



## Beneficial Impact of the Physical Exercise and Diet on Cardiac Disease. Literature Review Study

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### ABSTRACT

**Introduction-** A medical disease known as heart failure occurs when the heart's organs are unable to pump blood to the ventricles and throughout the body. Heart failure is one of the main causes of morbidity and death. Functional ability and patient heart failure patients' quality of life is connected. Functional capacity can be raised through nutrition and exercise. The purpose of this study was to determine if food and exercise are effective treatment methods for enhancing patient outcomes in terms of well-being and quality of life. **Methods-** As part of a literature review technique, this article uses the evidence-based practices of physical exercise (exercise) and a heart failure-specific diet. This article contains journal articles that fulfil the minimum requirement of twelve. Although articles those this study does not include or that are simply abstract. **Results-**The study contained twelve papers. Walking is an example of a suggested physical activity that can be finished in six or thirty minutes, three times a week. Furthermore, a 30-minute cycling session is achievable. Patients are encouraged to follow the DASH diet, and they should get the salt intake guidelines (1500 mg/day)

**Keywords-** Salt diet, Heart failure, exercise

### INTRODUCTION

A medical condition known as heart failure occurs when the heart organ is unable to circulate blood to the ventricles and throughout the body (Kurmani & Squire (2017). Reduced myocardial function is the most frequent cause of cardiac failure. Furthermore, the patient's experience of acute or chronic ischemia circumstances, hypertension from increased vascular resistance, ventricular remodelling, and an increase in the heart's hemodynamic load are all contributing factors to heart failure (Inamdar & Inamdar, 2016). One serious health issue associated with cardiovascular disease in the community is heart failure.

Despite significant advancements in the treatment of heart failure patients, this illness remains a significant cause of morbidity and mortality (Jones, Hobbs, & Taylor (2017).

With a current incidence of more than 5.8 million in the US and more than 23 million worldwide, heart failure is a serious public health issue. Over 550,000 Americans receive a heart failure diagnosis for the first time each year (Groenewegen, Rutten, Mosterd, & Hoes, 2020). Compared to European and American countries, where the prevalence of heart failure is between 0.5 to 2%, Southeast Asia has a thrice higher rate of heart failure (Lam, 2015).

However, 11.34% of cases of heart failure were reported in Indonesia alone. According to Riskesdas, around 75% of heart failure cases take place in the aged as a result of smoking, hypertension, coronary heart disease, and Andari (Nurhayati, Fredrika, Wijaya, & Yanti, 2022).

The quality of life of people with heart failure may be correlated with their functional capacity. Physical activity can be used to increase functional ability. nourishment. Patients with heart failure have been found to benefit from exercise-based rehabilitation programmes and a nutritious diet (Amiya & Taya, 2018). Patients with heart failure also use food and exercise as non-pharmacological therapy techniques. By moving the limbs, sports training can reduce symptoms, enhance quality of life, and teach exercise tolerance (De Maeyer, Beckers, Vrints, & Conraads, 2013).

Patients with heart failure may benefit from dietary treatments. Research reports that have been completed indicate that thorough in order to enhance patient outcomes and quality of life, dietary and exercise therapies can work in concert to influence the pathophysiology and symptoms of heart failure (Wickman et al., 2021).

Regular exercise is helpful for heart health and can be used as a management strategy for patients with heart failure. Regular exercise is linked to decreased the chance of acquiring cardiovascular illness and cardiovascular mortality (Nystoriak & Bhatnagar, 2018). When nurses educate patients with heart failure about their health, they consistently stress the value of regular exercise and eating a healthy diet (Pi & Hu, 2016). The most popular nonpharmacological dietary therapy for heart failure patients is sodium restriction (Allen, Billingsley, & Carbone, 2020).

When a patient is admitted to the hospital, nurses can begin providing exceptional and ideal nursing interventions; in addition, the patient can engage in physical activity and follow a well-rounded diet (Moertl et al., 2017). The author is particularly interested in supplying patients with heart failure with information regarding diet and physical activity.

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## METHODOLOGY

The evidence-based practices of physical exercise and a well-rounded diet provided to heart failure patients to enhance their quality of life are reviewed in this article.

The PICOS approach is used in this article's literature evaluation. The following phase is gathering information and readings for the review by utilising the "AND" and "OR" search techniques in each key. The examination was carried out with Science Direct, Proquest, and Pubmed databases. Prisma diagrams are used in the literature review stage to identify literature, screening, choosing the literature, and establishing the inclusion and exclusion criteria. The synthesis of the literature to create the literature review is the final step in the process.

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## RESULTS

Because heart failure is so common, researchers are constantly creating evidence-based treatments to enhance patients' quality of life. The Researchers' findings may be used to treat patients in the hopes of assisting sufferers.

Due to its high death rate and rising incidence, heart failure is a cardiovascular illness that frequently strikes. Heart failure is linked to a number of problems, including fatigue, myocardial infarction, arrhythmias, and shortness of breath in patients (Choi, Park, & Youn, 2019).

Additional issues that patients frequently encounter include swelling in the ankles, a rise in the jugular veins and lung oedema, both of which might result in rales (Schwinger, 2021). Since clinical signs and symptoms are used to determine clinical severity in heart failure patients, many will see a reduction in their active range of motion. motion, which may obstruct the performance of routine tasks (Chaudhry & Stewart, 2016). Management of patient care for those with The goal of heart failure treatment is to enhance the patient's quality of life. The patient's severity of clinical signs and symptoms indicates the therapeutic care that has been provided. The main goal of therapeutic therapies for individuals with acute heart failure is to improve hemodynamic status by raising cardiac contractility and preload and afterload (LaMonte, 2018).

Both acute and chronic heart failure patients' initial care and treatment objectives centre on altering risk factors, one of which is diet and lifestyle modifications for patients. These include a balanced diet that limits sodium intake, controls food intake, and substitutes exercise for other forms of physical activity. Individuals with heart failure can make decisions based on how severe their symptoms and indicators are (Aggarwal et al., 2018). Exercise has been demonstrated to have a positive impact on exercise capacity, quality of life, mortality, and morbidity in people with heart failure. It is a crucial additional non-pharmacological therapeutic method. To address the issues heart failure patients face, many training techniques are offered. It is essential to modify the recommended exercise.

According to the heart failure guidelines published by the European Society of Cardiology (ESC), exercise training should be carefully performed by individuals with heart failure. (Seguiri, Cattadori, Padeletti, Picozzi, & Anzà, 2018).

According to the objective evaluation's findings, people with heart failure must follow a recommended physical activity regimen. It is highly advised that patients with heart failure engage in physical exercise. Exercise regimens that include practice are helpful for heart failure patients and are now a crucial part of the rehabilitation process (Giallauria, Smart, Cittadini, & Vigito, 2016).

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## DISCUSSION

Regular exercise has a positive impact on quality of life and is used as a kind of physical exercise therapy in cardiac rehabilitation. This result is advantageous for raising patients' ability to engage in activities (Taylor et al., 2019). The overall energy expenditure, which includes the product of exercise intensity, session duration, session frequency, and training programme duration, is primarily responsible for the increase in exercise capacity of heart failure patients undergoing continuous aerobic exercise (Ponikowski et al., 2016). Suharsono (2013) states that walking is an aerobic form of physical activity that the patient can perform.

The overwhelming majority of Americans do not exercise enough, despite a substantial body of research demonstrating the clear health advantages of physical activity (130). However, even brief daily exercise sessions can reduce the chance of death, with the greatest benefit occurring after 50–60 minutes of intense activity.

Many heart failure patients engage in physical activity, such as walking at a slow pace or doing cardiac exercises. Regulating the occurrence and Patients with heart failure find it challenging to keep up their exercise regimens due to exhaustion, duration of activity, and exercise intolerance. Studies indicate that those with heart disease who are not as fit or who are at a higher risk should begin with low-intensity aerobic activity or walking regularly, then progressively raise the intensity of an exercise programme (Guo et al., 2021).

When combining a low sodium intake of 1500 mg/day with a DASH diet compared with a high sodium intake of 3450 mg/day from a control diet, the According to the findings, the reduction was 11.5 mmHg in patients with hypertension and 7.1 mmHg in those without hypertension (Vest et al., 2019).

As for the heart failure diet, study by Abu-Sawwa et al. (2019) indicates that sodium restriction is important since it forms the foundation of managing heart failure self-care. The American College of Cardiology recommended 3000–400 mg/day, however fewer than 2000 mg/day is advised in cases of moderate-to-severe congestive heart failure. Furthermore, the American Heart Association advises restricting sodium consumption to a stricter, all-encompassing diet of 1500 mg per day (Abu-Sawwa).

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## CONCLUSION

Patients with heart failure benefit from a well-rounded diet and regular physical activity. You can perform these exercises frequently to improve your capacity for action and enhance the patient's standard of living. Patients who have access to implementation recommendations regarding the type, frequency, duration, and advantages of physical exercise are eligible to participate. Furthermore, the patient's suggestions for a rigorous salt restriction and DASH diet can be put into practice right away.

There are still unanswered problems, such as whether regular exercise later in life can undo the effects of lifestyle decisions made earlier in life (such as sedentarism, smoking), and whether the health benefits of exercise exhibit seasonal or circadian dependence, meaning that certain seasons or times of day are better for exercising than others. There may be some benefit to starting exercise later in life to reverse structural and functional changes in the cardiovascular system brought on by ageing and/or disease states like heart failure with preserved ejection fraction. A recent study found that adherence to a two-year, high-intensity exercise programme reduces left ventricular stiffness in previously sedentary middle-aged participants.

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