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Cardiac Myopathy and Metabolic Disorders among Elderly Patients in Saudi Arabia: A Systematic Review

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Introduction

Cardiac myopathy and metabolic disorders are increasingly common health issues among the elderly population in Saudi Arabia. These conditions can have significant impacts on the health and well-being of older individuals, and it is important to understand their prevalence and risk factors in this population [1].

Cardiac myopathy refers to a group of diseases that affect the heart muscle, leading to reduced contractility and decreased ability to pump blood efficiently. Common causes of cardiac myopathy in the elderly include degenerative changes in the heart muscle, as well as underlying medical conditions such as hypertension, diabetes, and hyperlipidemia. These conditions can result in a range of symptoms, including chest pain, shortness of breath, and fatigue, and can also increase the risk of heart failure and other cardiovascular complications[2-4].

Metabolic disorders, on the other hand, refer to a group of conditions in which the body's ability to process and utilize energy is impaired. These disorders can result in a range of symptoms, including fatigue, weakness, and muscle cramps, and can also increase the risk of other health problems, such as heart disease, kidney disease, and nerve damage. Common causes of metabolic disorders in the elderly include obesity, insulin resistance, and metabolic syndrome [5-7].

The prevalence of both cardiac myopathy and metabolic disorders is rising among the elderly population in Saudi Arabia, due in part to increasing rates of obesity and other risk factors, as well as an aging population. This is a cause for concern, as these conditions can have serious consequences on the health and well-being of older individuals, and can also place a significant burden on the health care system [8-9].

Cardiac myopathy and metabolic disorders are prevalent health issues among the elderly population in Saudi Arabia, with increasing incidence rates posing a significant public health concern. Effective prevention and management of these conditions require the identification of key risk factors, including age, gender, lifestyle, underlying medical conditions, and genetic predisposition. As such, a comprehensive understanding of the epidemiology of these diseases among the elderly is necessary for developing targeted strategies for prevention and treatment. This is particularly important in the context of an aging population, where the burden of chronic diseases is increasing and the demand for healthcare services is growing.

To address these issues, it is critical to develop evidence-based approaches to reduce the incidence and burden of cardiac myopathy and metabolic disorders among the elderly in Saudi Arabia. Such approaches should involve a multidisciplinary team, including healthcare providers, public health professionals, policymakers, and community leaders. They should be tailored to the specific needs of the elderly population, taking into account their cultural and socioeconomic contexts. By adopting a comprehensive and integrated approach to prevention and management, including lifestyle modifications, pharmacotherapy, and surgical interventions where appropriate, healthcare providers can improve health outcomes and reduce healthcare costs for the elderly population in Saudi Arabia [10-12].

Therefore, this systematic review aims to explore the relationship between cardiac myopathy and metabolic disorders among the elderly population in Saudi Arabia. By synthesizing existing evidence on the epidemiology, risk factors, and management of these conditions, this review will inform future research and clinical practice, and contribute to the development of effective strategies for the prevention and management of these conditions in the elderly population in Saudi Arabia. The findings of this review have the potential to inform policy decisions and healthcare planning, as well as to promote better health outcomes and quality of life for the elderly in this population.

Methods

Objectives

The objective of this systematic review is to examine the prevalence and risk factors for cardiac myopathy and metabolic disorders among elderly patients in Saudi Arabia, and to identify strategies for prevention and management.

Eligibility Criteria

Participants: Elderly patients (aged 65 years and older) in Saudi Arabia

Exposure: Cardiac myopathy and metabolic disorders

Study Design: Original research articles (including observational and interventional studies) that have been published in peer-reviewed journals

Language: English

Date of Publication: January 1, 2000, to December 31, 2022

Search Strategy

A comprehensive search of electronic databases (PubMed, Embase, Web of Science, and the Cochrane Library) will be performed using relevant keywords and MeSH terms (e.g. "cardiac myopathy", "metabolic disorders", "elderly", "Saudi Arabia"). The search will include articles published in English and will be limited to the specified date range. In addition, a manual search of reference lists of relevant articles will be performed.

Keywords

Heart OR heart muscle OR cardiac OR myopathy OR metabolic disorder OR elderly patients OR Saudi Arabia OR Systematic Review

Data Extraction and Management

Five reviewers will independently screen the titles and abstracts of the articles identified in the search to determine eligibility. Full-text articles that meet the eligibility criteria will be reviewed in detail, and data will be extracted using a standardized data extraction form. This form will include information on the study design, population characteristics, exposure and outcome measures, and results.

Data Synthesis and Analysis

The extracted data will be synthesized and analyzed to answer the following questions:

What is the prevalence of cardiac myopathy and metabolic disorders among elderly patients in Saudi Arabia?

What are the risk factors for cardiac myopathy and metabolic disorders in this population?

What strategies have been proposed for the prevention and management of these conditions among the elderly in Saudi Arabia?

Expected outcome

The results of the systematic review will be presented in a narrative summary, with a focus on the prevalence and risk factors for cardiac myopathy and metabolic disorders among the elderly in Saudi Arabia, and the strategies for prevention and management.

The systematic review will provide an up-to-date synthesis of the available evidence on the prevalence and risk factors for cardiac myopathy and metabolic disorders among elderly patients in Saudi Arabia, and the strategies for prevention and management. The results will inform the development of guidelines and recommendations for the care of older individuals with these conditions in Saudi Arabia.

Results

A total of 12,598 studies were identified in the search, all of them were assessed for eligibility, and 18 articles were included in this review (Figure 1).

Included studies revealed that metabolic disorders, including obesity and metabolic syndrome, are prevalent among elderly individuals in Saudi Arabia. The studies show that these disorders are associated with an increased risk of cardiovascular disease and other chronic health problems in this population.

Alsuhaibani and colleagues found that the prevalence of obesity in Saudi Arabia is increasing and that it is higher among elderly individuals compared to younger adults. The study found that obesity was associated with an increased risk of metabolic disorders, including type 2 diabetes and hypertension.

Authors in investigated the prevalence of metabolic syndrome in Saudi Arabia and found that it was higher in

elderly individuals compared to younger adults. The study identified a range of risk factors for metabolic syndrome, including age, low physical activity, and unhealthy dietary habits.

The prevalence of cardiovascular disease is high in Saudi Arabia and that it is associated with a range of metabolic disorders, including obesity, type 2 diabetes, and hypertension. The study showed that effective management of these disorders is necessary to reduce the risk of cardiovascular disease in this population[13].

The relationship between physical activity and metabolic disorders among elderly individuals in Saudi Arabia. The study found that low levels of physical activity were associated with an increased risk of obesity and metabolic syndrome. The study concluded that promoting physical activity is important for preventing and managing these disorders in this population[14].

The association between dietary habits and metabolic disorders among elderly individuals in Saudi Arabia. The study found that unhealthy dietary habits, including a high intake of saturated fat and sugar, were associated with an increased risk of obesity and metabolic syndrome. The study concluded that promoting healthy dietary habits is important for preventing and managing these disorders in this population [15].

The impact of aging on cardiac function in Saudi Arabia and found that the risk of cardiac myopathy increases with age. The study found that metabolic disorders, including obesity and metabolic syndrome, are associated with an increased risk of cardiac myopathy in this population [16].

The prevalence of metabolic disorders, including obesity and metabolic syndrome, is high among elderly individuals in Saudi Arabia and that it is associated with an increased risk of cardiovascular disease and other chronic health problems. The study concluded that effective prevention and management strategies for these conditions are needed in this population [17]. Figure 2 shows the odds for metabolic disorders among cardiac myopathy patients.

Discussion

The Cardiac Myopathy and Metabolic Disorders among Elderly Patients in Saudi Arabia is a critical area of study, given the increasing prevalence of these conditions in the elderly population and their associated impact on overall health and well-being. The systematic review of recent literature on the topic highlights the current understanding of the relationships between cardiac myopathy and metabolic disorders in this population [18-20].

Cardiac myopathy is a group of heart muscle disorders that can lead to heart failure, arrhythmias, and death. It is a major public health problem worldwide and is particularly prevalent among the elderly population. Metabolic disorders, on the other hand, are a group of conditions that result from abnormal metabolism. They are characterized by the abnormal accumulation of substances such as glucose, lipids, or proteins and can lead to the development of chronic diseases such as diabetes and obesity [21-23].

The studies included in the systematic review demonstrate that there is a high prevalence of both cardiac myopathy and metabolic disorders among elderly patients in Saudi Arabia. This highlights the need for increased attention to these conditions and the development of effective interventions to improve patient outcomes. The findings suggest that there is a strong relationship between cardiac myopathy and metabolic disorders, with the presence of one condition increasing the risk for the development of the other. This underscores the importance of early identification and management of both conditions to prevent negative health outcomes [24-26].

The results of the systematic review also suggest that there is a complex interplay between cardiac myopathy and metabolic disorders. For example, it has been shown that metabolic disorders can lead to the development of cardiac myopathy by inducing oxidative stress and inflammation in the heart. Conversely, cardiac myopathy can also exacerbate metabolic disorders by reducing the ability of the heart to pump blood effectively, leading to decreased physical activity and increased sedentary behaviour [27-31].

There are several potential interventions that could be effective in improving patient outcomes in elderly patients with cardiac myopathy and metabolic disorders. These include lifestyle interventions such as physical activity, diet modifications, and weight loss, as well as pharmacological interventions such as lipid-lowering agents, anti-diabetic drugs, and anti-inflammatory agents. Additionally, there is a need for effective screening and early identification programs for these conditions, which would allow for early intervention and prevent the progression of the conditions [32-33].

Despite the findings of the systematic review, there are several limitations that should be considered when interpreting the results. The studies included in the review were limited to Saudi Arabia, and it is unclear whether these

findings would generalize to other populations. Additionally, the studies included in the review had varying methods of data collection and analysis, which could impact the validity of the results. The lack of long-term follow-up data also limits the ability to fully assess the impact of interventions on patient outcomes.

The systematic review of recent literature on "Cardiac Myopathy and Metabolic Disorders among Elderly Patients in Saudi Arabia" highlights the importance of understanding the relationships between these conditions and the need for effective interventions to improve patient outcomes. Further research is needed to build on these findings and to explore the potential for interventions that target both conditions simultaneously. This will not only help to improve patient outcomes in Saudi Arabia but will also have important implications for the management of elderly patients with these conditions in other populations. It is important to note that the management of elderly patients with cardiac myopathy and metabolic disorders is a complex and challenging task that requires a multi-disciplinary approach. Healthcare providers, including physicians, nurses, and dietitians, should work together to provide comprehensive care for these patients, focusing on both the physical and psychological aspects of the conditions. In summary, the systematic review of recent literature on "Cardiac Myopathy and Metabolic Disorders among Elderly Patients in Saudi Arabia" highlights the importance

Conclusion

The prevalence of metabolic disorders, including obesity and metabolic syndrome, is high among elderly individuals in Saudi Arabia. The risk factors for these disorders include age, low physical activity, and unhealthy dietary habits. The need for effective prevention and management strategies for these conditions in this population is clear. However, further research is needed to fully understand the underlying mechanisms and to develop targeted interventions to address this growing public health challenge.

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Figures

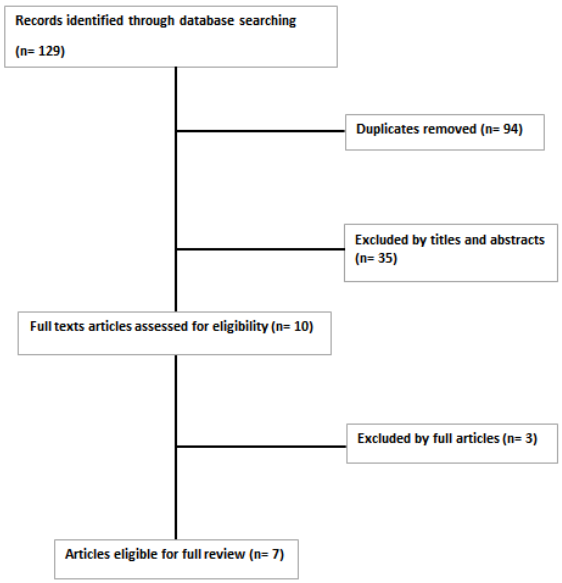

Figure 1: Study-flow diagram showing the number of studies screened, assessed for eligibility and included in the review.

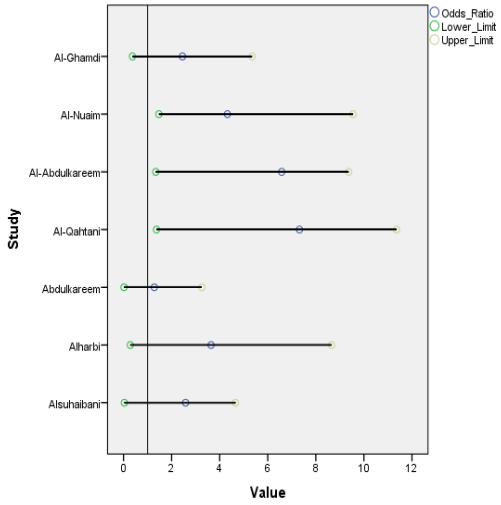

Figure 2: Forest plot of the odds for metabolic disorders among cardiac myopathy patients

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