

# **SOCIAL ISOLATION DURING THE COVID-19 PANDEMIC AND ITS IMPACT ON CARDIOVASCULAR DISEASE**

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## **ABSTRACT:**

### *Background*

Social isolation (SI) has traditionally been thought of as a physiological problem, but research has shown that it can increase the risk of cardiovascular diseases (CVDs) by 30%. People affected by SI were most likely physically inactive and resorting to unhealthy choices.

### *Methods*

This study is a systematic literature review that reviewed studies from Pubmed. Included studies looked at COVID-19, social isolation, loneliness, cardiovascular diseases, and physical inactivity. The search excluded systematic reviews, literature reviews, and studies published after 2019.

### *Results*

During the pandemic, people experienced high SI because of the fear of contracting COVID-19. In 2020, among young men in Poland, 20.48% said they had mild SI, 36.87% said they had moderate SI, and 42.63% said they had severe SI. With increased levels of SI, physical inactivity and participation in unhealthy habits such as smoking increased. The weight gain and unhealthy habits led to a higher risk of developing CVDs.

### *Discussion*

The high SI during the pandemic led to an increased risk of developing CVD. Also during the pandemic, people started to have increased anxiety from the risk of contracting COVID-19.

## **INTRODUCTION:**

While social isolation (SI) is primarily thought of as a psychological issue, recent research shows that SI can increase the risk of cardiovascular disease (CVD) by 30% [1]. Those who experience more SI are more likely to experience CVD as they may resort to unhealthy lifestyle choices, including smoking and being physically inactive.

If people are physically inactive for prolonged periods, they are more likely to gain weight and face obesity[2]. Obesity can cause indirect CVDs such as hypertension and myocardial infarction [2]. Differences in physical activity may contribute to the increased risk of ill-health and poor well-being associated with SI [3]. The increased physical inactivity from SI causes obesity, in turn, increasing the risk for CVD. Obesity is known to increase the risk of developing CVD significantly [2], and it also accelerates the rate of heart failure [2].

The study aims to summarize the current literature on the association between SI and CVDs. By understanding the impact of SI on CVDs, preventative measures, and early interventions can be considered to mitigate the risk of CVDs. This study hypothesizes that increased social isolation will lead to a higher risk of CVD, mitigated by factors such as decreased physical activity and increased unhealthy food and drink consumption.

## **METHODS:**

This study used PubMed to search for key terms, including social isolation, COVID-19, loneliness, cardiovascular diseases, and physical inactivity. As part of this search, all literature reviews, systematic reviews, and studies before 2019 were excluded. Studies prior to 2019 were excluded as COVID-19 was a predominant factor that led to the rise in social isolation.

## **RESULTS:**

### *SI is the leading cause of physical inactivity*

Studies show that SI directly relates to physical inactivity [4]. Loneliness was associated with an increased risk of physical inactivity [4]. In Europe, a study said that highly isolated people are more likely to become physically inactive [5]. However, in other European countries, high SI resulted in an inadequate diet without fruit and vegetables [5]. Furthermore, a study showed that greater SI in the adult population is related to reduced everyday physical activity and greater sedentary time [3].

### *SI during the COVID-19 pandemic*

The high SI from the pandemic caused people to develop mental health conditions [6]. In 2020, among young men in Poland, 20.48% said they had mild SI, 36.87% said they had moderate SI, and 42.63% said they had severe SI [7]. During the pandemic, people started becoming lonely, and they took substances which led to overdoses and deaths [6]. After the restrictions were eased mental health recovered relatively fast [6]. However, some still need mental help to recover fully [8]. In Sao Paulo, the SI from March to May 2020 increased from 43.07% to 50.71% [8].

### *CVDs during Covid pandemic*

A study in Sao Paulo shows that the COVID-19 pandemic caused a decrease in hospitalizations and deaths from CVDs [8]. This may have been due to the fear of contracting COVID-19 from the hospital [8]. A study in Brazil said that hospital admissions decreased but the in-hospital deaths from CVDs increased [9]. This may have been due to inadequate CVD management planning [10]. Another study in the U.S. says that contracting COVID-19 increases the risk of developing CVD [10]. People infected who survived the first 30 days had an increased risk of inflammatory heart disease [10]. Additionally, another study recorded a substantial monthly drop in CVD hospitalizations by 42.60% from March to May 2020, during which social isolation increased by 7.64% (43.07% to 50.71%) [8].

## DISCUSSION:

This paper investigates the connection between SI, during and after the COVID-19 pandemic, and CVDs. A paper said SI during the pandemic caused people's blood pressure to rise [11]. Also in the same paper, it noted that lonely people had a 30% higher risk of getting CVDs [11]. Loneliness causes people to participate in unhealthy activities such as being physically inactive[3]. Because the people were physically inactive they started gaining weight, which in turn increased the individual's risk of developing CVD. During the pandemic, people started having increased anxiety [7]. Some people were isolated from their families and began to develop the first stages of depression. Also, people who developed CVD didn't go to the hospital to seek medical care to decrease the chances of getting COVID-19, which only worsened their CVD conditions and were most likely fatal at times[8]. This study has some limitations such as using data from other countries. Another limitation is different countries have COVID-19 pandemic restrictions and

This study shows how SI during the pandemic caused an increased risk of CVDs. The findings from this study may be used by future researchers to investigate the relationship between SI and CVD outcomes on a global scale.

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