

# Illness Perception And Cardiovascular Health Behaviors In Persons With Ischemic Heart Disease: A Literature Review

Kholid Rosyidi Muhammad Nur  
Community Health Nursing Department,  
School of Nursing, Jember University,  
Indonesia  
kholidrosyidi@yahoo.com

Tippamas Chinnawong  
Assistant Professor, Department of Medical  
Nursing, Faculty of Nursing, Prince of  
Songkla University, Thailand

Charuwan Kritpracha  
Doctor, Department of Medical Nursing,  
Faculty of Nursing, Prince of Songkla  
University, Thailand

## Abstract

This article explores illness perception and cardiovascular health behaviors in persons with ischemic heart disease. The article also reviews the concept of ischemic heart disease. A literature review was conducted by analyzing 35 scholar papers including research articles, theses/dissertations, and books which met the inclusion criteria's. Data were searched through CINAHL, Medline, PubMed, Springer-link, Science Direct, and Wiley & Wilkins. The keywords used were illness perception, behaviors, health behaviors, cardiovascular health behaviors, combined with, ischemic heart disease. The result of analysis presents factors related to illness perception and cardiovascular health behaviors. The nursing scholars noted that one of the factors related to cardiovascular health behaviors is illness perception. Illness Perception and cardiovascular health behaviors can be used as a framework of nursing to develop a new model to improve quality care for patients, families, community even among nursing colleagues.

**Keyword; Illness Perception, cardiovascular health behaviors, ischemic heart disease**

## 1. INTRODUCTION

Ischemic heart disease (IHD) is a heart problem that can lead to death, in persons who had relapsed IHD. IHD can be occurred related to cardiovascular health behaviors inadequate, the classification for cardiovascular health behaviors by AHA [1] there are: 1) stop smoking, 2) dietary management, 3)

blood pressure control, 4) physical activity, 5) stress management, 6) taking medications. The main factors for persons to perform cardiovascular health behaviors was the illness perception, Broadbent classify illness perception into eight dimensions, among others: 1) consequences, 2) timeline, 3) personal control, 4) treatment control, 5) identity, 6) concerned, 7) coherence, 8) emotion. This article explores illness perception and cardiovascular health behaviors among persons with IHD.

## 2. METHODS

PubMed, ProQuest, Wiley Online Library and Science Direct searched for relevant articles

Published through the year 1999 – 2014, using the search terms according to PICO;

P: living adult with ischemic heart disease

I: Illness perception, cardiovascular health behaviors

C: - Behavior

O: Illness perception factors, modification, Modifiable risk factors behavior

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The search was limited to articles published in English and Indonesia language. All clinical trials,

Randomized control trials, meta-analyses, and review articles were eligible for inclusion criteria. Full-text articles also identified. Data extracted into table and the items consisted of authors, year of publication, study design and length, sample characteristics, intervention, measurement, outcomes, results, and level of evidence.

### 3. FINDINGS

#### *Overview of Ischemic Heart Disease*

##### *A. Definition of ischemic heart disease*

Ischemic Heart Disease (IHD) is also called coronary artery disease and coronary heart disease. It is the term given to heart disease brought about by limited arteries of heart. At the point when supply routes are limited, less blood and oxygen reach the heart muscle. This can ultimately lead to a heart attack [1]. IHD is a circulatory system disease that affects the heart and blood vessels. It is an abnormal condition characterized by a dysfunction of the heart and blood vessels, which is cause by the narrowing of the inside layer of blood vessels and a reduction of blood supply to the heart [2].

##### *B. Risk factors for ischemic heart disease*

The risk factors for major ischemic heart disease have been investigated and there are two risk factors that can contribute to a person's overall likelihood of developing IHD among non-modifiable and modifiable risk factor. Non-modifiable risk factor such as age, gender, and family history and modifiable risk factors can contribute to diminishing the probability of creating IHD. The presence of risk factors that would damage the coronary endothelial lining of blood vessels, include among others: hemodynamic factors such as hypertension, vasoconstrictor agents, mediators (cytokines) from blood cells, smoking, atherogenic diet and a progressive increase in blood sugar levels. Among the modifiable risk factors for IHD, smoking, uncontrolled blood pressure levels, unhealthy diet and physical inactivity are important factors that should be addressed [1].

#### *Concept of Illness Perception*

Illness perception is the way a person thinks to control sensations and to generate positive and negative behaviors which can cause a person to become ill [3, 4]. The control of an illness is guided by specific knowledge, beliefs and expectations due to a person's characteristics [5].

Perceptions also refer to how people understand health and illness, for example a person with a sore throat may identify his/her sore throat as early cold symptoms [6]. This perception is according to the conceptualization of different diseases [7]. Research has shown that the illness perception of people is often different from the actual physical condition [8].

According to Leventhal and colleagues [9] the cognitive representation of a disease includes the perception of identity, time, consequences, and the causes of disease control. The difference is based on environmental influences and life experiences of each person, different people look at their chances in a physical influence or control of their health [4], whether they have an acute or chronic condition or whether their specific situation has hope. These perceptions determine the behavior of persons as well as their response to managing health threats associated with a disease or symptoms [5]. Illness perception of a disease can cause a person to experiences stress, and cortisol hormone will release in his/her the body which causes the blood vessels to become stiff. Hormones or epinephrine is produced in the body when a person is suffering from stress, which may increase blood pressure and the risk of CHD [10].

Persons construct an illness perception of their illness that guides their behavior aimed at managing that illness. A person's models of his/her illness shares a commonly structure made up of beliefs about the cause, the symptoms that are part of the condition, the consequences for the person's life and illness, how the illness is controlled or cured, and how long the illness will last. Illness perception can be measured using questionnaires and also can be assessed in a person's drawings, which promptly indicate how an illness is envisioned. Illness perception can change rapidly in response to diagnostic results, as well as with treatment-related behavior.

### A. Dimensions of illness perception

According to Leventhal and colleagues [9] the dimension of illness perception are, (1) identity, the label the person uses to describe the illness and the symptoms he/she view as being part of the disease; (2) consequences, the expected effects and outcome of the illness; (3) cause, personal ideas about the cause of the illness; (4) timeline, how long the patient believes the illness will last; and (5) cure or control the extent to which the patient believes that he/she can recover from or control the illness. New research has extended the original scale by adding more items, the control dimension has been split into personal control and treatment control, and a cyclical timeline dimension has been incorporated. The overall comprehension of the illness factors, and an emotional representation [11], has eventually become (1) consequences, (2) timeline, (3) personal control, (4) treatment control, (5) identity, (6) concern, (7) coherence, and (8) emotion.

- *Consequences.* This component reflects the person's ideas about the illness severity and likely impact on their physical, social, and psychological functioning, including both the short-term and long-term effects of IHD.
- *Time-line.* This component indicates the person's expectations about the duration of the illness with IHD, its characteristic course, and the perceptions whether the illness was acute or chronic.
- *Control.* Dimension control divided into two sub-dimensions is:  
*Personal control.* This component indicates the

extent to which persons believes his/her condition is amenable to cure or control, also referred to as locus of control and personal mastery beliefs and reflects person beliefs regarding the disease. Personal control support for both positive and negative health outcomes is associated with stronger illness perception of personal control. Negative health outcomes occur when there is an incongruity between personal control beliefs and the actual situation/environment.

*Treatment control.* This component comprises the person's ideas about the likely cause or causes of the illness and ideas about how he/she maintains the disease, for example, knowing how to use the drug prescribed and the effects of it.

- *Identity.* The identity component is concerned with the person's ideas about the nature of

his/her condition associated with signs and symptoms, and the link between these.

- *Concern.* This component reflects something that a person thinks is of interest or of importance about illness and needs attention which affects a person's welfare or happiness.
- *Coherence.* This component reflects a person's capabilities or achievement through the syntactical features of coherence and understanding of his/her illness.

*Emotion.* This component reflects a person's feelings about illness or when the person got sick like sadness, anger, loss, sympathy, etc.

The components assess the illness perception for each person. Domain content and value differ by the signs and symptoms of personal response [3]. The representation is a situation of beliefs that impact on a person's interpretation of the health threat and sets the stage for selecting coping for behaviors to dispense with and control the potential or progressing illness threats. Outcomes are appraised regarding their prosperity or failure in controlling the threat, providing feedback to support persons in upgrading their representations.

### B. Illness perception in persons with IHD

Illness perception emerges out of our beliefs about illness and what illness means in the context of our lives. A person might have her/his own thoughts about how an illness is caused, how long it will last, how it will impact, and how it can be controlled or cured. A number of studies on illness perception have been conducted. Janssen, De Gucht, van Exel, and Maes [12] conducted a study in the Netherlands regarding changes in illness perception and quality of life during participation in cardiac rehabilitation. The result showed that illness perception is strongly significant in improving quality of life during cardiac rehabilitation. Rasani [13] conducted a study on the effect of an illness representation promoting program on treatment adherence among patients with end stage renal disease. The study revealed that the illness representation promoting program significantly improved treatment adherence in patients with end stage renal disease who were receiving hemodialysis.

Illness perceptions have been found to be one of the factor determinants of behavior and have been associated with important outcomes. There is a steady example to the way persons structure their

perceptions of illness. Illness perception generally contains an identity component, which includes the name of the illness and the range of symptoms that the patient believes are associated with the condition. They also contain beliefs about the cause of the illness and how long it will last. Furthermore, illness perception components include beliefs about the consequences of the condition for the patient and his/her family, as well as the extent to which the illness is amenable to control or to control by treatment [14].

#### *Concept of Cardiovascular Health Behaviors*

Adopting a cardiovascular health behavior is the way to perform, avoid or control IHD, as well as the way to protect unhealthy persons to not fall victim to the illness. Cardiovascular health behavior means the behaviors that are used frequently and regularly to control IHD [1, 15, 16].

Behavior is a range of actions, performance, and mannerisms of the self-made man, the object or issue. Behavioral health is all the activity or activities of a person, whether it can be observed (observable) or unobserved (unobservable), relating to the maintenance and improvement of health. This health care includes controlling or protecting a person from disease and other health problems, improving health, and searching for a cure when a person has been exposed to an illness or health problems [17].

For people to adopt a cardiovascular health behavior they must have self-control and think about their behavior to be able to perform the behavior with regularity and control until the behavior becomes a habit for them. Habits are various ongoing efforts to control the emergence of a disease or illness [16].

#### *A. Smoking cessation*

Tobacco use can lead to tobacco/nicotine dependency and serious health problems. Smoking cessation greatly reduces the risk of developing smoking-related diseases. Tobacco/nicotine dependency is a condition that often requires repeated treatments, but there are helpful treatments and resources for cessation. Smokers can successfully accomplish smoking cessation [18].

Smoking cessation may have more of an impact on reducing the danger of mortality among persons with IHD than other treatments or interventions. One study that examined the viability of an intervention for smoking cessation in persons with IHD, uncovered

that following 12 months of no-smoking, a person has less than 57% chance of smoking than the persons who smoke over and repeatedly [19]. A person who is worried about IHD should not smoke or ought to cease smoking immediately. Early studies have reported that those people who quit smoking had a significant diminishing risk for IHD when compared with the persons who kept on smoking [20].

Smoking cessation can occur by reducing the intention of smoking. Most smokers do not want to quit smoking. Smoking can be controlled by a person who can stop his/her urge to smoke. Smoking among persons can also be controlled by increasing the understanding of the dangers of smoking. Smokers need education to change behaviors as smokers with less education have more difficulty to quit smoking [21].

#### *B. Diet management*

Diet management is necessary to control IHD [22]. The complex interplay of diet between synergistic metabolic abnormalities can increase the risk of IHD and is usually characterized by visceral adiposity and insulin resistance [23]. It is recommended to reduce fat intake to less than the full 5% of total calories or to use only 2-3 table spoons of oil containing unsaturated fatty acids every day. People need to avoid foods that contain lots of saturated fat and follow a low salt diet.

The cooking methods used for reducing fat intake are boiling, steaming, cooking, sauteing, baking and burning. It is too prescribed to expand the admission of unsaturated fats, such as olive oil, canola oil, peanut oil and avocados, up to about 20% of the total calories per day. Less consumption of simple carbohydrates such as sugar, brown sugar, honey, other sweet foods, salty foods and fatty foods is also recommended. As well as increasing the consumption of complex carbohydrates such as vegetables, fruits, and cereals or grains intact and other fibrous foods. If there are high levels of cysteine in the blood, following a diet that increases the consumption of plant foods rich in folic acid and vitamin B6 such as green vegetables and grains or nuts can help to reduce levels [1].

Increasing dietary fiber intake to 35 grams / day and eating foods that contain lots of antioxidant nutrients such as vitamin E, C and beta-carotene will help to reduce levels of oxidized LDL. Oxidized LDL

is more difficult for phagocytosis by phagocytic cells such as macrophages than usual. Therefore, oxidized LDL is more likely to survive in the serum.

In the management of diet at home persons must understand about encouraging healthy eating habits because these can help to maintain and protect persons from further problems such as having an unhealthy weight, high blood pressure and high cholesterol levels and reduce the risk of developing IHD. If IHD is already present diet management can be used to control the disease as well as other factors that include lipid levels management, weight management or maintaining a healthy weight [24].

### C. Blood pressure control

Blood pressure control is the control of pressure exerted by circulating blood upon the dividers of blood vessels. At the point when utilized without further particular, circulatory strain normally alludes to the blood vessel weight in the systemic circulation. It is usually measured at the upper arm. Blood pressure is usually expressed regarding of the systolic (maximum) pressure over diastolic (minimum) pressure. It is one of the fundamental signs alongside respiratory rate, heart rate, oxygen immersion, and body temperature. Ordinary resting circulatory strain in a grown-up is around 120/80 mmHg [1].

Hypertension or high blood pressure refers to repeatedly elevated blood pressure levels exceeding 140 mmHg and 90 mmHg. One of the causes of IHD is hypertension and enhancement cardiovascular risk in hypertensive persons result from uncontrolled blood pressure; identifying the factors that influence blood pressure control in hypertensive persons with IHD is important. Some studies have identified the important factors for tight blood pressure control in secondary care for overweight persons, those with stable angina pectoris and a family history of diabetes [25].

A systolic pressure above 140 mmHg with a diastolic pressure above 90 mmHg is called hypertension. It is a condition where the blood pressure in the arteries is too high, which makes the cardiovascular system work harder and increases the risk for developing IHD [26]. There are two types of hypertension: essential hypertension and secondary hypertension. Essential hypertension, also known as primary high blood pressure, has no clear cause and is thought to be linked to genetics, unhealthy diet,

and physical inactivity and obesity which increase the risk of IHD [25].

A study conducted by Gu, Burt, Paulose-Ram, Yoon, and Gillum, [27] reported that elevated blood pressure had a significant and independent association with IHD mortality risk. A similar study has been conducted by Vasan et al., [28] to determine the association between blood pressure dimension at baseline and the incidence of cardiovascular disease on follow-up among 6,859 participants in the Framingham Heart Study. The result revealed that high blood pressure was associated with an increased risk of cardiovascular disease.

Hypertension is not curable but it is strongly emphasized that the persons with hypertension can control their blood pressure levels within a normal range. Based on AHA [1], a person should check his/her blood pressure two times per week (every 3 days) also when he/she does physical activity and blood pressure must be checked before and after physical activity with not more than 20% mm/Hg differentiation between systole and diastole.

### D. Physical activity

The risks of IHD in persons can be reduced with regular physical activity throughout life as well as favorably influencing lipid profiles [29]. The valuable impact of physical activity on cardiovascular health behavior by lessening the general risk of IHD by decreasing circulatory strain and cholesterol levels in the blood and the occurrence of stroke among men and ladies by 20 to 30 percent, while direct level of word related physical activity may diminish the danger of IHD by 10 to 20 percent [30]. Physical activity also includes recreational physical activity because the level of recreational physical activity can predict cardiovascular mortality over fifteen years [31].

Physical activity include regularity, duration, intensity and frequency [32], and the AHA 2014 recommendation, is : at least 30 minutes of moderate-intensity aerobic activity at least 5 days per week for a total of 150 or at least 25 minutes of vigorous aerobic activity at least 3 days per week for a total of 75 minutes, or a combination of moderate and vigorous-intensity aerobic activity and moderate to high-intensity muscle strengthening activity at least 2 days per week and for the additional health benefits of lowering blood pressure and cholesterol an

average of 40 minutes of moderate- to vigorous-intensity aerobic activity 3 or 4 times per week.

#### *E. Stress management*

Persons experience stress in different ways and react to it in different ways. How much stress person experiences and how he/she reacts to it can lead to a wide variety of health problems thus it is critical to know what the healthy ways are to deal with stress. Stress management has also been successfully used for some specific diseases, including headaches due to tension, cancer, AIDS, hypertension, CHD, and chronic pain [33]. Managing stress is a good idea for the overall health of persons; also, analysts are right now contemplating whether overseeing stress is compelling for heart illness.

A couple contemplates have analyzed how well therapies or treatments function in decreasing the impacts of weight on cardiovascular malady. Thinks about utilizing psycho-social treatments including both psychological and social aspects are promising in the control of IHD [34]. After a diagnosis of IHD, persons who feel depressed, anxious or overwhelmed by stress should talk to their doctor or other healthcare professionals. For IHD, stress management is most effective when management is focused on the target behavior, such as smoking cessation, physical activity, and reducing blood pressure levels. Stress management covers a variety of techniques, education, and more than one may be typically used in different situations and at different times [35].

#### *F. Taking medications*

Treatment of IHD is guided at enhancing blood flow to the heart muscle. Contingent upon the seriousness of the condition, people might be treated with medications, surgery or both. A non-intrusive treatment called improved outside counter throb may likewise be utilized to diminish trunk torment in specific people. In any case, this treatment is not prescribed for specific patients, incorporating those with peripheral artery disease, severe aortic regurgitation and severe heart failure.

Solutions that are recommended fall into the accompanying classes: 1) Keep blood levels of cholesterol and different lipids under control. 2) lower blood pressure to under 140/90 mmHg (lower if a man has diabetes or heart disappointment). 3) Control heart attack, including day by day low-

measurement headache medicine (75 to 162 mg), clopidogrel (Plavix) if a man is high hazard, beta blockers, and angiotensin-changing over catalyst (ACE) inhibitors or angiotensin-receptor blockers (ARBs). 4) Relieve trunk torment and different indications, including beta blockers and nitroglycerin tablets that are put under the tongue in instances of creating sudden trunk torment. 5) Calcium-channel blockers or long-acting nitrates might be endorsed now and again. 6) Achieve great diabetes control, including keeping the hemoglobin A1c at 7% or less for a great many people [1].

## IV. CONCLUSION

From the literature review, it was found that IHD among persons is a significant health problem, and is related with illness perception. According to a person's thinking and beliefs, these are an indication of the person in performing a given cardiovascular health behavior. A person's perception to perform cardiovascular health behavior is based on the dimension of illness perception which is identity, consequences, cause, timeline, cure control, concern, coherence and emotion.

A diagnosis of IHD changes an persons behaviors, preview research has shown that persons employ illness perception to make sense of their illness which influences their health-related behaviors. Research has been aimed at establishing primarily the structure and specific content of personal illness perception concerning health behaviors. Moreover, culture has been known to influence cognitive representations of illness. Western and Asian culture differ in many aspects especially religious belief and lifestyle.

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## Author's Profile



Kholid Rosyidi Muhammad Nur is a lecturer; he graduated from bachelor of Nursing, Muhammadiyah University of Surabaya and faculty of nursing Prince of Songkla University, now works as a lecturer in Community Health Nursing Department, School of Nursing, Jember University, Indonesia.