

How to Prevent Heart Disease

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Background of the Study

According to estimates, 17.9 million people died from cardiovascular disease in 2009. Therefore, heart attack and stroke are to blame for about 85% of these deaths that have been confirmed (WHO 2021). Age-standardized coronary artery disease fatalities in Finland have decreased throughout the years. According to Kaypahoito (2022) in the year 2020, coronary artery disease caused one out of five fatalities in males and one out of eight deaths in women, totaling an anticipated 8,600 deaths from heart illnesses. In general, cardiovascular disease may be prevented by addressing risk factors such as cigarette use, poor nutrition, obesity, and a lack of physical activity. If symptoms are detected early enough, they can also be treated with medication and counseling (Faroughi et al., 2022). Heart conditions have a negative impact on a person's quality of life, can be fatal, and are very expensive to treat. Because of the significant preventative measures and guiding programs provided by the hospital's coronary care nurses, the risk of this illness has been reduced (Luo et al., 2018). Patients who are facing cardiovascular diseases should make specific lifestyle changes, such as changing their diet and engaging in more physical activity (La Sala et al., 2017).

Heart Disease

The myocardium, or arteries that provide blood to the heart muscles, become narrowed and hardened as a result of this condition. This happens as a result of accumulated cholesterol and other religious objects that cause the plaque. Atherosclerosis is the term used to describe the previously present plaque and the constriction of the arterial walls. The cardiac muscle cannot receive enough blood and oxygen as soon as the plaque forms because it reduces blood flow through the arteries (National cardiac, Lung, and Blood Institute, 2016).

Coronary artery disease might be predictable or unpredictable. Transient center chest discomfort signals the onset of stable coronary artery disease, which becomes unstable as the chest pain worsens. Angina pectoris is the medical term for this, and it typically starts after physical activity, emotional states, or stress. According to Sundeep et al. (2016), myocardial ischemia, which is caused by a reversible mismatch between the oxygen demands and supply of the myocardium, activates coronary artery disease. Heart attacks happen when a blood clot forms and the heart's blood supply is interrupted.

Heart failure and arrhythmias could result when coronary artery disease weakens the heart muscle. Heart failure happens when the heart is unable to adequately pump blood to the rest of the body, whereas arrhythmia happens when the heart's rhythm is off. The invasive test that can be performed to determine if coronary artery disease is present or absent is called coronary angiography. This procedure is carried out by inserting a catheter with a certain form into the coronary artery system while being observed by fluoroscopic X-rays (Brady et al., 2014).

Prevalence and Causes of Heart Disease

With about 7 million fatalities reported each year, coronary artery disease is the leading cause of cardiovascular morbidity and mortality worldwide (WHO, 2021). According to recent study, 14% of persons who are over the age of 80, those with a history of smoking and dyslipidemia, and those who have atrial fibrillation are at risk for having general vascular risk factors. Coronary artery disease prevalence increases with age. However, coronary artery disease is present in 17–46% of patients with atrial fibrillation, and it is predicted that 6-21% of people who have had a myocardial infarction will develop atrial fibrillation, which could develop into a coronary artery disease (Al-Makahamreh et al., 2021).

According to McCullough, a small percentage of people with this condition develop coronary atherosclerosis. The prevalence of coronary artery disease has increased during the past 30 years from 1.1 to 7.5% in urban areas to 2.1-2.7% in rural areas (McCullough, 2007).

Treatment of Coronary Artery Disease

The main therapy for this illness is a change in lifestyle, which may include regular physical activity. A well-known risk factor for people with coronary artery disease is obesity. However, some medications, including aspirin, angiotensin, adrenergic receptor blockers, and 3-methylglutaryl CoA reductase inhibitors, have been shown to lower the rate of mortality. When compared to the use of medications, the coronary artery bypass graft has improved the treatment of the illness (McCullough, 2007). Most significantly, patient education improves the disease's deterrence. Since myocardial infarction, acute heart failure, and ventricular arrhythmias are cardiology-related conditions, nurses are expected to educate and counsel patients in these situations (Sundee et al., 2016).

According to Lou et al (2018), nurses encourage people with this condition to learn basic health advice, get medical help, and follow healthy diets including diets with less salt and fat, quit smoking, avoid drinking alcohol, and avoid gaining weight. The risk of cardiovascular disease can be reduced by participating in health supervision and regular exercise. People who have this disease are expected to control their hypertension, as well as their serum lipid and blood glucose levels (Kohsaka et al., 2021). In addition to anti-ischaemic medications, there are other approaches to treating the illness. One of these is the revascularization method, which restores blood flow to an ischaemic myocardium. This approach has the potential to worsen a patient's condition while also having a significant impact on symptom relief (Sundee et al., 2016).

Research goals and objectives

The goal of this study is to analyze existing studies on nurses' strategies for promoting the health of people with coronary artery disease.

Goals

- The major objective is to identify heart disease preventive strategies for individuals between the ages of 35 and 80.
- Examine strategies for preventing or reducing heart disease.
- This study's major goal is to identify the risk factors for cardiovascular disease in people and the prevalence of the condition.
- Determine the causes of cardiac disease.
- Examine the effectiveness of different preventative measures.

Methods and Methodology

Methods

A systematic literature review may be thought of as a review in which specific questions are developed and systematic, in-depth procedures are used to find, select, and critically evaluate significant research in order to gather and analyze the study's data. This method was chosen

because it provides an accurate and reliable means to synthesize academic research and is generally accepted in many subject disciplines. In accordance with the recommendations of Preferred Reporting Information for Systematic Reviews and Meta-Analysis (PRISMA), the systematic research review is reported.

There is no need for ethical approval for this research. Because of its 27 proof-based checklist and four-phase examination, PRISMA—while not a quality evaluation method—is sufficient in the study domain and ultimately offers the opportunity of transparency of any SLR.

Literature Review

A literature review may be thought of as an academic inquiry into new information based on a previously completed task. Additionally, they improve knowledge of significant research. A study review analyzes and summarizes related research on the thesis topic (Xiao and Watson, 2019). The literature review is appropriate for this study since it clarifies the importance of the work for healthcare practice. This bachelor's thesis relied on a review of the literature since it was necessary to combine data from different studies to analyze and classify research on the role of nurses in promoting coronary artery disease patients' health.

Method for Selecting Scientific Articles

Three databases were searched for this journal: PubMed, Google Scholar, and Medline. Keywords were used to find the most significant articles for this study subject while selecting from the three databases.

KEYWORDS

- Nurse or Nurses or Nursing
- Coronary artery disease or coronary heart disease
- Treatment or program or prevention or intervention.

The articles from 2010 to 2021 covered this process of discovery. The extra criteria were used to search for significant data. Prior to setting restrictions to include only the most crucial articles for this study, the keywords were initially injured to compare the number of articles available on the searched topic. The following restrictions were applied: complete text, reference availability, publication dates, and English language.

Additional Criteria

- The paper responds to the research question.
- The study is in English. Empirical investigations and scientific publications
- study of the nurse's role in the promotion, prevention, and intervention of coronary artery disease patients.
- 2010-2022 as the publishing year

Keywords and synonyms used in combination, such as when you first input the terms "coronary artery disease," "nurse," "promotion," preventive, intervention, and heart disorders." Second, from 2010 through 2022, limited. Finally, boolean terms, peer reviews, complete text, and entries made in the English language are used. Five publications were searched in the Google Scholar, PubMed, and Medline databases. After removing duplicates, three articles were found to be significant, however only two of those papers matched the requirements for inclusion.

Method of Analysis

Before now, content analysis has always been used in health research. For reviewing textual data, content evaluation is a less formal procedure (Hsieh and Shannon, 2005). According to Shannon and Hsieh, content analysis is a research technique for the impressionistic interpretation of textual data using the methodical grouping approach of coding and theme recognition. Researchers have access to a less formal, more practical way for expanding and enhancing their understanding of how people think about health and illness. Based on content analysis, this technique uses five well-known analytical procedures, including the creation of the research queries that must be addressed.

The five major steps within the method of content analysis (Hsieh and Shannon, 2005).

- Composing the study question to be responded to.
- Choosing the articles to be examined, reading carefully and coding the data, and grouping the code into subgroups.
- Categorizing the subgroups into the main groups.

Following the selection of the articles, the information set was taught by reading the journals continuously, selecting the journal, noting points in books, and underlining ideas in word documents. In order to examine discoveries, content analysis was used. Coding involved reading the journals at various times, and the answer to the study question was found in every article's conclusion. Once discoveries had been coded, we started grouping them and creating sub- and main categories (Elo and Kyngas, 2008).

Results and findings

It was crucial to carefully review the journals utilized in this study to ensure that the findings addressed both the research issue and its goals. Despite the fact that each article presented the problem in a variety of ways, an analysis revealed three distinct processes. These include educating patients with coronary artery disease about lifestyle changes, promoting lifestyle changes, nursing interventions, and adherence to prescribed treatments as important factors that nurses use to support the health of patients with heart disease. These factors were illustrated in three main groups and eight subgroups. The coronary artery disease ward needs nurses to assist patients with heart disease because the condition is a serious sickness and there are a lot of individuals battling it (Shing Kwork et al., 2020).

Lifestyle Modifications for Heart Disease Patients

- Patients' understanding of leading a healthy lifestyle (modifying diet and quitting smoking).
- educating those who are unwell on how to maintain a healthy fitness mindset.
- Encouraging those with coronary artery disease to exercise regularly.
- Inform individuals with this condition about changing their lifestyles.
- Weight reduction and physical activity are encouraged by one another.
- 'Teach people with this condition how to take their medications exactly as prescribed.
- Encourage using drugs.
- Following a prescription and nursing intervention.

Participating in lifestyle change builds a person's understanding of how to manage personal risk factors, and healthcare professionals are required to be aware of patients with this condition and their perspective on leading a healthy life. This is because patients who face challenges with the healthcare system have the power to affect their change in lifestyle. However, the nurses' patient-centered care would help to improve understanding of patients' health conditions that might be a barrier to lifestyle changes (Thronsdon et al., 2016).

Additionally, nurses must prioritize encouraging patients to adopt a healthier lifestyle through an innovative system, a commitment to upholding study results, and expansion into patient assistance with long and short-term health data and their deterrence requirements (Thronsdon et al., 2016). However, nursing interventions for patients with coronary artery disease involve monitoring medication use, supervising the improvement of the patient's condition, and assisting in the promotion of a healthy lifestyle (Zhou et al., 2021). Dieting plays a significant role in reducing the risk of coronary artery disease. Health professionals encourage those who suffer from this condition to adopt a practice of eating more fish, whole grains, vegetables, fruits, and legumes. However, replacing saturated fat with mono- and poly-saturated fats could help to reduce the risk of cardiovascular disease (Regim and Siccardi, 2022). People who use tobacco have a much higher risk of developing this disease. Nurses must counsel and urge patients to choose the most effective self-care methods for quitting smoking, and to ensure that some pharmaceutical intervention, such as nicotine substitutes, is used. Nicotine substitutes are still available as patches, lozenges, nasal spray, oral inhalers, and gum. However, medications like Varenicline and bupropion can also be used to support quitting smoking. Nurses and healthcare professionals should set up an outpatient cardiac restoration program and provide ongoing support to encourage people with this condition to exercise. The exercise training consists of treadmill walking, strengthening of the muscles, and training to improve cardiopulmonary function (Wong et al., 2016).

A positive attitude toward exercise will produce a specific outcome and prompt an analysis of desires. Peer support, interpersonal dynamics, social support from peers and family members, as well as support from friends and coworkers, are some particular factors that have an impact on healthy exercise habits. These components are crucial for people with coronary artery disease to successfully manage their exercise habits.

Encourages Physical Activities and Weight Loss

Constant physical activity decreased the risk of cardiovascular disease and mortality, improved insulin sensitivity, decreased blood pressure, decreased body weight, and increased levels of good cholesterol (Wong, 2020). However, the educational eHealth intervention has a significant impact on encouraging a more active attitude and increasing the number of physical activities. This intervention's objective is to inform and encourage patients with this disease to utilize the eHealth support website from the convenience of their homes (Wong et al., 2020). Finally, utilizing technology significantly influenced how patients with this illness were encouraged to improve their physical tasks. The website aids patients in setting exercise goals, self-monitoring their activity, documenting their health, and conducting computer-generated reviews of their exercise attitudes (Wong et al., 2020).

Exercise is beneficial for lowering the risk of coronary artery disease. Nurses should encourage parents to engage in moderate-intensity exercises for at least 159 minutes each week, as well as some milder activities like walking, biking, participating in yoga, and swimming outside. Overweight is defined as having a Body Mass Index (BMI) between 25 and 29.8 kg/g. Nurses should advise patients to calculate their BMI annually and make lifestyle changes, such as caloric restriction and weight loss, based on the result. As a result, losing weight has consistently increased the risk of cardiovascular disease. It is crucial for nurses to strongly promote physical activity, low-calorie meals, and attendance at weight loss maintenance programs for patients with this condition (Regim and Siccardi, 2022).

Nursing intervention and medication adherence for heart diseases patients

The quality of life for patients with coronary artery disease was improved through the implementation of several nursing measures, such as consistent patient assistance in developing a healthy lifestyle and long-term family care that reduces the incidence of angina pectoris and other complications (Zhou et al., 2021).

The implementation of several nursing variations, such as ongoing support for patients in developing a healthy lifestyle and managing a long-term family treatment that reduces the incidence of angina pectoris and several other complications and improves the quality of life for

patients with coronary artery disease, constitute an evidence-based scientific nursing intervention for people fighting coronary artery disease.

Systolic blood pressure and LDL cholesterol can be reduced with nurse-assisted pharmacological treatment and more intensive approaches. Therefore, the quality of life for those suffering from coronary artery disease is impacted by nurses' secondary avoidance. Additionally, nurses are inspired to promote physical activity and an active lifestyle through home-based practice and stepping out programs (Snarterse et al., 2016).

Additionally, the nurse's care interventions can be divided into three groups, including distributed policy making, multidisciplinary consultation, and danger factor management (lifestyle counseling, lipid control, and blood pressure). For patients with the disease, this nurse-coordinated care intervention is beneficial since it can improve their condition (Snarterse et al., 2016). The patient's consumption of their medications often explains how they are taking the recommended prescription. The main causes of medication and non-compliance are a lack of awareness about the benefits of the medications and a poor patient-provider interaction, which together decrease 80% of the negative effects.

According to a proof-based analysis, medications like post-myocardial infarction (PMI) (aspirin, P2Y12 inhibitors), beta blockers, ACE-inhibitors, and statins, a lipid-lowering agent, are class 1 suggestions for preventing future coronary artery diseases. About 80% of coronary artery disease mortality is reduced when all these medications are used together (Hussan et al., 2018). Patients who live with their significant other should be more devoted to taking their prescribed medications because of the support they receive from the nurses, who are intended to inform patients about the benefits of drug usage. It is crucial for nurses to encourage patients with this condition, as well as their families, to assist with the administration of medication (Hussain et al., 2018).

Discussion

Previous studies in science have emphasized numerous features of coronary artery disease that influence sufferers and have shown the value of health promotion and intervention for those with this ailment. The goal of this study is to compile up-to-date, evidence-based information

regarding variables impacting patients with coronary artery disease's promotion of health that may be used to nursing practice.

The method used in this thesis to improve the wellbeing of those with coronary artery disease is based on nursing theory. According to Wong et al. (2020), patient education sessions that are successful in promoting increased exercise behavior and physical activity levels reduce the risk of coronary artery disease. A separate study claims that in order to keep a healthy heart, individuals with coronary artery disease must participate in recently introduced programs that include exercise instructional illustration counseling, a booklet handbook, and follow-up treatments (Khatun et al., 2021). Due to the support they provide, people with coronary artery disease who live with their significant other are more likely to take their medicine as directed (Hussain et al. 2018, 552–557). Mortality from coronary artery disease is reduced by 80% with this strategy. Nurses must inspire and encourage patients with coronary artery disease (CAD) and their families to help with medication administration.

Conclusion

In conclusion, the health-promoting therapies for people with coronary artery disease include patient education, counseling, lifestyle changes, and educating patients how to reduce risk factors. Patients with coronary artery disease should enroll in an intervention program where they can receive guidance on managing their medicines, stopping smoking, managing stress, keeping a healthy weight, and exercising.

Patients with coronary artery disease should exercise frequently to reduce their risk of developing the condition and passing away from it. Additionally, nurse-coordinated care has the power to improve patient compliance, reduce risk factors for coronary artery disease, and prescribe medication in conjunction with higher-intensity exercise to lower systolic blood pressure and LDL cholesterol and improve patients' quality of life.

Recommendation

- Strengthen cross-disciplinary cooperation
- Create programs for targeted prevention.
- Enhance social support and patient-centered care

- Promote legislation that addresses socioeconomic determinants of health
- Health practitioners can utilize the most recent data to support policies that would reduce risk factors for heart disease, such as raising the legal smoking age.

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