



The Effect of Knowledge of the Elderly and Family Caregivers on the Incidence of Readmission in the Elderly with Heart Failure: Systematic Review

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Abstract

Heart Failure (HF) is a progressive disease that occurs in 0.13% of Indonesia's population and is dominated by the elderly. This disease requires high costs due to high rehospitalization rates. In meeting their daily needs, the elderly with HF needs caregivers to pay attention to their health, prevent risk factors, and identify resources owned by the family to support the needs of the elderly with HF. The aim of this systematic review was to identify the effect of knowledge of elderly clients and caregivers on the incidence of re-hospitalization in the elderly with HF. The data collection method uses an electronic database from journals that have been published through ScienceDirect, EBSCHost, ProQuest, ClinicalKey, and Scopus. The data was analyzed using PRISMA diagram. The results of the systematic review of related journals show that the knowledge of clients and caregivers can reduce the incidence of re-hospitalization, and worsening of conditions, and reduce the risk of mortality in heart failure patients, therefore good understanding and literacy is needed for caregivers and elderly clients with HF.

INTRODUCTION

Heart failure (HF) is a progressive disease characterized by periodic exacerbations, the uncertainty of the trajectory of the disease, and the burden of disease symptoms, which can lead to a decrease in the quality of life of the client as well as the caregiver (Im et al., 2019). This disease requires high costs due to high rehospitalization rates. In Indonesia alone in 2013 obtained data 0.13% of the Indonesian population has heart failure and is dominated by the elderly group (aged >60 years) (Risksdas, 2013). The elderly who experience a decline in physical condition, especially with HF, need help from caregivers to meet their daily needs. In 2020, households occupied by the elderly grew from 25.7% to 28.4% (BPS, 2020), so the elderly need someone who helps, usually one of the family members (family caregiver) or caregivers who are paid by the family. Often caregivers who help to care for the sick elderly feel exhausted which can reduce their ability to care for the elderly (Prabasari, 2017).

The support provided by the family as a caregiver for the elderly with HF is very important to maintain the health and quality of life of the elderly (Dionne-odom et al., 2017). When one family member experiences a chronic illness, it is important for the family as well as family members to be prepared for unexpected role changes, manage the decline in the condition of the sick family member, and also identify the resources that the family has in the uncertainty of the course of the disease experienced by the elderly in the family (Kaakinen et al., 2018). Caregivers in this family will pay attention to health maintenance, disease prevention, risk factor reduction, health promotion, care during illness, rehabilitation, needs during acute illness, and attention to chronic conditions that are likely to be experienced by sick family members (Denham, 2003).

In the care of the elderly with chronic diseases caregivers often cause feelings of burden that can affect the quality of life and also. In research conducted by Prabasari (2017), it was stated that there are obstacles to caregivers in elderly care including demands for elderly care, physical problems and psychological conditions of the elderly that have worsened, elderly behavior, and also the demands of double work that must be done by family caregivers. Family health is also very influential in the ability of caregivers to care for the elderly with chronic diseases (Maryam et al., 2012). The way the family cares for the elderly will determine the quality of life of the elderly who are cared for (Prabasari, 2017),

especially in regulating and administering medicines, helping sick family members to be physically active, providing healthy food, expressing and managing emotions, ensuring adequate rest, helping meet spiritual needs, helping with personal hygiene, managing the home, and also monitoring, treating, and overcoming symptoms that appear (Dionne-odom et al., 2017). Recurrence can occur due to the caregiver's unpreparedness in dealing with risky situations in the elderly with HF. Factors that can influence recurrence in patients with HF include uncontrolled blood pressure, lack of adherence to drug consumption, and also lack of adherence to low-sodium diet restrictions (Khasanah et al., 2020), so that a comprehensive understanding is needed in family caregivers in providing care for the elderly with HF.

According to Marlatt and Gordon (Pender et al., 2001) relapse can occur due to not being able to control the risky situation due to negative coping responses and low self-efficacy resulting in relapse, otherwise, if the risky situation is controlled by positive coping responses and good self-efficacy, then relapse does not occur. Coping responses and self-efficacy need to be improved to lower the risk of recurrence. Blatt's theory of Relapse Prevention suggests that self-care programs are used to improve the ability to maintain optimal health status by educating individuals who will try to change their behavior in order to anticipate and deal with relapse (Marlatt & Donovan, 2005) so that it can increase adaptive coping and also increase self-efficacy in the treatment undertaken. Individuals are more likely to be committed to adaptive health behaviors when the people who matter to them model those behaviors (Alligood, 2017). In this condition, the family is an important resource for elderly clients that can influence commitment and also participation in health-promoting behaviors.

Various interventions are in place to improve coping responses and self-efficacy. One of the interventions that nurses can do in preparing families is by providing education on the management of elderly care with HF. Providing discharge planning education is one way to increase client and family knowledge in HF care. The research, conducted at Moewardi Hospital Semarang, resulted in an increase in client and family knowledge of the care of patients with HF after discharge planning (Herlinda, 2020). The knowledge of caregivers who are qualified in providing elderly care with HF makes it one of the supporting factors in fostering self-efficacy and adaptive coping, so that caregivers can recognize the development of the disease, make the right decisions, provide good care and maintain a health-favorable home atmosphere (Kelen, 2016). Various studies that have been conducted on chronic diseases have also shown that self-efficacy can improve adaptive coping so as to improve the quality of life of clients (Maemunah, 2020).

METHOD

Systematic review are a type of review that uses analytical methods to collect secondary data and analyze it (Nunn & Chang, 2020). Systematic review steps include data searching, information source, eligibility criteria, quality assessment, data synthesis, and data assessment which are described below:

1. Data Searching

Systematic review research is a research methodology aimed at collecting and evaluating related research on a particular topic (Triandini et al., 2019). Activities carried out in the systematic review include: determining data search strategies and information sources, selection of studies through quality assessment with eligibility criteria and instruments in quality review, data synthesis and data extraction.

The Boolean operator keywords used in this literature search are "Elderly" OR "Older adults" AND "Heart failure" AND "Caregivers Knowledge" OR "Family Knowledge" OR "health literacy" AND "Rehospitalizations".

2. Information Source

Data sources used in this literature search are from EbscoHost, Scopus, ScienceDirect and ClinicalKey.

3. Eligibility Criteria

The inclusion criteria in this systematic review are: literature in the form of scientific journals; scientific journal sources from EbscoHost, ScienceDirect, Scopus and ClinicalKey; Scientific journals have open access and can be accessed in full text; using English or Indonesian; publication year from 2017 – 2022; Discussions in scientific journals include family knowledge

in the care of the elderly with heart failure. While the exclusion criteria of this systematic review are a form of denotation of the inclusion criteria. Researchers use the PICO (Population/Problem, Intervention, Comparison, Outcomes) method to limit the scope of research as shown in the following table:

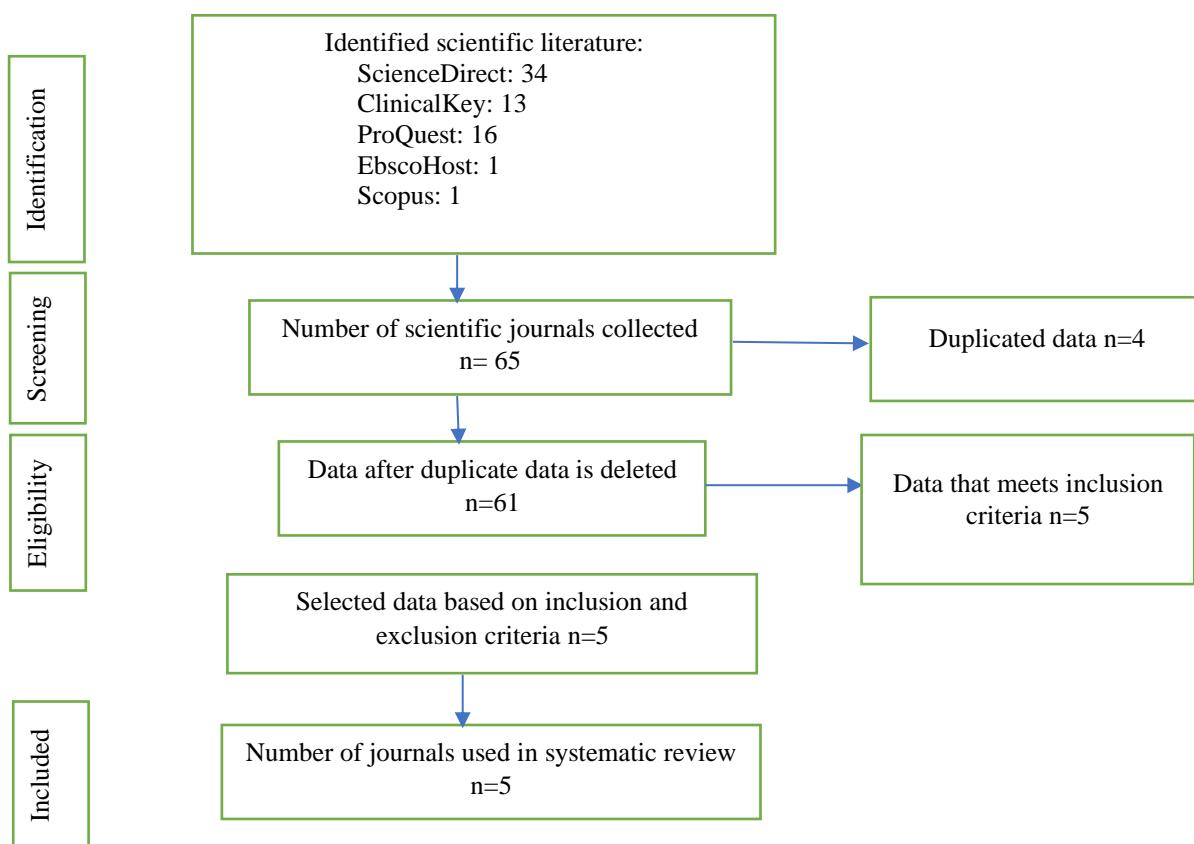
Tabel 1
PICO

Component	Description
Population/Problem	Elderly (age >65 years) with heart failure
Intervention	Family knowledge in the care of the elderly with heart failure
Comparison	n/a
Outcomes	Incidence of readmission in the elderly with heart failure

4. Quality Assessment

Selection in literature search using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) method as shown in the following table:

Chart 1
PRISMA Diagram



5. Data Synthesis

The process of data synthesis in this study was carried out by comparing literature that had met the quality and criteria of inclusion and exclusion. Data synthesis refers to the purpose of the study, namely the effect of family caregiver knowledge on the incidence of readmission in the elderly with heart failure.

6. Data Extraction

The output of data extraction is in the form of a table consisting of the name of the researcher, year of publication, research title, research object, place of research and research results: the influence of family caregiver knowledge on the incidence of re-hospitalization of the elderly with heart failure.

RESULT

As a result of reviewing the quality of journals and extracting data that has been carried out, researchers analyze journals that have been curated. From the curation results, the following journals were obtained:

Tabel 2
Data Analysis

No	Author (year)	Title	Aim	Design	Result
1.	(Mathew & Thukha, 2018)	Pilot testing of the effectiveness of nurse-guided, patient-centred heart failure education for older adults	Observing the effect of HF education with nurse-guide, patient-centred on the incidence of elderly admissions in the post-acute room	Non-Randomized quasi-experimental without control group	Providing education with patient-centred nurse-guides has proven significant to increase knowledge, self-care maintenance, self-care management and self-care confidence in elderly patients with heart failure
2.	(Oscalices et al., 2019)	Health literacy and adherence to treatment of patients with heart failure	Observing at the effect of health literacy rates on the incidence of readmission and mortality in heart failure patients	Cross-sectional	Heart failure patients who have low literacy levels have low medication adherence and have greater obstacles after returning home from the hospital. Within 3 months of follow-up after discharge from the hospital, patients with low literacy resulted in higher remission rates, which ultimately increased mortality risk
3.	(Piamjariyakul et al., 2022)	Caregiver coaching program effect: reducing heart failure patient rehospitalization and improving caregiver outcomes among African Americans	Observing if culturally sensitive telephone coaching can reduce the incidence of readmission in HF patients	Mixed method	Results from this study suggest that FamHFcare can reduce the incidence of readmission in HF patients.

4	(Garcí et al., 2018)	Health Literacy and Health Outcomes in Very Old Patients With Heart Failure	Examining the relationship between health literacy and knowledge of disease, self-care and the causes of mortality from elderly patients who have a low level of knowledge	Randomized Controlled Trial	There was no link between health literacy and cause of death. This result can be due to high health literacy and better HF care 6 months post-hospitalization. Regular consultations and professional care at both primary and specialist levels can also compensate for low health literacy in Spain
5.	(Roumie, 2015)	Health Literacy and Mortality: A Cohort Study of Patients Hospitalized for Acute Heart Failure	Examining the relationship between health literacy and death in patients with heart failure	Cohort	Examining the relationship between health literacy and death in patients with heart failure

DISCUSSION

The results of the literature search obtained 5 international journals that met the inclusion criteria, 2 journals from ScienceDirect and three others each from ClinicalKey, EBSCOHost and Scopus with a summary of the research results available in Table 2. All studies obtained were carried out in the scope of the hospital with the results of a qualified level of client and family knowledge that can reduce the incidence of rehospitalization and even reduce the risk of death due to complications of heart failure. The study conducted by Matthew & Thukha and Priamjariyakul in 2022 showing result that guided coaching and patient centred education will increasing self-care maintenance, self-care management and self-care confidence in caregiver and elderly patients with heart failure that it can reduce the incidence of readmission in HF patients. The study conducted by Oscalice and Roumie showing result that low literacy levels have low medication adherence and have greater obstacles after returning home from the hospital and increasing the mortality risk of elderly with HF. However, there is one study conducted in Spain by Garcí et al in 2018 which concluded that there is no relationship between health literacy and the mortality rate of patients with heart failure. This was explained by Garcí that the possibility of low mortality after heart failure treatment in hospitals is due to regular and comprehensive professional follow-up care to compensate for the low health literacy of clients and family caregivers.

CONCLUSION

The systematic review literature studies that have been conducted show that the knowledge of clients and caregivers can reduce rehospitalization rates, worsen conditions and even reduce the risk of mortality in heart failure patients. Good understanding of the disease, consultation visits to related healthcare professionals and adherence to the therapeutic regimen will improve the ability of caregivers and clients to carry out self-care to avoid complications from risk factors in elderly clients with heart failure, therefore good understanding and literacy are needed for caregivers and also elderly clients with heart failure.

Providing care to the elderly with HF cannot rule out the involvement of caregivers. therefore, in order to improve the ability of self-care of elderly clients with HF, qualified knowledge about the disease and its management at home is needed. Nurses are expected to provide education related to the client's illness and comprehensive care to prevent worsening of the condition and reduce the incidence of re-hospitalization of elderly clients with HF.

BIBLIOGRAPHY

Alligood, M. R. (2017). *Nursing Theorists and Their Work - E-Book*. Elsevier Health Sciences. <https://books.google.co.id/books?id=l7stDwAAQBAJ>

Denham, S. A. (2003). *Family Health: A Framework for Nursing*. F.A. Davis. <https://books.google.co.id/books?id=VD3uPAAACAAJ>

Dionne-odom, J. N., Hooker, S. A., Bekelman, D., Ejem, D., Mcghan, G., Kitko, L., Strömberg, A., Wells, R., Astin, M., Metin, Z. G., Mancarella, G., & Pamboukian, S. V. (2017). *Family caregiving for persons with heart failure at the intersection of heart failure and palliative care : a state-of-the-science review*. 543–557. <https://doi.org/10.1007/s10741-017-9597-4>

Garcı, E., Paredes-gala, E., Gonza, L., Hornillos-calvo, M., Ferrero-marti, A. I., Torres-torres, I., Olcoz-chiva, M., & Rodri, C. (2018). *Health Literacy and Health Outcomes in Very Old Patients With Heart Failure*. 71(3), 178–184. <https://doi.org/10.1016/j.rec.2017.06.010>

Im, J., Mak, S., Upshur, R., Steinberg, L., & Kuluski, K. (2019). “The Future is Probably Now”: Understanding of illness, uncertainty and end-of-life discussions in older adults with heart failure and family caregivers. *Health Expectations : An International Journal of Public Participation in Health Care and Health Policy*, 22(6), 1331–1340. <https://doi.org/10.1111/hex.12980>

Kaakinen, J. R., Coehlo, D. P., Steele, R., & Robinson, M. (2018). *Family Health Care Nursing: Theory, Practice, and Research*. F.A. Davis Company. <https://books.google.co.id/books?id=wNFJDwAAQBAJ>

Kelen, A. P. (2016). Tugas Keluarga Dalam Pemeliharaan Kesehatan Dengan Mekanisme Koping Lansia. *Jurnal Care*, 4(1), 58–65.

Khasanah, S., Susanto, A., & Rudiati. (2020). Analisis Faktor Yang Berhubungan Dengan Kejadian Rehospitalisasi Pasien Gagal Jantung Kongestif. *Jurnal Media Publikasi Penelitian*, 17(2), 30–36.

Maemunah. (2020). *Hubungan Dukungan keluarga dan efikasi Diri dengan Kualitas Hidup Pasien gagal Ginjal Kronik di Ruang hemodialisa RSUD Wates*. <http://elibrary.almataa.ac.id/1716/>

Marlatt, A. G., & Donovan, D. M. (2005). *Relapse Prevention: Maintenance Strategies in The Treatment of Addictive Behaviors* (A. G. Marlatt & D. M. Donovan (eds.); 2nd ed.). The Guilford Press.

Maryam, R. S., Riasmini, N. M., & Suryati, E. S. (2012). *Beban keluarga merawat lansia dapat memicu tindakan kekerasan dan penelantaran terhadap lansia*.

Mathew, S., & Thukha, H. (2018). Pilot testing of the effectiveness of nurse-guided, patient-centered heart failure education for older adults. *Geriatric Nursing (New York, N.Y.)*, 39(4), 376–381. <https://doi.org/10.1016/j.gerinurse.2017.11.006>

Nunn, J., & Chang, S. (2020). What are systematic reviews? *WikiJournal of Medicine*, 7(1), 1–11. <https://doi.org/10.15347/wjm/2020.005>

Oscalices, M. I. L., Okuno, M. F. P., Lopes, M. C. B. T., Batista, R. E. A., & Campanharo, C. R. V. (2019). Health literacy and adherence to treatment of patients with heart failure. *Revista Da Escola de Enfermagem*, 53, 1–7. <https://doi.org/10.1590/S1980-220X2017039803447>

Pender, N., Murdaugh, C., & Parsons, M. A. (2001). *Health Promotion in Nursing Practice (4th Edition)* (4th ed.). Prentice Hall.

Piamjariyakul, U., Werkowitch, M., Wick, J., Russell, C., Vacek, J. L., & Smith, C. E. (2022). Caregiver coaching program effect: Reducing heart failure patient rehospitalizations and improving caregiver outcomes among African Americans. *Heart and Lung The Journal of Acute and Critical Care*, 44(6), 466–473. <https://doi.org/10.1016/j.hrtlng.2015.07.007>

Prabasari, N. A. (2017). PENGALAMAN KELUARGA DALAM MERAWAT LANSIA DI RUMAH (STUDI FENOMENOLOGI). *Jurnal Ners LENTERA*, 5(1), 56–68.

Roumie, C. L. (2015). *Health Literacy and Mortality: A Cohort Study of Patients Hospitalized for Acute Heart Failure*. 1–9. <https://doi.org/10.1161/JAHA.115.001799>

Triandini, E., Jayanatha, S., Indrawan, A., Werla Putra, G., & Iswara, B. (2019). Systematic Literature Review Method for Identifying Platforms and Methods for Information System Development in Indonesia. *Indonesian Journal of Information Systems*, 1(2), 63.