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The Influence of Self Regulation Based on Protection Motivation Theory on Care Management in Heart Failure Patients: A Literature Review

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Abstract:
Introduction: The factors contributing to the recurrence of hospitalizations in heart failure patients include failure to follow prescribed therapy, lack of adherence to fluid restrictions, and non-compliance with dietary guidelines. Medication compliance, diet control (fluid restrictions), and body weight are part of self-care management This study aims to enhance the self-care management skills of heart failure patients.
Methods: A literature review was conducted using databases such as Scopus, ProQuest, PubMed, and CINAHL from 2016 to 2022. The inclusion criteria required articles to be open access, in English, and full-text, published in journals between 2016 and 2022. Keywords used for the search included "self-regulation," "protection motivation theory," and "heart failure." A total of fifteen articles were selected for review, with data analyzed using PRISMA flowcharts.
Results: Of the 15 articles meeting the inclusion criteria, 9 were randomized controlled trials, and 6 were cross-sectional studies. Findings indicate that improved self-care can enhance the health outcomes of heart failure patients, reduce repeat hospitalizations, and lessen the caregiving burden. Self-efficacy plays a crucial role in predicting self-care behaviors.
Conclusion: The study concludes that self-regulation is strongly associated with self-management behaviors. Self-regulation programs can effectively enhance self-care practices in heart failure patients.

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INTRODUCTION

The factors contributing to the recurrence of hospitalizations in heart failure patients include failure to follow prescribed therapy, lack of adherence to fluid restrictions, and non-compliance with dietary guidelines (Riegel et al., 2019). Medication compliance, diet control (fluid restrictions) and body weight are part of self-care management (Kim & Cho, 2021). A limited understanding of self-care management for heart failure leads to a gradual deterioration in physical abilities and a worsening of symptoms over time for patients (Jaarsma et al., 2021)

Data from the Global Health Data Exchange (GHDx) in 2020 shows that there were 64.34 million cases of heart failure worldwide, resulting in 9.91 million deaths (Lippi & Sanchis-Gomar, 2020). This is reinforced by data indicating that 20% of heart failure patients are readmitted within 30 days after discharge, with up to 50% facing a hospital death prognosis within the following six months (Tung et al., 2016).

Research has shown that 50-80% of heart failure patients do not engage in self-care behaviors related to diet control, daily weighing, regular exercise, symptom monitoring, and even 12% do not take medication as prescribed (Hsu, Chiang, & Chiou, 2021). Joselyn Chew explained that self-care compliance for heart failure sufferers is poor, with the average compliance rate being less than 50% (Chew, Sim, Choi, & Chair, 2021).

One approach involves self-care, where patients actively take responsibility for managing their health, while healthcare providers offer guidance and support to prevent recurrence (Grady & Gough, 2014). Intensive interventions centered on behavioral strategies, like self-regulation, are essential for enhancing patient self-care practices (Hsu et al., 2021). The theory that identifies social cognition in promoting changes in patient or sufferer behavior is the Protection Motivation Theory (PMT).

RESEARCH METHODS

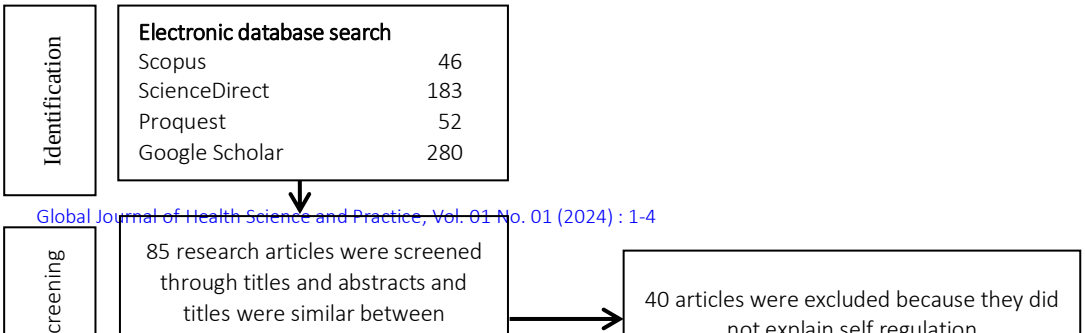
Database searches included Scopus, ProQuest, PubMed, and CINAHL with the keywords Self-regulation, Motivational protection theory, and Heart failure. The next step is to select articles according to the criteria, namely published in 2016-2022 with full text and in English, in preparing this systematic review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) systematics. The articles found were then synthesized and analyzed according to inclusion and exclusion criteria.

Inclusion criteria in the systematic review include (1) open access (2) English (3) full-text articles published in journals. The same study design is quasi-experimental, experimental, and randomized controlled trial (RCT), while the exclusion criteria in the review This systematic study is (1) an article that uses a qualitative design, (2) a study that focuses on heart failure patients without involving self-regulation and self-care management.

RESULTS AND DISCUSSION

Results:

The initial literature search found 500 articles from 4 databases used by researchers. There were 105 articles selected by researchers with the same title. 50 articles were then selected according to the eligibility criteria, filtering 35 articles because the content of the articles did not explain the self-care management of heart failure patients and 15 articles were obtained which were then used in this systematic review. as shown in Figure 1



Discussion:

In conducting this systematic review, fifteen research articles were evaluated to determine how self-regulation based on protection motivation theory can improve self-care management of heart failure patients. Through this systematic review, researchers tried to show that fifteen research articles had a positive role in the self-care management of heart failure patients involving self-regulation, self-motivation and self-efficacy. Three articles discuss the importance of involving family support during self-care for heart failure patients.

Heart failure self-care management involves adhering to prescribed medications, controlling diet (including limiting fluid, sodium, and alcohol intake), engaging in regular exercise, and daily monitoring of body weight (Jaarsma et al., 2021). Self-care for heart failure patients involves consistently taking prescribed medications, reducing salt intake in their diet, engaging in regular physical activity, and frequently monitoring their symptoms (Kessing, Denollet, Widdershoven, & Kupper, 2019). Self-care management is a non-pharmacological approach for heart failure patients, which includes adhering to medication, limiting fluid intake, maintaining healthy activity patterns, and regularly monitoring body weight (Baldewijns et al., 2023). Effective self-care management enables heart failure patients to develop strong motivation in managing their condition (Koirala, Dennison Himmelfarb, Budhathoki, & Davidson, 2020). Thus, the most important self-care management is adherence to a low-salt diet, monitoring symptoms, and differentiation of symptoms from various conditions (Hsu et al., 2021).

Integrating self-care practices such as limiting sodium intake, engaging in regular physical activity, and monitoring weight regularly presents a considerable challenge for heart failure patients (Hashimoto et al., 2023). These actions demand continuous self-regulation to maintain consistency, offering direct benefits like improved disease control and indirect benefits, such as enhanced quality of life (Billore, Anisimova, & Vrontis, 2023). Successfully managing these behaviors is vital to lowering the risk of hospital readmission and preventing further health deterioration.

Intensive interventions focusing on behavioral strategies are crucial for enhancing

self-care in heart failure patients. Self-regulation plays a key role in helping individuals establish and sustain healthy long-term habits (Riegel et al., 2017). Several factors affect behavior, including an individual's perception of time, the complexity of the behavior, and their capacity for self-regulation (Saunders & More, 2024). As outlined in Bandura's theory, self-regulation involves individuals adapting their behavior by observing others, learning from their past experiences, and receiving encouragement or reinforcement from their environment.

In this context, self-regulation serves as an essential tool for heart failure patients to manage the intricacies of their condition. By observing successful behaviors, receiving feedback from healthcare providers, and gaining support from family members, patients can progressively develop the necessary skills for maintaining self-care. This approach not only aids in immediate symptom control but also fosters better long-term health outcomes.

Implications for Public Health:

The influence of self-regulation based on the Protection Motivation Theory on self-care management in heart failure patients has significant implications for public health. It can lead to improved patient outcomes, reduced healthcare costs, and enhanced patient autonomy. Furthermore, the principles of PMT offer opportunities for tailored interventions, broader population health benefits, and informed policy development. As public health continues to evolve, incorporating PMT-based strategies into chronic disease management can play a crucial role in improving the overall health and well-being of individuals and communities.

Limitations and Future Research:

This study has several limitations. While self-regulation based on Protection Motivation Theory holds promise for improving self-care management in heart failure patients, several limitations must be addressed through future research. Longitudinal studies, personalized interventions, and the integration of technology and behavioral economics are key areas for exploration. By overcoming current limitations and advancing the research agenda, PMT-based self-regulation interventions can be more effectively implemented to improve the health outcomes and quality of life for HF patients.

CONCLUSION

This study demonstrates a strong correlation between self-regulation and self-management behavior. Self-regulation programs can significantly enhance self-care behaviors in heart failure patients by incorporating family support, helping to prevent the recurrence of heart failure symptoms, reduce hospital readmissions, alleviate the burden of care, and lowering the risk of mortality.

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