was found thata key component in discharge planning that has a significant impact on the health outcomes of heart failure patients. The results of the article review mention the many benefits that discharge planning provides to heart failure patients, but also explain the obstacles during the documentation process, such as: Lack of Patient Educationor lack of patient understanding of the education provided by nurses and low compliance with treatment often results in patients returning to hospital for treatment (Sinaga, Dewi, & Khairani, 2023). The results of this study were reinforced by research conducted at the University of Maryland Medical Center, in which the use of a discharge checklist at the time of discharge of heart failure patients was shown to be effective in reducing readmissions (Sokan, Stryckman, Liang, Osotimehin, Gingold, Blakeslee, Moore, Banas, Landi, & Rodriguez, 2022). In addition, it improves medication adherence in heart failure patients in the process of transitioning patients from hospital to home (residence).

In the management of heart failure patients using the CHF checklist management, it has been proven to be effective in improving the prognosis of CHF patients in the long term, as evidenced by a longer readmission rate than the management of patients with regular care (Xu, Cheng, Zhang, Wang, Chen, Xu, & Zhao, 2023). In addition, there are important components in carrying out effective discharge planning, namely family support at home or home care support can reduce the worsening of conditions in chronic heart failure patients (Abouzid & Siddiqi, 2024; Mai Ba, Son, Lee, & Kim, 2020).

In addition to effective discharge planning, the need for monitoring of the discharge planning program when the patient is at home, several studies that innovate the discharge planning monitoring program with Case management, discharge planning, patient education, self-management, and telephone follow-up are common components, and are considered core elements to reduce 30-day readmissions among CHF patients have been shown to be effective in reducing readmissions to the hospital (Zhong, Wong, Hung, Yeoh, Wong, & Chung, 2023). Similarly, at the tertiary care center Moses Cone Hospital in central North Carolina, the use of remote dielectric sensing (ReDS) technology reduced hospital readmissions more quickly than usual (Bensimhon, Alali, Curran, Gelbart, Garman, Taylor, Chase, & Peacock, 2021). Other innovations through telehealth home are also effective in reducing readmissions for heart failure patients (Robinson, Thomas, Cibi, & Moore, 2023). The benefits of remote management by organizing the implementation of structured programs including self-care education using the teach-back method, multimodal medication reconciliation, multidisciplinary consultation, telephone effectively reduce the number of HF patient readmissions within 30 days effectively in reducing readmissions (Charais, Bowers, Do, & Smallheer, 2020). Appropriate discharge planning and innovations that patients can do like this need to be considered in implementing a discharge planning program so that patients can improve their quality of life, and reduce readmissions to the hospital.

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CONCLUSION

Effective discharge planning is key in the management of heart failure patients. This review shows that components such as patient education, follow-up planning, medication management, social support, and interdisciplinary team collaboration significantly affect health outcomes. Good education improves patient understanding, while follow-up planning ensures continuity of care. Implementation of an integrated discharge planning strategy can reduce readmissions and improve quality of life. Therefore, it is important for healthcare providers to adopt this approach. Further research is needed to further improve the effectiveness of discharge planning.

RECOMMENDATION

After reviewing several articles on the implementation and benefits of discharge planning in reducing readmissions and improving patient quality of life, it should be noted that there are still various discharge planning components that must be provided to heart failure patients. Given that each patient has different complaints and activity levels, more specific research is needed to identify the discharge planning components needed in managing heart failure patients according to their stage.

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