

How Do Social Isolation and Loneliness Affect Cardiac Health?

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ABSTRACT:

Background

Social isolation and loneliness have become increasingly prevalent in the United States, presenting as significant cardiovascular risks including coronary heart disease and strokes. These conditions are associated with increased mortality rates and share similarities with established risk factors such as smoking and alcoholism. This study aims to explore how social isolation and loneliness impact our cardiovascular system, in turn addressing gaps in our current knowledge so strategies can be created to reduce the risk of heart disease nationwide.

Methods

A scoping review using PubMed and Google scholar was conducted with the following key terms: social isolation, cardiovascular health, depression, loneliness, heart risks, and heart failure. Articles included looked at the impact of social isolation and loneliness on both genders specifically related to heart health. Literature reviews, single-gender studies, and articles focusing on overall health effects unrelated to cardiac health were excluded

Results

Social isolation and loneliness significantly increase the chances of heart failure and cardiovascular diseases, with socially isolated individuals having a 17% higher risk of heart failure and a 42% higher risk of developing heart conditions. Loneliness affects a large portion of the population, ranging from 5% to 30%, and is associated with a 29% higher risk of heart disease and a 32% higher risk of stroke. Social isolation and loneliness also lead to significant changes in weight and higher blood pressure levels.

Discussion

Social isolation significantly impacts the body's systems, affecting heart rate and blood pressure. It increases the risks of cardiovascular diseases like heart failure and strokes, and doubles mortality chances. While both genders are affected, females tend to experience more severe effects. Addressing social isolation and loneliness can decrease the risk of heart failure, regardless of a patient's genetic background. Promoting programs to mitigate the impact of social isolation and loneliness could increase social support and improve heart health outcomes.

INTRODUCTION:

Social isolation has been a prevalent issue in America in the past few years [1]. The uptick in social isolation and loneliness is affecting our health. Loneliness has been seen as an important risk factor of developing coronary heart disease and stroke [2]. Those with weak social connections are at a 29% increase of developing a heart disease and at a 32% increase of a stroke [2,3]. As such, social isolation and loneliness are important to pay attention to in cardiovascular health.

There is a clear correlation between social isolation, loneliness, and increased mortality rates [4]. These social determinants are comparable with well-established risk factors of death such as drinking alcohol and smoking [4]. Feeling lonely and being socially isolated can increase the risk of coronary heart disease (CHD) even for those with no other risk factors [2]. Hypertension, known to lead to numerous heart related issues, is increased by loneliness and social isolation as well [5,6]. Additionally, loneliness has a direct impact on health behaviors, such as an impact on sleep quality [7]. By understanding factors leading to loneliness and social isolation as well as investigating the impact of this isolation on cardiovascular health, proactive initiatives can be implemented to lower the percentages of heart disease across America.

Social isolation and loneliness are known factors that have a clear impact on cardiac health [2-4], however reasons behind why people experience loneliness and social isolation and their impact on cardiac health are not well-known. The purpose of this study is to address this gap by examining evidence on social isolation and how it leads to hypertension and increases mortality rates.

METHODS:

Search Strategy

PubMed and Google scholar were used to search the academic literature. The following key terms were searched: “social isolation”, “cardiovascular health”, “depression”, “loneliness”, “heart risks”, and “heart failure”.

Inclusion and Exclusion Criteria

The inclusion criteria focused on articles that included isolation, loneliness, male and female genders, and how social isolation/loneliness affects the heart. Articles were excluded if they were literature reviews, only about one gender, or looked at the impact on overall health as opposed to heart health specifically.

RESULTS:

There is a direct relationship between social isolation/loneliness and heart failure (HF) [8]. Those who were socially isolated had a 17% risk of HF, and those who felt lonely also had a 19% risk

of HF [8]. Those who are lonely and socially isolated are also 42% more likely to develop cardiovascular diseases (CVD) [9]. About 5-30% of our population are lonely, risking their heart health [10]. Social isolation and loneliness are also associated with a 29% increase in the risk of heart disease and a 32% risk of stroke [11]. To put these statistics into context, loneliness and social isolation are linked to twice the risk of death from CVD. [9].

Social isolation and loneliness also affect weight, as males tend to lose weight (when tested, 23% less in 4 weeks) and females tend to gain weight (when tested, 90% more in 4 weeks) [11]. Systolic blood pressure increases by 12% in males and 22% in females due to social isolation and loneliness [11]. Those who have reported being socially isolated or lonely are also at a 66% risk of incident CVD [9].

Table 1: Corresponding percentage increase in risk of type of heart disease among those who are lonely or socially isolated

HEART DISEASE	INCREASED RISK
Heart Failure (socially isolated)	17%
Heart Failure (loneliness)	19%
Cardiovascular diseases	42%
Heart Disease	29%
Stroke	32%
Systolic blood pressure (males)	12%
Systolic blood pressure (females)	22%

DISCUSSION:

Social isolation impacts the autonomic nervous system which controls functions like heart rate and blood pressure [11]. It increases the risk of CVD, including HF and strokes, and doubles the chance of mortality [4]. Social isolation affects both genders similarly, but females tend to experience more severe effects [11]. This could be due to the different hormones females have, and how they feel emotions more strongly compared to males. Females gain a lot of weight, while males lose some weight [11]. Social isolation raises blood pressure in both genders, with females often showing a more significant increase, highlighting a greater impact on women [11].

There is a pattern where the more socially isolated or lonely an individual is, the more likely they are to experience HF [8]. Trying to decrease social isolation or loneliness can decrease the chances of HF, even if you have a genetic risk for that condition [2]. Policy-makers and hospital administration interested in improving heart health outcomes should consider funding programs

that increase social support networks. Healthcare providers should consider talking to their patients about feelings of social isolation and loneliness as part of a routine checkup. Helping those who are isolated or lonely may help reduce the risks of HF, CVD, and mortality.

Social desirability bias may exist, resulting in an underreporting of true feelings of social isolation and loneliness among the participants. There could have been other confounding factors as well, such as socioeconomic status or lifestyle factors, that could have contributed to the risk of CVD.

Based on the findings of this scoping review, it's important to be aware of the effects of social isolation and loneliness on cardiovascular health, and to prioritize initiatives both in our community and the medical system that offer help to those who are feeling socially isolated or lonely.

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