

EXPLORATION FACTORS INFLUENCING SELF-EFFICACY IN PATIENTS WITH HEART DISEASE: A LITERATURE REVIEW

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ABSTRACT

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Heart disease is the top cause of death worldwide. Self-efficacy is one of the fundamental factors contributing to self-management programs among patients with heart disease. Cardiac patients with good self-efficacy will participate in disease management, improve health status, better self-care behavior, and a higher level of quality of life. Factors affecting self-efficacy need to be identified for stratified plan intervention strategies; therefore, the goal will achieve significantly. To identify factors that influence self-efficacy in patients with heart disease. Literature research from 2013-2019, obtained from the five largest databases consist of Pubmed, Google Scholar, CINAHL, Medline and PsycINFO by using keywords "Self Efficacy," "Cardiovascular Disease," "Heart Disease," and "Self Efficacy and Cardiovascular Disease" and "Self Efficacy and Heart Disease." Five articles were further analyzed, and ten factors affecting self-efficacy are: 1) Age, 2) Income, 3) Social-economy, 4) Body mass index, 5) Experience on health education, 6) Risk factors awareness, 7) Social support, 8) Depressive symptoms, 9) Adherence and 10) Physical activity. The influence factors of self-efficacy, including demographic characteristics, clinical status, health education, awareness of risk factors, and psychosocial.

BACKGROUND

Cardiovascular disease is a condition affecting the function of the heart and blood vessels. This disease is still a leading cause of death worldwide (Hinton et al., 2018). In 2016, it was estimated at 17.9 million people in the world died from cardiovascular disease and by 2020 will be the leading cause of death by 36% or more doubled than cancer (WHO, 2017). The two cardiovascular diseases that cause the highest deaths are ischemic heart disease by 8,756,000 people, and stroke by 6,240.00 people and 75% of these cases occur in developing countries (WHO, 2017), including Indonesia due to limited detection of prevention and lack of primary health programs with integrity in all aspects. In 2016 in the United States, 840,678 people died from cardiovascular disease or about 1 in every three deaths (Benjamin EJ et al., 2019). In Indonesia, the total prevalence of heart disease based on Riskesdas (2018) is 1.5% (Kementerian Kesehatan Republik Indonesia,

2018). The term heart disease refers to several types of conditions, including coronary heart disease, rheumatic heart disease, and congenital heart disease (WHO, 2017).

The coronary heart disease caused by plaque in the arteries; therefore, blood flow will obstruct the circulatory system (Ambrose & Singh, 2015). Regular symptoms that often appear in people with heart disease are chest pain and shortness of breath. The most dangerous thing is a heart attack (Ornato & Hand, 2014). To avoid that, good health behavior is strongly needed (Kang, Yang, In-suk, & Kim, 2010).

Health behavior is essential for cardiac patients to prevent recurrence and fatal heart attack events (Kang & Yang, 2013). Maintaining healthy behaviors requires healthy living behaviors such as adherence to treatment regimens, stop from smoking, weight control, regular exercise, and a healthy diet. Self-efficacy is one of the essential elements in self-management programs in heart disease (Park, Howie-Esquivel, Whooley, & Dracup, 2015).

Self-efficacy is a person's belief in ability to deal with problems that can affect his life (Bandura, 1997). Self-efficacy in cardiac patients (Cardiac Self Efficacy) is confidence in the capacity to maintain function and control symptoms of heart disease (Sullivan, Lacroix, Russo, & Katon, 1998). Self-efficacy refers to an individual's internal resources, including a positive attitude and self-confidence in managing his condition. Patients with higher self-efficacy tend to assume a disease can be controlled and managed (Kang & Yang, 2013). Good self-efficacy in cardiac patients can increase patient involvement in disease management, improve health status, and self-care behavior (Alizadeh, Feizollahzadeh, & Abdollahzadeh, 2018; Katch, 2010). A meta-analysis study shows that self-efficacy affects the quality of life of all ages and varying degrees of severity in heart disease patients (Banik, Schwarzer, Knoll, Czekierda & Luszczynska (2018)). Limited articles are describing this. The explanation above shows that it is necessary to identify the factors that influence self-efficacy in patients with heart disease. This Literature Review aims to explore the factors that affect self-efficacy; therefore, the intervention program planning will be appropriate and specific based on the needs of heart disease patients.

METHOD

Literature searches were obtained from the five largest databases in health consisting of Pubmed, Google Scholar, CINAHL, Medline and PsycINFO

using the keywords "Self Efficacy," "Cardiovascular Disease," "Heart Disease," and "Self Efficacy and Cardiovascular Disease" and "Self Efficacy and Heart Disease." Keyword searches are also combined; therefore, the literature obtained is more specific. Inclusion criteria include: 1) the article has a title and the content relevant to the purpose of the study, 2) the publication of the article is limited from 2013 to 2019, 3) English, and Full Text. Articles not included in the inclusion criteria are excluded. The process of finding literature is described in Figure 1.

DISCUSSION

This literature study consists of five articles that discuss the factors that influence self-efficacy in patients with heart disease. From the five articles it can be concluded that the factors that influence self-efficacy in patients with heart disease include: 1) Age, 2) Social-economy, 3) Diagnosis of disease, 4) Body mass index, 5) Experience of receiving health education, 6) Risk factor awareness 7) Social support, 8) Depression, 9) Adherence and 10) Physical activity.

Age

Age is the only predictor that most influences self-efficacy (Salari et al. 2016). The average age of respondents in the five articles was 63.4 ± 11.2 years and belonged to the elderly group. Patients with heart disease at a younger age and male sex have low self-efficacy towards diet related to lifestyle such as al-

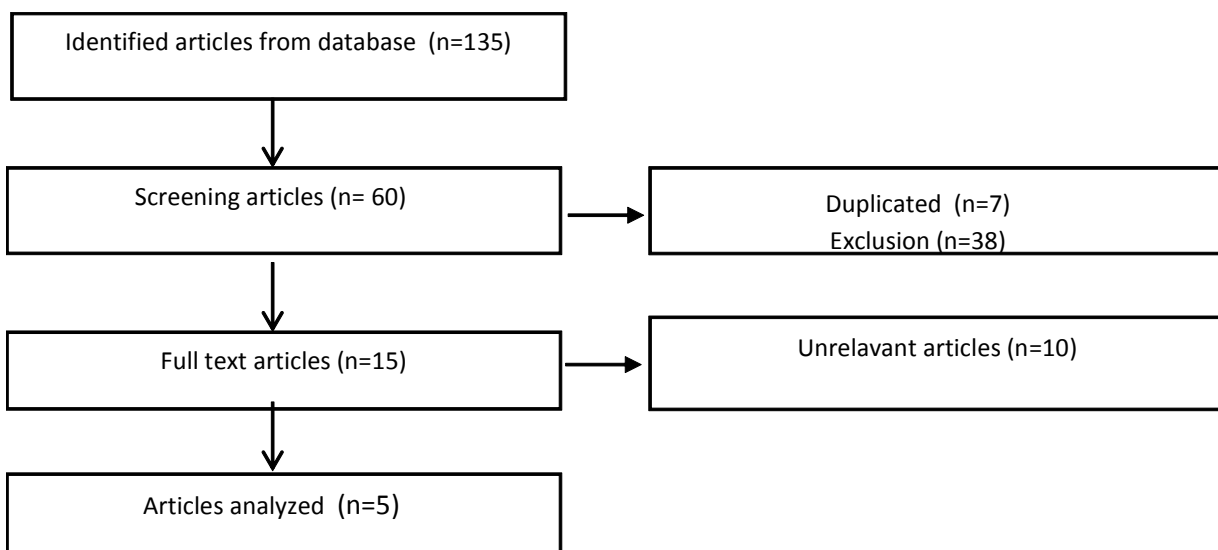


Figure 1. Review Article Process

Table1. Article Summary

No	Judul dan Penulis	Metode	Sampel	Hasil	Kesimpulan
1	Social support as a predictor of diet and exercise self-efficacy in patients with coronary artery disease (Chair, Wong, Tang, Wang, & Cheng, 2015)	<p>a. Design : Cross-sectional</p> <p>b. Instruments :</p> <p>1. Cardiac Exercise Self-Efficacy Instrument (CESEI-C) : Cronbach's $\alpha = 0.86$, CVI = 0.94</p> <p>2. Cardiac Diet Self-Efficacy Instrument (CDSEDI-C) : CVI = 0.96</p> <p>3. Medical Outcomes Study Social Support Survey: Chinese Version (MOS-SSS-C): Cronbach's $\alpha = 0.97$</p>	<p>Convenience sampling technique for CHD patients applied from two heart rehabilitation centres at Hong Kong in January-May 2008 (N = 85)</p>	<p>1. Low exercise self-efficacy associated with marital status (divorced or widowed) and > BMI</p> <p>2. Low self-efficacy diets are associated with young people, men and alcohol drinkers.</p> <p>3. Social support correlates to self-efficacy exercise and self Efficacy diet (p <0.01)</p>	<p>There is a relationship between social support for diet and exercise self-efficacy. Friends, family, health workers will help patients overcome barriers in implementing a healthy lifestyle.</p>
2	Depressive Symptoms Moderate the Effects of Exercise Self-efficacy on Physical Activity Among Patients With Coronary Heart Disease? (Siow et al., 2018)	<p>a. Design: Cross-sectional exploratory study</p> <p>b. Instruments :</p> <p>1. Godin-Shephard Leisure-Time Physical Activity (G-SLTPA)</p> <p>2. Self-Efficacy for Exercise (SEE-C)</p> <p>3. Epidemiological Studies-Depression 10-item (CESD-10)</p>	<p>One hundred forty-nine patients with CHD were recruited from the emergency room and hospitalized in 2 hospitals in Hong Kong in May 2015, until 31 August 2015. (N = 149)</p>	<p>1. Exercise self-efficacy has a significant relationship with physical activity ($\beta = 1.54, t = 3.93, p < 0.01$)</p> <p>2. Patients with high depressive symptoms show low physical activity and self-efficacy</p> <p>3. A positive relationship between exercise self-efficacy and physical activity will be stronger in heart disease patients who have depressive symptoms ($\beta = 0.14, p, 0.043$)</p>	<p>Self-efficacy is an important factor affecting heart disease patients who show signs of depression for participate in physical activity</p>

cohol consumption (Chair, Wong, Tang, Wang, & Cheng, 2015). The study is different from Salari et al. (2016) which describes that self-efficacy will de-

cline with age and the older a person have decrease physical ability therefore impact on decreased self-efficacy. Cultural differences in the community and

<p>g. Cardiac self-efficacy and its predictors in patients with coronary artery disease." (Kang & Yang, 2013)</p>	<p>a. Design: Descriptive correlational and cross-sectional b. Instruments : 1. Awareness of risk factors 2. Coronary Disease Awareness and Knowledge Questionnaire 3. Cardiac Self-Efficacy Scale Cronbach's $\alpha = 0.77$</p>	<p>Patients with Coronary Disease in outpatients at three hospitals in Korea in September 2009 - March 2010 (N = 214)</p>	<p>1. Occupation ($\beta = 0.15$, $p = 0.03$), disease diagnosis based on the CCSA classification (Canadian Cardiovascular Society Angina) ($\beta = 0.18$, $p = 0.03$), body mass index ($\beta = -0.16$, $p = 0.02$), experience of receiving health education ($\beta = 0.14$, $p = 0.04$) and awareness of risk factors ($\beta = 0.16$, $p < 0.02$) significantly influence self efficacy 2. Awareness of risk factors has the most influence on self-efficacy 3. Knowledge of heart disease is not related to self-efficacy</p>	<p>Perception of the disease and awareness of risk factors are the two variables that are most related to self-efficacy.</p>
<p>h. Patients' Cardiac Self-Efficacy After Coronary Artery Angioplasty (Salari et al., 2016)</p>	<p>a. Design: Descriptive, cross-sectional b. Instruments: Sullivan 5-item cardiac self-efficacy scale with CVR and CVI > 75%, test-retest reliability 92%</p>	<p>Patients undergoing coronary artery angioplasty at the Hezbmat teaching hospital, in Rasht, Iran with convenience sampling technique (N = 193)</p>	<p>1. There is a significant relationship between age ($p < 0.001$), sex ($P = 0.024$), education ($p < 0.0001$), history of hypertension ($P = 0.006$), living conditions ($P = 0.03$), occupation ($P = 0.001$) and monthly income ($P = 0.003$) for cardiac self-efficacy in patients undergoing angioplasty 2. Age is the only predictor that most influences self-efficacy</p>	<p>Heart disease patients have poor cardiac self-efficacy scores after angioplasty, so interventions are needed to improve health promotion and disease complications.</p>

the situation that influenced the results of the study. Alcohol consumption is a common behaviour in Hong Kong and South Korean communities with a prevalence of 21% (Wang & Chen, 2018) therefore this will directly affect the ability of heart disease patients

to control their disease. One's adherence influences better self-efficacy ability in choosing food or diet (Sol, van der Graaf, van Petersen, & Visseren, 2011).

Social-Economy

<p>5 Self-efficacy mediates the relationship of depressive symptoms and social support with adherence in patients with heart failure (Tovar et al., 2016)</p>	<p>a. Design: Cross-sectional study b. Instrument: Beck Depression Inventory-II (BDI-II) with Cronbach's alpha = 0.88 c. Multidimensional Perceived Social Support Scale (MPSS) with Cronbach's alpha = 0.95 d. Self-Care of Heart Failure Index (SCHFI) with Cronbach's alpha = 0.86 e. Medical Outcomes Study (MOS) Specific Adherence Scale with Cronbach's alpha = 0.64</p>	<p>Secondary data of patients with heart failure, in 1999-2009 (N = 346)</p>	<p>1. A relatively strong negative relationship between depressive symptoms and social support ($r = .30,35$) 2. A significant correlation between self-efficacy - depressive symptoms and self-efficacy - social support 3. Self-efficacy and compliance have a relatively strong positive correlation ($r = 0.37$) 4. Self-efficacy is a mediator in the relationship between depressive symptoms and adherence ($p < .0001$ and between social support and adherence ($p < .0002$))</p>	<p>Interventions that can be made to improve adherence to self-care in heart failure patients with depressive symptoms and low social support are to increase self-efficacy</p>
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Education, income and employment status differences in patients with chronic diseases will cause disparities in health status which includes access to health services, exposure to health information, nutrition and physical activity (Shaw, Theis, Self-Brown,

Roblin, & Barker, 2016). These factors directly influence a person's ability to perform independent treatment of heart disease. Respondents with higher income will have higher self-efficacy compared to respondents who have smaller income (Salari et al., 2016). This is because of difficulties in access good health facilities from healthcare professionals and to consume nutritious food by always eating fruits every day (Sun, Buys, & Wang, 2012). The type of work influences self-efficacy in cardiac patients. Two articles describe that groups who have a job significantly exhibit higher self-efficacy compared to those who do not have a job or have retired (Kang & Yang, 2013; Salari et al., 2016).

Disease Diagnosis

Diagnosis of the disease will affect self-efficacy in patients with heart disease. The higher the severity, the lower the self-efficacy. History of hypertension influences self-efficacy (Salari et al. 2016). Respondents with stable angina showed high self-efficacy compared to the diagnosis group for unstable angina (Kang & Yang, 2013). Patients who have more than two comorbidities show lower levels of self-efficacy. These comorbidities will make it difficult for patients to perform self-care, which results in decreased self-efficacy (Dickson, Buck, & Riegel, 2013). Different disease characteristics influence person ability to self-efficacy in each level, and the effect of these factors will be different in each individual.

Body Mass Index (BMI)

Body mass index values related to one's behaviour in consuming healthy food and the ability to do physical activity. Heart disease patients with a high BMI have lower self-efficacy compared to a higher BMI (Kang & Yang, 2013). A high body mass index is associated with poor dietary regulation and low physical activity (Chair, Wong, Tang, Wang, & Cheng, 2015). Overweight patients will experience difficulty in perform physical activities and in realizing a healthy lifestyle that is not drinking alcoholic beverages.

Experience Receiving Health Education

Low self-efficacy occurs in patients who have never received health education compared to patients who have experienced receiving health education. Patients who have received health education know better how to care for themselves so that they are more confident in their ability to maintain their health (Kang & Yang, 2013). Specific knowledge

obtained by patients with heart disease consists of the pathophysiology of the disease, causes, risk factors, signs of symptoms and treatment will increase the ability to control over the disease and awareness of the risk factors possessed so that self-efficacy will be formed better than before

Risk Factor Awareness

Awareness of risk factors for heart disease, which consists of factors that can be modified and factors that cannot be modified will affect self-efficacy in heart patients. Patients who have an awareness of risk factors have a high self-efficacy compared to patients who do not have an awareness of risk factors (Kang & Yang, 2013). Patients who are aware of risk factors are more aware of the impact or serious health problems if these factors are not avoided and more likely to take action to improve their health status (Khan & Ali, 2017).

Social Support

Stronger social support independently shows high self-efficacy in exercising and dieting. The higher the social support, the self-efficacy will increase and the lower the social support, the self-efficacy will decrease. Friends, family and partners will help patients gain greater confidence in overcoming obstacles in lifestyle modification (Chair et al., 2015). Social support created in positive interpersonal relationships affects self-efficacy by providing information related to the disease and acting as a role model in practising a healthy lifestyle to facilitate changes in a healthy behaviour that must be practised by heart disease patients (Martos-Méndez, 2015).

Physical Activity

Inadequate physical activity is the main risk of various chronic diseases including diabetes and heart disease (WHO, 2018). The ability to carry out regular physical activity will be influenced by mental status in patients with heart disease (Siow et al., 2018). Self-efficacy is important in encouraging individuals with depressive symptoms to participate in physical activity, and therefore, the programmed intervention must be following the psychological status of the patient.

Depression

Higher levels of depression will reduce self-efficacy or vice versa. Someone with a high level of depression, self-efficacy and adherence to treatment will be lower (Tovar et al., 2016). The elderly are a high-risk age group with symptoms of depression due

to lack of confidence to participate in health care. In heart patients with symptoms of depression and high self-efficacy exercise, the physical activity performed will be better (Siow et al., 2018). Mood changes do not change significantly over time if appropriate interventions are not carried out, and moods will decrease so that important interventions are carried out.

Adherence

Heart disease patients with depressive symptoms or who have high/low social support will have better self-care adherence if supported by self-efficacy (Tovar et al., 2016). Adherence to self-care consists of low salt consumption, taking medication according to instructions, regular physical activity, not smoking, drinking one bottle of alcohol or less, a low-fat diet, observation of signs and symptoms of heart failure and daily weight gain (Tovar et al., 2016).

CONCLUSION

Interventions from promotive, preventive and curative aspects in patients with heart disease must consider factors related to self-efficacy therefore optimal health care can be achieved. Modifications to this will have short-term impacts (improved physical and mental status) and long-term (improved quality of life). Nurses as health care professionals can assess factors related to the decrease or increase in self-efficacy so that the planning and implementation of appropriate and specific health programs can be based on the conditions and needs of each patient.

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