Concept Analysis of Self Efficacy Among Coronary Heart Disease Patients Undergoing Percutaneous Coronary Intervention

Aria Wahyuni[1&2], Setyowati[1*)]

[1] Faculty of Nursing, Universitas Indonesia
[2] Faculty of Health Universitas Muhammadiyah Sumatera Barat

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A B S T R A C T

Mortality and morbidity due to coronary heart disease (CHD) are increasing. Patients with coronary heart disease are undergone Percutaneous Coronary Intervention (PCI) have different perceptions regarding these actions so the belief of inability to care for self is different for everyone, therefore, it is important to build the capability of patients which is called self-efficacy. The purpose of this article is to explain the definition of the concept of self-efficacy in CHD patients undergoing PCI. The method used in this concept analysis is using Walker and Avant's concept approach. The three definitions of self-efficacy attributes are strong self-confidence in self-care, perceived ability to engage in self-care activities, and effort and ability to control risk factors. The antecedents of the self-efficacy concept of CHD patients undergoing treatment consist of age, socioeconomic, the number of coronary blockages, duration since the first PCI, health education, self-awareness, social support, depression, adherence, and physical activity. The consequence of self-efficacy increases in health status, behavior toward health, and quality of life. The conclusion of this analysis concept increases nurse knowledge about the self-efficacy of patients with CHD that undergo PCI so that it is expected can develop evidence-based nursing through nursing intervention in improving self-efficacy and also conduct further research to dig more into self-efficacy.

A B S T R A K

Kematian dan kesakitan akibat penyakit jantung koroner (PJK) semakin meningkat. Pasien penyakit jantung koroner yang menjalani Percutaneous Coronary Intervention (PCI) memiliki persepsi yang berbeda mengenai tindakan tersebut sehingga keyakinan ketidakmampuan untuk merawat diri berbeda untuk setiap orang, oleh karena itu penting untuk membangun kemampuan pasien yang disebut efikasi diri. Tujuan dari artikel ini adalah untuk menjelaskan definisi konsep self-efficacy pada pasien PJK yang menjalani PCI. Metode yang digunakan dalam analisis konsep ini menggunakan pendekatan konsep Walker dan Avant. Tiga definisi atribut efikasi diri adalah keyakinan diri yang kuat dalam merawat diri, kemampuan diri yang dirasakan untuk terlibat dalam kegiatan perawatan diri, dan upaya dan kemampuan melakukan pengendalian terhadap faktor risiko. Anteseden konsep efikasi diri pasien PJK yang menjalani terdiri dari usia, sosial ekonomi, jumlah penyumbatan koroner, durasi sejak PCI pertama, pendidikan kesehatan yang diterima, kesadaran diri, dukungan sosial, depresi, kepatuhan, dan aktivitas fisik. Konsekuensi dari efikasi diri meningkat pada status kesehatan, perilaku terhadap kesehatan, dan kualitas hidup. Kesimpulan dari konsep analisis ini meningkatkan pengetahuan perawat tentang efikasi diri pasien PJK yang menjalani PCI sehingga diharapkan dapat mengembangkan keperawatan berbasis bukti

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melalui intervensi keperawatan dalam meningkatkan efikasi diri dan juga melakukan penelitian selanjutnya lebih banyak menggali efikasi diri.

INTRODUCTION

Coronary Heart Disease (CHD) is a disease that ranks at the top of the list of deaths from cardiovascular disease which causes almost a third of deaths worldwide (Khan et al., 2020; Sanchis-Gomar et al., 2016). In the third decade lastly, the death-caused cardiovascular disease increased by 65% from 12.1 million become 18.6 million (GBD Compare, 2019). Indonesia is the fifth country with the highest number of deaths with productive age, 36.6% of deaths in productive age are CHD (Roth et al., 2020; Uli et al., 2020). The prevalence of heart disease in Indonesia in 2018 was 1.5% or 15 out of 1,000 Indonesians suffer from heart disease (Health Ministery Republic of Indonesia, 2018).

The correct treatment strategy to prevent death complications moreover caused by CHD is revascularization therapy (Knuuti et al., 2020). there are two chosen revascularization therapy in ischemic chronic heart disease that is Percutaneous Coronary Intervention (PCI) dan Coronary Artery Bypass Graft (CABG) (Anggraini & Andani, 2018; Oktaviano, 2020). Percutaneous coronary intervention is a revascularization procedure that has been widely used in the treatment of coronary heart disease and aims to improve survival and reduce vascular stenosis rapidly (Mauri & Bhatt, 2021; Oktaviano, 2020). Otherwise, PCI will have an impact on worsening quality of life if it is not properly prepared at each phase by nurses. Patients' perceptions of beliefs about doing PCI are different, such as some who feel healed and some feel anxious and even become a burden, these differences result in different ways of taking care of patients (Ingle et al., 2021). Patients undergoing PCI should be motivated to comply with lifestyle modification, one way to build patient capacity is to increase self-efficacy (Salari et al., 2016).

Self-efficacy is defined by Bandura as a person's belief in his or her ability to succeed in a particular situation (Bandura, 2001). Self-efficacy is a person's belief form to measure the ability in doing activities like self-care, self efficacy is supposed important because influences the mind, attitude, feeling, and motivation (Mareno, 2020). Strong self-confidence from CHD patients is needed even though this disease goes through stages of treatment and interventions such as PCI to be able to recover and not relapse. Confidence in self-ability makes patients feel comfortable and appropriate in making decisions for self-care (Agustin, 2016). Self-efficacy can predict adverse outcomes and patient quality of life with CHD (Barham et al., 2019; Neil et al., 2013).

Previous research analyses about the self-efficacy concept found generally (Zulkosky, 2009), self-efficacy in schizophrenia patients (Rahmawati et al., 2020), and perceived self-efficacy in cancer patients (White et al., 2016). Concept analysis self-efficacy in cardiovascular disease especially among coronary heart disease patients undergoing PCI has not been found meanwhile this case is important to be done the concept analysis. Based on the explanation above, the purpose of this paper is to describe the explanation, analyze the concept and clarify the concept of self-efficacy among coronary heart disease patients undergoing PCI.

METHOD

The concept of analysis used in clarifying the meaning of a concept uses Walker and Avant's concept approach which consists of eight steps. The steps are: 1) select a concept to be analyzed, 2) determine the aim of the analysis, 3) identify all uses of the concept used, 4) define attribute definitions, 5) identify case models, 6) identify border cases, related, contradictory, artificial, and not valid, 7) Identify antecedents and consequences, 8) Define empirical references (Walker & Avant, 2014). Literature findings that relate to the use of concept databases like google scholar, PubMed, Science Direct, EBSCO, Scopus, and ProQuest. The keyword used in the literature finding is "self-efficacy" AND "coronary heart disease" OR "percutaneous coronary intervention". The inclusion criteria for articles are articles written in English and Indonesian, full text, and articles published in the last 10 years

RESULTS AND DISCUSSION

Select a concept

The selected concept in the concept analysis is self-efficacy developed by Bandura's theory. The reason for selecting a concept is that coronary heart disease patients with high self-efficacy have stronger self-confidence in treatment, higher psychological resilience, lower risk of stress disorders, and lower anxiety or depression compared to those with low self-efficacy (Liu et al., 2018). Improving the self-efficacy among coronary heart disease patients undergoing PCI will improve self-management ability or self-care dan decrease complication occurrence post surgery so which is conducive improve prognosis patients (Zhao & Wang, 2022).

Aim of Analysis

Analysis purpose of concept self-efficacy is more detail clear concept efficacy deeply to coronary heart disease patient undergoing PCI, using attributes used in model case, borderline, related and contrary case, explaining antecedence and consequences, considering empirical reference more information stated as theoretical definition, operational about self-efficacy of coronary heart disease patients undergoing PCI.

Use the concept of self-efficacy

Definition attribute according to Walker & Avant, (2014) is to find as many uses of the concept as possible using dictionaries, thesaurus, colleagues, and available literature.

According to Oxford Dictionary, the Self has meaning as a verb, namely: 1) the type of person, especially the behavior that is seen and felt, 2) the personality or character of a person that distinguishes him from others. Efficacy is defined as the ability to produce something desired. When the two words are combined into self-efficacy, it means a person's belief in success in carrying out certain tasks. Perceived self-efficacy refers to a person's belief in the ability to exercise control over activities.

According to the Cambridge Dictionary online, Self is defined as a set of characteristics of a person, such as personality and abilities, that are not physical and make that person different from other people. Efficacy is defined as the ability or method to achieve something, to produce the desired result. Overall self-efficacy is defined as a person's belief that they can succeed when exercising control over activities.

Self-efficacy is a personal belief about the self's ability to motivate, cognitive ability, and doing acting needed to succeed in doing the task (Agustin, 2016). Self-efficacy relates to personal belief ability to influence activity or attitude (Fors et al., 2016).

Self-efficacy in the context of nursing is an individual's perception of one's ability to perform a behavior or take care of oneself through cognitive, motivational, affective, and selection processes (Shorey & Lopez, 2021). Self-efficacy refers to someones' motivation in taking acting, doing controlling, and reflecting the self faith to reach and defend the result wanted that is heart health behavior (Mares et al., 2020).

Self-efficacy stabilizes the condition and helps patients to cope effectively with stress due to CHD and take action on self-care regimens (Salari et al., 2016). Self-efficacy in heart disease is called cardiac self-efficacy which is a personal belief toward the ability to do something related to symptoms and constraints caused by cardiovascular disease (Neil et al., 2013)

Self-efficacy indicates become the most important to managing cardiovascular disease because the increasing patient result depends on involvement in self-management activity, modification of lifestyle, and risk factor control (Kargar et al., 2021).

Attributing Definition

Determining an attribute defines as a concept at the heart of concept analysis (Walker & Avant, 2014). Attributes of the self-efficacy concept of coronary heart disease patients undergoing PCI are strong personal belief to self-care, perceived self-ability to engage in self-care activities, and effort and ability to control risk factors.

Strong personal belief to self-care. personal belief or self-confidence is one of the factors in doing self-care in acute coronary syndrome patients (Liu et al., 2019). Belief and patients' perception of their disease is the main determinant of recovery after a myocardial infarct (Figueiras et al., 2017). The self-confidence among coronary heart disease patients found still lo like vulnerability feeling, advantages of preventing heart attack, still found patients feel constrained in self-care (Athbi & Hassan, 2019). Self-confidence coupled with a lack of knowledge and attitudes in patients diagnosed with ischemia is associated with delays in seeking help (Johnson et al., 2021). Self- Self-confidence of CHD patients is the role of self-care to help prevent recurrences such as self-efficacy in diet, self-eefficacy in exercise, and self-efficacy in smoking cessation (Qi et al., 2018).

Perceived Self-ability to engage in self-care activities. Self-care ability shows the ability perceived to 1) identify of changing main function complication, 2) score appropriateness of strategy or activity to manage to change 3) do regimen treatment recommended 4) choose a relevant activity and do activity chosen (Sidani & Doran, 2014). Self-care ability defines as effort in the cognitive, psychomotor, and emotional forms to manage health physical and psychological with self function (Karmiyati & Wahyuningsih, 2019). CHD patients who are given interventions with an effective comfort approach improve self-care abilities, interventions that are provided by increasing the patient's correct understanding of disease management, reducing physical, mental, emotional discomfort, and increasing patient adherence (Sun et al., 2021).

Effort and ability to control risk factors. Ability to control risk factors such as maintaining blood pressure, body mass index, hemoglobin A1C (HBA1C), fasting blood glucose, and cholesterol within normal limits. In addition, doing physical activity, adherence to diet (consumption of fruit, vegetables, and fish), regulating salt intake, smoking, and cessation of alcohol (Leutualy et al., 2021). Controlling risk factors for CHD is managing lifestyle by controlling blood pressure to reach the target of <130/80 mmHg, controlling LDL cholesterol (lipoprotein density lipid) to reach the target of < 70 mg/dl, controlling HBA1C < 7.0% (Li et al., 2020). Efforts and ability to control risk factors in coronary heart disease patients for PCI patients are to regulate daily habits and actions by regulating physical activity, good nutrition, weight management and not smoking, managing psychosocial and stress factors, blood pressure, and blood glucose and adhere to medication to prevent recurrence (Middleton & Fish, 2019).

Cases model

The case model in this phase is using the concept of self-efficacy in coronary heart disease patients undergoing PCI by showing all attributes that determine from that concept (Walker & Avant, 2014). The case below is a case model using all the attributes obtained from the concept of self-efficacy in coronary heart disease patients undergoing PCI

Mr. Z is 50 years old got a heart attack two months ago and was done set of the stent. According to Mr. Z, he daily has strong personal beliefs to care for himself like self-efficacy in physical activity, self-efficacy in diet, and self-efficacy in smoking cessation. Personal belief is implemented by doing physical activity, keeping food, controlling emotions, stopping smoking, and adhering to taking medication. These activities are done even though he feels better. His wife and his family support Mr. Z to get better. Mr. Z when he was visited said that he went to the hospital to control blood pressure, and check cholesterol, and blood glucose as risk factors so that avoiding a heart attack.

Borderline cases

The borderline case is an example using the big part of the attribute that determines the concept checked but not all (Walker & Avant, 2014).

Mr. B is 40 years old, he has a history of stent placement in the heart one month ago. Mr. B said that after setting the stent he felt better, Mr. B acknowledged this because he had high self-efficacy for healing and he was able to do things such as controlling food, quitting smoking, diligently doing activities, and controlling emotions. Mr. B did this also because he remembered that his son was still small and

needed his attention. When met, Mr. B admitted that he did not control the risk of his disease even though he only knew cholesterol, blood sugar, and blood pressure levels.

The borderline case above is an example of not all attributes being used. The patient has confidence that he can recover, can carry out self-care while at home, but the patient does not control risk factors because he feels good about his current condition.

Related case

The related case is cases that show ideas almost similar to the main concept but different from them when checked carefully (Walker & Avant, 2014).

Mr. D 45 years is a director in the company and has a history of stent placement approximately two months ago. Mr. D has self-efficacy activity, diet, and smoking cessation. All forms of self-efficacy Mr. D can carry out well coupled with obediently taking medication. But Mr. D admitted that he had difficulty controlling his emotions in doing his job, Mr. D consulted with nurses and nurses taught him to do stress management, and this he did extra. Mr. D admitted that his stress management made him calmer. Mr. D admitted that he regularly checks up on his heart condition, controls blood sugar and blood pressure, and cholesterol levels.

The related case above shows the use of all similar attributes, but the use of attributes of the ability to carry out self-care activities is more extra in stress management.

Contrary case

A contrary case is a case where the opposite presents a contrast (Walker & Avant, 2014). There are no vital attributes shown in self-efficacy.

Mr. J 55 years has a history of stent placement approximately two months ago. Mr. J when met said that since the stent was inserted, he had no appetite because the food he was currently eating was not tasty according to his confession. According to him, the food eaten before the illness increases enthusiasm for activities. Mr. wasn't sure that food was causing him to get sick and he finally decided to eat like before his illness plus he couldn't stop smoking yet. Mr. J also admitted that he did not come back again to carry out control, whether it was just controlling blood pressure, blood sugar, and cholesterol levels. Mr. J also admits that sometimes he feels chest pain but he ignores it.

The contrary case above explains that from the three attributes of self-efficacy he does not use, such as not believing in taking care of himself, not being able to carry out self-care activities, and not controlling risk factors.

Antecedent and Consequences

According to Walker & Avant, (2014) An antecedent is an event or incident that occurred or existed before the occurrence of the concept. Consequences are events or incidents that occur as a result of the concept occurring–in other words, the result of the concept. The antecedents and consequences can be seen in Figure 1
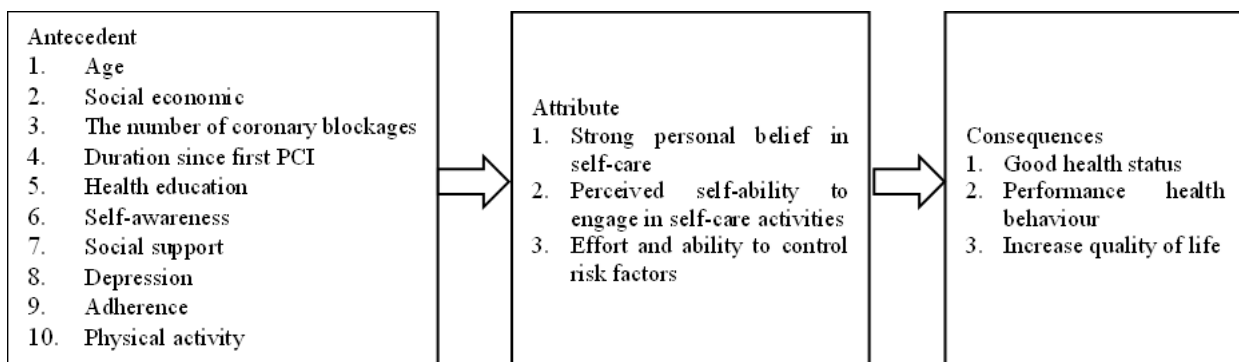

Figure 1 Self-Efficacy among coronary heart disease patients undergoing percutaneous coronary intervention

Antecedent

Antecedent from self-efficacy among coronary heart disease patients undergoing PCI is 1) age, 2) economic social, 3) the number of coronary blockages, 4)duration since first PCI, 5) health education 6) self-awareness 7) social support 8) depression 9) adherence and 10) physical activity (Alamsyah et al., 2020; Liu et al., 2018; Purnomo et al., 2020).

Age is the main predictor of self-efficacy (Salari et al., 2016), every increasing age in one year related to increasing 0.23 score cardiac self-efficacy (Kathmandu et al., 2020)

Sosial economic is a direct factor influencing someones' ability to treat independently, the patient who has a high income will have high self-efficacy compared to a patient who has a low income (Salari et al., 2016). This case is connected with the difficulties to access health facilities and modification of lifestyle (Purnomo et al., 2020).

The number of coronary blockages is manifested with physical condition, the more blockage so contact with unwell patients physically is not good. The physical condition gives effect emotional condition so physical condition moreover psychological as increasing self-efficacy (Alamsyah et al., 2020).

Duration since the first PCI is experienced got by the patient. Successful reach has been got in the past time will give a good impact on self-efficacy and contrary (Alamsyah et al., 2020). Self-efficacy also is strengthened by representative experience (see other people able), verbal persuasion (given that someone is able), and stimulus emotional related to doing experience. (Bonsaksen et al., 2012).

Patients' who have low self-efficacy tend to have a lack of displaying health education that relates to the disease, information relates to CHD has an important role in

patients' self-efficacy (Purnomo et al., 2020). Patients with education about good CHD also comprehend and know to risk factors so that the ability to control symptoms and defend functional activity as well (Kang & Yang, 2013).

Increasing self-efficacy heart through increasing awareness of risk factors can be easier to modify the induction lifestyle and keep the behavior of healthy patients with coronary heart disease (Kang & Yang, 2013).

Positive social support from health workers has an important role in increasing self-efficacy in patients with coronary artery disease (Han & Won, 2022). Family support plays an important role in increasing the self-efficacy of coronary heart disease patients in controlling symptoms and maintaining physical function because decisions, advice, and suggestions made by the family affect the level of independence (Wahyuni & Dewi, 2018)
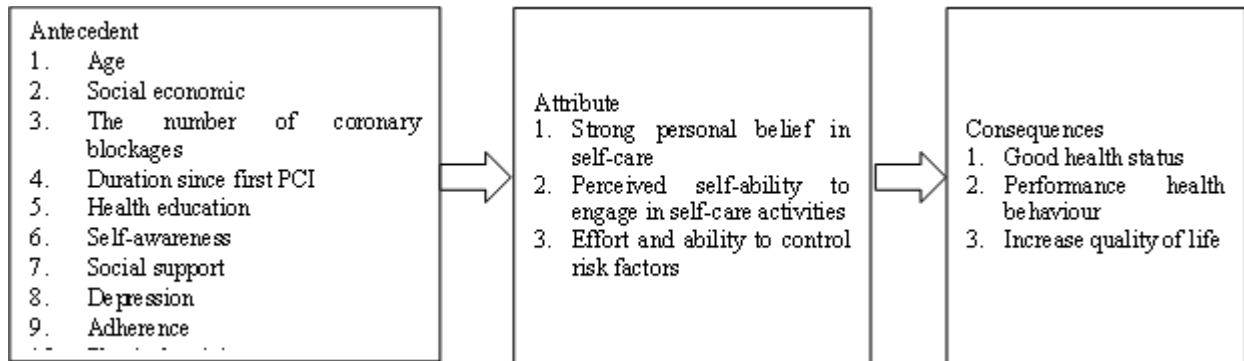
The patient has high depression symptoms causes self-efficacy to become low, the patient can not do self nursing and control risk factors consequenced depression (Tovar et al., 2016).

A treatment schedule made by the patient can improve adherence among patients with low self-efficacy (Kripalani et al., 2012). Intervention given to heart failure patients toward obedience activity is by improving self-efficacy (Alonso et al., 2021)

High self-efficacy needs in conducting planning with higher acting in physic activity (Di Maio et al., 2021). Physical activity or exercise is really necessary to keep heart health ideally and prevent the possibility of heart occurrence that why the health improvement toward effective physic activity to improve self-efficacy of heart coronary disease (Karataş & Polat, 2021).

Consequences

The consequence of the concept of self-efficacy is the health status among coronary heart disease patients undergoing PCI, better self-efficacy will be better for its health status (Wantiyah et al., 2020). Self-efficacy is one of the factors that relate to behavior performance health of patients undergoing PCI (Kang et al., 2019). Higher self-efficacy can cause an increased quality of life for the patient after an infarct myocardial and patient is undergoing PCI (Brink et al., 2012; Kim, 2022; Saengsiri et al., 2014). A low self-efficacy level predicts health related quality of life (HRQoL) is bad for coronary heart disease (Barham et al., 2019)

Empirical References

Empirical reference is how someone recognizes or determines the existence of a concept and is used to develop instruments and measure concepts in research to define attributes (Walker & Avant, 2014). Empirical reference is how someone recognizes or determines the existence of a concept and is used to develop instruments and measure concepts in research to define attributes (Walker & Avant, 2014). A tool to measure personal ability, perceived self-ability to engage self-care activities, and ability to control

risk factors, namely the Cardiac Self-Efficacy Scale (CSES) has two factors (maintain function and control symptoms) (Sullivan et al., 1998). The General Perceived Self-Efficacy Scale (GSE) is a comprehensive self-efficacy measurement instrument in various situations (Schwarzer & Jerusalem, 1995). The Self-Efficacy for Managing Chronic Disease 6-item Scale (SES6) is used to measure the elf-efficacy of chronic patients consisting of symptom control, role function, emotion, function, and communication (Lorig et al., 2001). The Heart Health Self-Efficacy and Self-Management (HH-SESM) scale includes 2 constructs: self-efficacy and self-management, Components of the HH-SESM scale consist of items related to behavioral and coronary risk factor modification (Mares et al., 2020).

Implication For Nursing Practice

Analysis of the concept of self-efficacy in CHD patients undergoing PCI aims to identify attributes, antecedents, and consequences. Based on the results of the analysis, self-efficacy is defined as a person's confidence in his ability to perform self-care and control risk factors. This analysis of the concept of self-efficacy contributes to improving health and improving the quality of nursing. Self-efficacy plays an important role in individual physical, and psychological well-being, and self-care management (Shorey & Lopez, 2021). The formation of self-efficacy in CHD patients undergoing PCI will improve health status and quality of life. Nurses need to intervene to increase self-efficacy using a health promotion model approach, a health belief model, and a self-care theory.

CONCLUSIONS AND SUGGESTIONS

The concept analysis process is an important part of the knowledge and understanding of nurses in general and especially for advanced cardiovascular nurses with the stages of identifying the attributes, antecedents, and consequences of the concept of self-efficacy. Nurses need to develop evidence-based practice or research for nursing interventions related to self-efficacy.

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