

REVIEW ARTICLE

Self-efficacy in Doing Self-care Among Patients With Coronary Heart Disease: A Concept Analysis

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ABSTRACT

Clarity regarding self-efficacy (SE) in coronary heart disease (CHD) patients is essential. Concept analysis studies have yet to be genuinely comprehensive in determining the characteristics, origins, and outcomes of SE in CHD patients. This paper uses Rodger's concept analysis approach to conduct an in-depth analysis of the SE concept in CHD patients. Reference sources were obtained from three databases: EBSCO-host, PubMed, Scopus, and one search engine: Google Scholar. This review identified the attributes, antecedents, and consequences of SE in CHD patients. Four categories of antecedents include personal, environmental, behavioural, and psychological factors. The three attributes that are the basis for forming SE are personal belief, perception of self-ability, and ability to understand learning needs. The long-term consequence of a lack of self-efficacy is poor self-care, impacting the quality of life. The clarity of this concept will make it easier for health professionals, including nurses and other scientific disciplines, to use the SE concept with this population in health service practice and the field of research.

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INTRODUCTION

Concept analysis is a strategy for developing nursing science and other health science disciplines. The strategy of clarifying previously defined concepts and developing them to higher levels of development is known as concept analysis (1). Concept analysis is also an essential first step in the theory development process in creating conceptual definitions (2). Concept analysis aims to clarify ambiguous concepts in theory and propose appropriate operational definitions that reflect their theoretical foundations (3).

The concept of "Self-Efficacy" (SE) was first developed by Albert Bandura (4). Albert Bandura defines SE as a person's belief in their ability to organize and carry out the necessary actions in a specific situation (4). SE is learned and developed through continuous positive behaviour reinforcement (5). Therefore, SE has become a concept widely used by other professions besides psychology, including nursing (5-7).

SE is one of the main elements in Bandura's social

cognitive theory and refers to an individual's beliefs about person's ability to perform certain behaviours(8). The previous review shows that the SE concept is widely used in several studies to improve patient behaviour, especially among those with chronic diseases (9). In addition, SE is also widely used to improve health behaviour in people who are not sick or at risk to maintain their health and quality of life (10,11). This is because SE is the key to forming a person's behaviour (12).

SE in doing self-care plays an essential role in reducing disease recurrence (13). Specifically, SE in CHD patients means personal confidence in the capacity or ability to perform tasks associated with the signs and symptoms caused by CHD (5). Given the lifetime risk of cardiovascular events, it is essential to address vascular risk factors and improve lifestyle by encouraging a person to choose healthy foods, get enough exercise, and stop smoking (14). Therefore, SE is essential to improve patient's quality of life (QoL) and health status, especially those suffering from chronic diseases such as CHD.

Previous research states that CHD patients tend to have poor QoL (15,16). In addition, low levels of self-care and noncompliance with CHD patients' rehabilitation are the root cause of the high rates of death and morbidity

among these patients (17,18). Several previous studies also reported that the level of practice of looking after oneself among individuals diagnosed with still tends to be low (19–21). Consequently, in order to be able to regulate and manage their self-care until the end of their lives, every CHD patient needs to have a high SE (14).

Self-care in CHD patients is more complex than to other diseases (22). This involves various kinds of management, such as regular diet and exercise, stress management, and medication management, and they must monitor their heart condition regularly (22,23). In addition, due to the high cost of the treatment process, CHD patients are more likely to experience barriers for participating in rehabilitation and long-term care (24). Then, when the COVID-19 pandemic took place, changes in health services, especially for people with chronic diseases such as heart disease, experienced many changes due to social restrictions, which may impact SE in self-care (7). Therefore, this analysis concept can add information related to SE in self-care among CHD patients.

SE plays an essential role in the management of cardiovascular disease. Patients with good SE will be in line with the level of participation in an excellent self-management program, lifestyle changes, and management of factors that increase the likelihood of a negative outcome (25). Analysis of the SE concept emphasizes how important it is for a person, especially patients with CHD, to understand their abilities and how these beliefs influence their behaviour. Therefore, this analysis aims to clarify the concept of SE and its operational definition, especially in the context of CHD.

MATERIALS AND METHODS

Concept analysis framework

This concept analysis uses a framework with a qualitative approach by Rodgers (1989), which was also used in the concept analysis of previous studies by McMillan et al. (2018) and Zulkosky (2009). Rogers's methods are more suitable for analyzing SE in doing self-care because Rogers's methods are known to focus on humanistic psychology and client-centred therapy; his principles can indeed be applied to the analysis of concepts related to self-care (3,28–30). Rogers' emphasis on empathy, unconditional positive regard, and congruence can inform how we understand and practice self-care. (29) The previous concept analysis using Rodgers' framework clarified related to good nursing care (29), pain anxiety (28), and nursing professional regulation (30). Framework Rodgers (1989) presents an inductive and dynamic view of phenomena. The steps of Rodgers' (1989) framework can be seen in Figure 1.

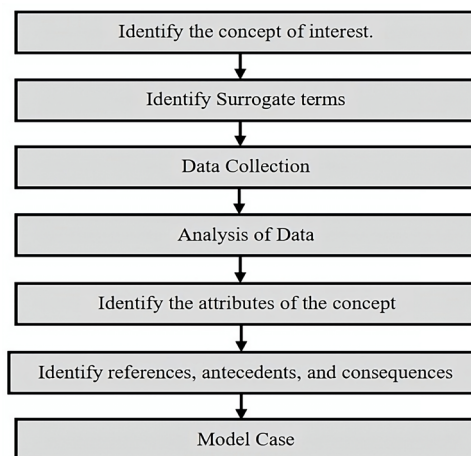


Figure 1: Rodgers's (1989) Framework for Concept Analysis.

Search strategy

The search strategy for supporting literature in this concept analysis uses a database EBSCO-host: Medline Ultimate, PubMed, Scopus, and one search engine: Google Scholar databases. The keywords used were "self-efficacy OR cardiac self-efficacy OR general self-efficacy AND coronary heart disease OR coronary artery disease OR CAD AND. Synonyms of the word "Efficacy" are adequacy, competence, effectiveness, potency, and ability are also used to identify relevant articles. More details about search strategy results can seen in Table I.

Table I: Search strategy.

Database	Keywords	Results
EBSCO-host: Medline Ultimate Search date: March 16, 2024	coronary artery disease OR CAD OR coronary heart disease AND self-efficacy OR cardiac self efficacy. Limiters: Full-text in English	80
Scopus Search date: March 16, 2024	coronary artery disease OR CAD OR coronary heart disease AND self-efficacy OR cardiac self efficacy. Limiters: Open access, articles in English	148
PubMed Search date: March 16, 2024	(coronary heart disease[MeSH Terms]) OR (coronary artery disease[MeSH Terms]) AND (self efficacy[MeSH Terms]) OR (cardiac self efficacy)	272
Total		500

Eligibility criteria

Research questions and article eligibility criteria use the PCC (Population, Concept, and Context) approach.
 P (Population) : Patients with Coronary Heart Disease
 C (Concept) : Cardiac self-efficacy OR Self-efficacy
 C (Context) : Antecedents, attributes, consequences

of self-efficacy.

The inclusion criteria for this analysis concept are (a) full-text articles in English, (b) primary and secondary studies, and (c) articles discussing antecedents, attributes, and consequences of SE in CHD patients. This review also uses textbooks and grey literature appropriate to the topic of this concept analysis. Then, this analysis concept excludes (a) full-text publications that cannot be accessed and (b) articles in non-English languages because we pay attention to the team's linguistic abilities so that they can be identified comprehensively.

RESULTS

Definition of Self-efficacy

The first step in Rodger's concept analysis model is identifying and defining the concept of interest (3). In this concept analysis, self-efficacy (SE) is interesting. Albert Bandura introduced SE, which was discussed in social learning theory and has now changed to social cognitive theory (8). SE is a cognitive process that relies on assumptions or convictions about one's capacity to carry out the tasks required to achieve a particular result. SE can determine how a person feels, thinks, motivates themselves, and behaves (31). In CHD patients, SE is defined as personal belief in the ability to do something related to the symptoms and barriers caused by cardiovascular disease.

Bandura and Locke (2003) state that someone with high SE performs better because he has strong motivation, clear goals, and a stable emotional state. In addition, someone with high SE tends to be more able to carry out tasks successfully (33). This is because SE can influence a person's persistence in carrying out a task, one of which can be self-management in managing chronic diseases, one of which is CHD.

Surrogate terms

"Self" is defined as self-identity, while "Efficacy" means the ability to achieve the desired goal or result (34). Meanwhile, synonyms for "Efficacy" are adequacy, competence, effectiveness, potency and ability (35). Therefore, when combined, these two words can mean a person's ability to be effective and control behaviour. Other terms that are used and almost have the same meaning are cardiac SE (36), cardiac diet SE (37), general SE (38), and exercise SE (39).

Attributes of Self-efficacy

Attributes are a defined concept's main components and help clarify the concept (3). In this review, the SE attribute is described in the context of CHD patients, including (a) personal belief, (b) perception of self-ability, and (c) ability to understand learning needs. These three attributes can be summarized in detail in

the SE definition in previous studies (5,7). The following are three attributes of SE in CHD patients:

Attribute I: Personal belief

Personal beliefs are one factor in self-care for CHD patients (40,41). Specifically, they describe patients when faced with symptoms, diseases or threats to their health. This influences how they manage the situation and evaluate management and its recovery potential (40).

Attribute II: Perceived self-ability to engage in self-care activities.

Understanding or awareness of one's capability to act is a form or example of belief in one's internal locus of control (27). CHD patients' perceptions of benefits, barriers, vulnerability and severity are predictors of a person's behaviour, including self-care (42). The self-care abilities possessed by CHD patients include identifying warning signs and symptoms of a heart attack, dealing with a heart attack to carry out safe activities, choosing the proper diet, managing the proper diet, and being able to stop smoking; identifying, avoiding, and managing stress; using spiritual beliefs for mental health; and adhere to the prescribed CHD medication schedule (7).

Attribute III: Ability to understand learning needs

This attribute is one aspect of the cognitive process (27). The ability of CHD patients to understand the need for disease management and risk factors is an essential attribute of SE (7). Understanding and knowledge regarding learning needs related to risk factors and heart management will certainly greatly influence a person's ability to carry out self-care. In addition, knowledge about heart management affects a person's health directly and indirectly. This knowledge functions as a mediator that can influence a person's SE (43).

Antecedents of Self-efficacy

Antecedents are environmental events that form the stage or trigger a person's behaviour (44). In addition, in other words, antecedents are events that occur before the emergence of a concept. In this case, they can influence a person's SE (3). A person only implements some things they learn even though they can carry out the behaviour. Once the behaviour is learned, behaviour regulation depends on strengthening motivation, such as SE (45).

This concept analysis focuses on SE among CHD patients. SE directly and indirectly impacts health, where knowledge about risk factors is a potential mediator that influences SE (46). This review classifies antecedents into four categories: personal, environmental, behavioural, and psychological (see Figure 2). All antecedents have a significant influence on the level of SE, which is a mediator of self-care (47).

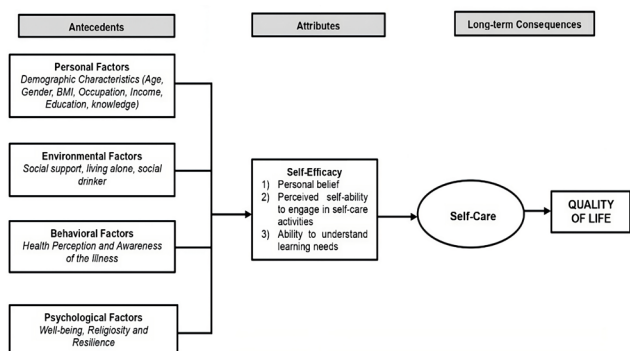


Figure 2: Antecedents and Consequences of Self-efficacy.

Personal factors that influence SE are related to demographic characteristics. Demographic characteristics such as age, female gender, body mass index (BMI), income, and education level also influence SE in CHD patients (39,48–51). Patients with CHD generally experience a decrease in SE with increasing age (51). In addition, environmental factors also influence SE such as social support, living alone, and social drinking. Social support impacts SE (52). A supportive social environment can lower emotional pressure, boost a patient's self-esteem when coping with their condition, and promote patient involvement in treatment (53). An identical observation was reported by other research that indicated CHD patients who live alone can also affect SE (49). Because of insufficient social backing, patients living alone often struggle to develop adequate coping mechanisms (54).

Other factors associated with SE in CHD patients are behavioral and psychological. In behavioral factors, perception and awareness about health and disease influence SE. Most CHD sufferers with a high awareness level have high SE (52). In addition, religion is an antecedent of SE because it strengthens and gives a person confidence by praying to enhance the patient's health and recuperation (55). Patients with CHD engage in prayer rituals to seek solace, fortitude, and optimism regarding the importance of assistance in enhancing their life's standards. They can enhance their adapting skills by conquering challenges in managing the illness (56).

Consequences of Self-efficacy

Consequences are events that follow the SE concept (3). Generally, someone with high SE tends to be directly involved, do their tasks well, and do not view tasks as a threat that must be avoided (see Table II) (57). In addition, individuals with high SE, when they experience failure in carrying out something, can quickly recover after experiencing failure (4). Meanwhile, individuals with low SE tend to doubt their abilities and avoid complicated tasks because they are seen as a threat. Individuals like this tend to have a low commitment to achieving set goals and, when faced with complex tasks, tend to be busy thinking about their shortcomings, the disturbances they face and possible detrimental outcomes. Individuals

like this tend to be slow to improve or get SE back when they experience failure (57).

Table II: Consequence of Self-efficacy.

High Self-Efficacy	Low Self-Efficacy
Easy to adapt to life's challenges and pressures	Tends to find it difficult to adapt to the current situation
Accept his current situation	Patients do not have confidence in recovering, feel low self-esteem, and feel unlucky and hopeless.
Good self-management	Poor self-management
Good quality of life	Tend to have a poor quality of life
View challenging problems as tasks that must be mastered	Feeling like you are in a situation beyond your capacity
Strong commitment	Quickly lose confidence when experiencing failure
Quickly rise from adversity and disappointment	It tends to be challenging to rise from adversity

In the context of SE among CHD patients, low SE will result in inadequate self-care, particularly in sports, affecting their bodily and mental condition (18,58). Furthermore, diminished self-esteem in individuals with CHD is also linked to depressive symptoms, absence of self-acknowledgment, and compromised health conditions (55). In addition, When individuals with CHD possess elevated self-esteem, they are more likely to experience better QoL and psychological well-being and show more adherence to following heart disease recovery programs and self-care programs (37,59,60).

Related concepts

At this stage, the review identifies concepts that share similarities with SE but have different defining attributes (44). A concept that is similar or almost similar to SE is self-confidence. Self-confidence is the belief in one's abilities or strengths (34). In addition, Bandura (1982) revealed that self-confidence is the perception that someone is competent and able to meet certain expectations, such as fulfilling the expectations of a specific role. Previous concept analysis reported that the attributes of self-confidence are emotional intelligence, resilience, self-confidence, cognitive ability, and intuition (62).

Model Case of Self-efficacy

The case model shows all the aspects that define the idea (44). It aims to clarify attributes and other components by providing everyday life examples (3). Model cases can be real-life examples found in literature or created by authors.

Model Case

The case model in this concept analysis is taken from research by Wahyuni and Setyowati (2022). This case model illustrates the concept of SE in a CHD patient. 50-year-old Mr K had suffered a cardiac event two

months earlier. According to Mr. K, every day, he possesses firm personal convictions about taking care of himself, such as being able to do physical activity, diet and stop smoking (*Personal beliefs*). Personal confidence is realized through physical activity, watching food, controlling emotions, stopping smoking, and obeying medication. Even though he feels better, these activities are still carried out (*Perceived self-ability*). Support from his wife and family Mr. K in his recovery. At the time of the study, Mr K said that he understood that controlling blood sugar, blood pressure, and cholesterol was very important for him to avoid the CHD risk factors that existed for him and to avoid heart attacks (*Ability to understand learning needs*).

Based on the case above, it contains all the attributes of the SE concept in CHD patients. Mr. K's explanation in determining how he feels, thinks, motivates and behaves aims to avoid heart attacks and achieve optimal recovery. This clearly shows that Mr. K has high SE in his self-care process.

Borderline Case

This case model will illustrate the SE concept in CHD patients using several (but not all) existing attributes. The borderline case illustrates using most attributes that define the concept checked but not all. An example of a borderline case is Mr K, who is 50 years old and had a history of CHD one month ago. Mr K said he felt better after receiving treatment (personal beliefs). He admits that this is the result of his high SE in healing and ability to control food, stop smoking, exercise, and control emotions (*perceived self-ability*).

Moreover, he did so because he realized his child was still very young and needed his attention. When we met, Mr K He claimed to have solely been aware that he failed to manage his disease risk by not regulating his cholesterol, blood sugar, and blood pressure levels. The conclusion from the above borderline case is that not all attributes are used.

In this case, the patient believes he can recuperate and execute treatment at home independently. However, he cannot control his perceived risk factors due to his sensation of being comfortable with his present state.

Related Case

The related case illustrates the central concept of SE in CHD patients. However, this is different from the primary case model if observed closely. Mr. K, 45 years old, is a company director with a history of CHD two months ago. Mr. K has a good SE level in activities, eating patterns, and emotional smoking cessation (*Personal beliefs*). All forms of Mr. K's SE can be implemented well, coupled with medication compliance (*Perceived self-ability*). However, Mr K said he had difficulty controlling his emotions when faced with work situations. Therefore, to overcome this, Mr. K consulted with the nurse. Hence,

the nurse taught him and recommended that he carry out stress management according to his hobbies, such as listening to music, and Mr. K did this regularly. Mr. K said that after doing this, he felt calm and happy, which made him aware, and he routinely checked his blood pressure, cholesterol, and blood sugar (*Ability to understand learning needs*).

In this case, Mr. K has good self-confidence regarding activities to prevent risk factors and treat CHD. The related case explains all the SE attributes, but the SE attribute is used more to carry out Mr. K's self-care in stress management.

Contrary case

This case model contrasts the main case of the SE concept, where, in this contrary case, it does not reflect all the SE attributes. Mr K has a past record of CHD more than two months prior. When we met, Mr K said that since he was suffering from illness, he had no appetite and did not eat anything. He said the food he ate before he got sick increased his enthusiasm for movement. Mr. K was not sure that the food was causing his illness, so he ultimately decided to consume as he did before his illness and continued smoking. Mr K also said he did not return to control his blood pressure, glucose levels, and lipid profile. Mr K also said he occasionally experienced chest pain that was ignored.

The case model shows that Mr. K needs to use the three attributes of the SE concept. In this case, it shows that Mr. K feels insecure, is unable to manage his illness, and does not control the risk factors for his illness.

DISCUSSION

Based on the literature review, existing research has not explored this concept thoroughly and disseminated it globally. On the other hand, it is only possible to measure and evaluate this concept through conceptual definition. This discussion explores the concept of SE in the context of self-care for CHD patients, focusing on definitions, attributes, antecedents, and consequences. The findings of this study can be used as a basis for health professionals, including nurses, to use SE concepts with this population in healthcare practice and research fields.

Various definitions have been given for SE. However, not specifically in the context of self-care in CHD patients. This study clarifies that SE in self-care in CHD patients is defined as personal confidence in the ability to do something related to the symptoms and obstacles caused by cardiovascular disease. Therefore, SE in CHD patients is essential in influencing an individual's ability to engage in effective self-care practices (43). The findings of this study indicate that to understand and study SE in CHD patients, the components that constitute the attributes of SE must also be precise.

The three attributes of SE introduced in this study are sufficient to explain and describe the meaning of SE in CHD patients. These three attributes include personal belief, perception of self-ability, and ability to understand learning needs, which form SE together. Personal beliefs include an individual's belief in his or her ability to follow a treatment plan and overcome challenges related to his or her health condition (40,41). In addition, the perception of self-ability involves an individual's subjective evaluation of his or her ability to carry out required care tasks (7). Then, the ability to understand learning needs involves an individual's ability to recognize and understand information provided by medical personnel or other sources related to CHD management (7,63).

In the long term, this low SE has a negative impact on the disease prognosis and quality of life of CHD patients. This was reported from several previous studies, which showed that patients with CHD tend to have a low quality of life (15,16). In addition, one hypothesis states that SE promotes long-term change and adherence to several health-related behaviours, including exercise (64), diet (65), and self-care behaviour (7,63). Low SE will result in inadequate self-care, particularly in activities, affecting their bodily and mental condition (18,58).

Factors that influence SE in CHD patients are multifactorial (63). The results of this concept analysis show four categories of factors including personal, environmental, behavioral, and psychological. These four factors make up almost all CHD patients experience and have this risk. Therefore, there is a need for intervention strategies that aim to overcome these various factors so that CHD patients have high SE in carrying out self-care. In addition, interventions that directly increase SE are also needed so that increasing SE in CHD patients will be in line with improving their quality of life. Understanding and strengthening the attributes, antecedents, and consequences of SE will enable the design of effective treatment interventions and support patients in self-managing their conditions.

NURSING IMPLICATION

This analytical concept clarifies and facilitates understanding of SE in CHD patients, including definitions, attributes, consequences and case models. In practical clinical implications, clarity of this concept will make it easier for health professionals, including nurses and other disciplines, when using the SE concept with this population. It will assist nurses in developing more effective interventions to support CHD patients in improving SE in managing their condition. In addition, this analytical concept can also be the primary basis and essential information for academics to integrate the concept of self-efficacy in the nursing education curriculum so that nursing students can understand the importance of SE in self-care for CHD patients. Then, the results of this concept analysis can also provide insight

to nursing leaders and managers in designing policies and procedures that support SE improvement strategies, especially in coronary care units.

CONCLUSION

Analyzing a concept is very important in developing knowledge and increasing the understanding of a nurse. One concept that needs to be clarified is related to SE in CHD patients. This concept's clarity can provide valuable understanding for this discipline, especially for cardiovascular specialist nurses. This will ultimately be useful for nurses in building evidence-based practices to improve the quality of patient care. SE refers to self-confidence or belief in a person's ability to achieve desired results as reflected in how much effort they will put into an endeavour and how long they will persist in facing obstacles. This is an essential concept that everyone, including health professionals, must understand because individuals' difficulties and struggles are very diverse.

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