The Risk Factors of Loneliness and Social Isolation and their Relationship to Physical Health Outcomes

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Abstract

Background

Both loneliness and social isolation have been proven to have effects on a person's physical health. The difference is that loneliness is a perception, while social isolation is a state of being. Because this is a literature review, there are multiple papers included that feature or mention various demographics such as elderly people, people from various socioeconomic backgrounds, LGBTQIA+ people, etc.

Methods

In this paper, I began by exploring the broad concept of loneliness and its significant impact on both mental and physical health, leading me to distinguish between loneliness and social isolation as distinct but related phenomena. This focus allowed me to investigate the specific ways in which social isolation, along with various external risk factors, contributes to serious physical health outcomes, using a Social Ecological model to categorize and understand these influences. A Social Ecological model contains various influence levels in a person's life, ranging from an individual level to a policy level. This can be important for understanding the different ways that loneliness can exist in a person's life, and also how it might affect those facets.

Results/Discussion

Loneliness and social isolation have profound impacts on a person's physical health, though the impact levels can vary from case to case. Additionally, outside risk factors can contribute to the impact that loneliness and social isolation have. Some outside risk factors include spousal death, natural disasters, and financial problems. It is crucial to understand the effects of these outside risk factors in order to begin to think about interventions and/or solutions for loneliness and social isolation.

Conclusion

This paper explores the relationship between loneliness, social isolation, and physical health, and also how outside risk factors can contribute to increased effects of loneliness and social isolation, therefore further impacting physical health. The literature identifies a dose-response relationship, where increased levels of loneliness and isolation increase physical health issues. The findings demonstrate a need for targeted interventions and policies, especially for vulnerable populations, to improve public health outcomes.

Background

Research has demonstrated that loneliness and social isolation are increasingly important in understanding physical health outcomes of older adults.[1] Though both loneliness and social isolation contribute to physical health issues, it is important to note that they are completely different from one another and an individual can experience both or only one of them. Loneliness is described as an individual's perception of their lack of social connections while social isolation is described as a state where an individual lacks engagement with other

people and/or that their quality of social connection is lower than average. Essentially, loneliness is a feeling and social isolation is an actual state of being.[1] Though loneliness and social isolation were assumed to be solely mental health issues, the fact that they are also causing physical health issues can be instrumental in solving or reversing health problems for patients and also preventing those health problems from happening.

This paper is a review of articles which analyze the risk factors and health outcomes of loneliness and social isolation in older adults. Most articles show that these physical health issues are especially prominent in older adults, 40 years and older. Also the articles featured studies that took place around the world, in countries such as the United States of America, the United Kingdom, Canada, Taiwan, and Switzerland. The literature review consists of articles which focus on many demographics that are affected by loneliness and/or social isolation such as members of the LGBTQIA+ community, disabled people, and people of older age. The articles also focused on race, ethnicity, socioeconomic status, and gender.

Methods

Loneliness has been identified as a significant issue for people in many communities, especially minority groups, affecting their mental well-being and overall quality of life. As a person learns more about loneliness and social isolation, it becomes easier to understand the differences between the two, and how they can affect people differently and similarly. Review of the literature demonstrated that loneliness and social isolation were not just a psychological concern, but also had implications for physical health, contributing to conditions such as cardiovascular disease.[1] This discovery allowed for a refinement of the focus for this article from the broad concept of loneliness to the more specific concept of the differences between loneliness and social isolation, and how they physically affect people. While loneliness and social isolation are related, they are distinct phenomena; loneliness is a subjective feeling of being alone, whereas social isolation refers to an objective lack of social connections. Understanding this distinction is crucial to explore how social isolation, rather than just the feeling of loneliness, could have direct, measurable impacts on physical health. Some studies utilized the UCLA Loneliness Scale or the Social Network Index to measure loneliness and social isolation, while others relied on self-reported data. This narrowed focus enables better investigation of the nuanced ways in which loneliness and social isolation serve as risk factors for serious health outcomes, making the research more targeted and meaningful.

After establishing the research topic, it was important to start to look for research papers that would best align with it. While researching the various physical health effects that arise from loneliness and social isolation, it is also clear that there are different outside risk factors that can induce social isolation or feelings of loneliness and therefore amplify any health effects.[2,3] After that, it was important to try and understand what could be considered a risk factor and also the scale at which those risk factors affect a person. Using a basic Social Ecological model, one is able to loosely categorize those risk factors into five buckets: Individual, Interpersonal, Institutional, Community, and Policy.

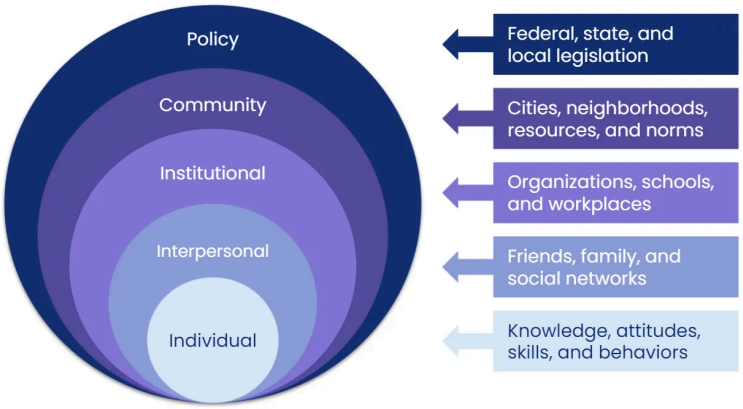

Figure 1, Image from Killam's article on Medium

Categorizing risk factors in this way allows a person to gain a sense of how impactful they can be to a person's physical health, and also see how many areas of a person's life these risk factors can affect. It also helps inform how we think about health outcomes and can inform our solutions.

Results/Discussion

Loneliness and social isolation are often discussed mainly in the context of their impact on mental health, with much attention given to issues like depression and anxiety.[4] However, the physical health consequences of these social conditions are equally significant and deserve more focused attention. While mental health outcomes are well-documented and understood, the physical effects of loneliness and social isolation, such as increased risk of coronary heart disease (CHD), are less frequently explored in literature.

In this section, the main goal is to focus on the physical health risks associated with loneliness and social isolation. It is essential to recognize that these conditions do not merely affect emotional well-being but also have profound and measurable impacts on physical health. Additionally, the effects of loneliness on physical health are heightened by additional risk factors, such as the loss of a spouse, financial stress, or the presence of a disability, which can increase the health outcomes associated with social isolation.

Additionally, there are outside risk factors that are associated with worsened health outcomes when they are combined with loneliness. For example, if an individual's spouse dies, they become more lonely because a constant figure in their lives is suddenly gone. In association, there have been studies done that show increased likelihood of mortality after a person's spouse dies. Looking at the Social Ecological model, we know that this most closely impacts someone's interpersonal life because it includes a loss of a constant figure in that network.[3]

Another outside risk factor is if a lonely and/or socially isolated person is experiencing financial problems because those problems contribute to a person's stress levels, while they still don't have any people to fall back on for help. This issue typically affects the individual or interpersonal levels of a person's life, though mainly the individual level. As mentioned, financial problems contribute to a person's stress levels, which then affects their mental and physical health in a negative way.[3]

A notable physical condition that is considered an outside risk factor is any sort of disability. Disabled people were more likely to report feeling lonely, and that degree of loneliness can sometimes be related to the extremity of their physical impairment. Studies show that people with psychosocial disabilities are most likely to report feelings of loneliness while people with sensory disabilities are the least likely to report feelings of loneliness.[2] This is because typically, individuals with psychosocial disabilities have a harder time communicating with others because their ability to socialize is directly impaired. On the other hand, there are systems that have been put in place and that have become normalized in our societies to aid people with sensory disabilities to better communicate with others. This includes hearing aides, braille, and sign language.

Other outside risk factors not directly related to specific individuals are large scale events such as natural disasters and COVID-19. Natural disasters range anywhere from forest fires to hurricanes and tornadoes and these can have great influence on a person's feelings of loneliness but also their clear social isolation. Every year, natural disasters displace millions of people worldwide from their homes, and cause many deaths. This can sometimes result in a person not only completely losing their social circles and families, but also their homes, forcing them to adapt to new places and new people very quickly. In these situations, feelings of loneliness can quickly spike, causing physical health effects induced by loneliness and social isolation to occur. Additionally, COVID-19 induced social isolation everywhere because of the world-wide quarantine requirements that were being put in place at the time. As a result, in person social communication was greatly reduced and feelings of loneliness were at an all time high.[5]

Social isolation has been identified as a significant risk factor for coronary heart disease (CHD) and increased mortality, potentially mediated through inflammatory markers such as C-reactive protein (CRP). This relationship was explored in a nested case-cohort study involving 2,321 adults aged 40-75 years in southeastern New England, all of whom had no prior history of myocardial infarction at the beginning of the study. Through comprehensive interviews and baseline serum samples, the study assessed health, psychosocial factors, demographics, and behaviors, with participants categorized into the least and most socially integrated groups based on marital status, contact frequency with friends and relatives, religious affiliation, and community group participation. Over a 15-year follow-up period, findings revealed that individuals with lower levels of social integration had significantly higher odds of elevated CRP levels and CHD mortality compared to their more socially integrated counterparts. Even after adjusting for age, BMI, income, and traditional cardiovascular risk factors, the association between social isolation and CHD mortality remained robust. Elevated CRP levels, associated with chronic inflammation, further heightened the risk of CHD death. These findings highlight the importance of social integration as an independent risk factor for both elevated CRP and CHD mortality, highlighting the potential of enhancing social connections to mitigate CHD risk and improve overall health outcomes.[6]

Loneliness and social isolation have varying effects on a person's physical health outcomes but the outcomes that arise can be very detrimental to an individual's health. One thing to note is that with a lot of physical health outcomes in correlation with loneliness, a dose-response relationship is observed. A dose response relationship is essentially when increasing levels of exposure to one thing are associated with increased/decreased risk of an outcome. In this case, the more lonely a person feels and the more socially isolated they are, the worse their physical health outcomes will be. Loneliness has been shown to exhibit a

dose-response relationship with cardiovascular health risk in young adulthood. When people had an increased feeling of loneliness, they had a higher number of cardiovascular health risks. One study showed that aspects of loneliness accelerated the rate of blood pressure increase over a 4 year period. There are varying levels of dose responses, and they can be categorized into low, medium, and high. A low dose means minimal social isolation or occasional feelings of loneliness might have a limited impact on an individual's mental and physical health. A medium dose means increasing levels of social isolation or more frequent loneliness can lead to noticeable physical effects in a person's body, but also mental effects such as heightened stress, anxiety, or mild depression. A high dose means chronic or severe social isolation and persistent loneliness can have profound and serious health consequences, including severe depression, cardiovascular issues, weakened immune system, and even higher mortality rates. Typically, dose response relationships are seen in longitudinal studies because of the various levels they can be represented in. A person's dose amount will increase or decrease with time. Understanding the dose response relationship can help people be more aware of how they are spending their time and may help in reducing the negative effects of loneliness and social isolation.[7]

Conclusion

In summary, being aware of outside risk factors that could potentially lead to social isolation or loneliness is important in order to prevent the possibility of ensuing physical effects that may be negative for a person's health. Additionally, understanding the differences between loneliness and social isolation is crucial when trying to look for solutions for either, because they both will have different interventions. This review demonstrates that both conditions can lead to severe physical health issues, such as coronary heart disease (CHD), decreased life expectancy, and other significant complications.

The application of the Social Ecological model highlights how various risk factors can increase the negative health effects of loneliness and social isolation. Additionally, this paper identifies a dose-response relationship, where increased levels of loneliness and social isolation correlate with worsening physical health outcomes.

Overall, this research emphasizes the need for more focused attention on the physical health implications of loneliness and social isolation, particularly in vulnerable populations. Addressing these social conditions through targeted interventions and policies could potentially improve public health outcomes and reduce the burden of related diseases.

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