

# The Impact of Isolation on Mental Health during the COVID-19 Pandemic

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## Abstract

The unintended consequences of appropriate public health interventions during an infectious disease outbreak such as isolation and quarantine of exposed individual include depression, anxiety, exacerbation of pre-existing mental illness, cardiovascular illness, and dementia. Populations that may be especially at risk for mental health consequences of isolation include children and adolescents, the elderly, people with cognitive disorders such as dementia, and those with preexisting psychiatric illness. Awareness of these dangers of necessary public health responses and allocation of resources for interventions when populations are under a lockdown should be a mandatory part of emergency planning.

## Keywords

Isolation, Quarantine, Mental Health, Depression, Vulnerable Populations, Pandemic, COVID-19

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## 1. Introduction

All emergencies and disasters can lead to short and long-term mental health consequences. In a pandemic, one of the public health measures to protect individuals and prevent the spread of disease is isolation of people who are exposed to the disease, and the use of quarantine. The terms of social distancing, isolation, lockdown, and quarantine pertain to those in the general population to prevent exposures to infectious disease, those who have had an exposure, and those who are actively infected. These measures can have the unintended consequence of causing emotional and mental distress. According to the World Health Organization (WHO), mental health has been under-recognized and under-responded-to during the COVID-19 pandemic (WHO, 2021). Prior to the current pandemic, the burden of worldwide mental health conditions was high

with an estimated 971 million people suffering from a mental health disorder in 2017 compared to 916 million people in 2012. One lethal consequence has been the yearly loss of over 800,000 people to suicide; the second leading cause of death in 15 to 29-year-olds (WHO, 2021). The WHO's rapid assessment survey from June through August of 2020 of the impact of the COVID-19 pandemic on noncommunicable disease services revealed a complete or partial disruption of mental health management services in 93% (121/130) of surveyed countries. People with pre-existing mental health disorders struggled with exacerbations of their symptoms and many tried to cope by escalation in addictive behaviors such as alcohol, drugs, video gaming and gambling. Deaths from drug overdoses jumped by 30% during the COVID-19 pandemic with more than 93,000 deaths in the United States in 2020 (CDC, 2021). There are cultural differences to the manifestation and response by sufferers, their families, and health providers to the diagnoses of mental health conditions (Bredström, 2019; Tiwari & Wang, 2008). Interventions and planning must also consider cultural norms of different populations.

## 2. Methods

This commentary summarizes recent scoping and systemic reviews on the mental health effects of isolation. The following search terms were linked with mental health: isolation, quarantine, depression, vulnerable populations.

## 3. Discussion

Social isolation can affect different groups in society in different and specific ways. In one scoping review of 25 studies by Henssler et al., individuals in quarantine during the COVID-19 pandemic experienced increased depression, anxiety, and anger (Henssler et al., 2021). Populations that may be especially at risk for mental health consequences of isolation include children and adolescents, the elderly, people with cognitive disorders such as dementia, and those with preexisting psychiatric illness. Social relationships can influence health (House et al., 1988). A longer life is linked to social ties with friends and family. Social relationships including physical contact can reduce stress through the healthy development of immune, metabolic, and autonomic nervous systems, as well as the hypothalamic-pituitary-adrenal (HPA) axis (Taylor et al., 1997). The psychosocial mechanisms of improved health are complex and include social support, personal control, symbolic meanings, and mental health (Umberson & Montez, 2010). Premature mortality, depression, cardiovascular disease, and cognitive decline are all associated with social isolation and loneliness (Smith & Lim, 2020).

Social isolation can be defined as the “inadequate quality and quantity of social relations with other people” ranging from the individual to the community level (Zavaleta et al., 2014). The various components of social foundation that reduce isolation include social support, social network, social capital, and con-

finding relationships (Wang et al., 2017). Five dynamic domains for a conceptual model of social isolation include quantity, quality, emotional support, and resources (Wang et al., 2017). These concepts can then be used to understand what parts of social engagement have been lost during a period of enforced isolation as occurs in a pandemic emergency. Identifying the particular deficits can help fashion a targeted response and intervention for each person.

Another systematic review by Loades et al. of 83 articles on the impact of social isolation and loneliness on the mental health of children and adolescents reported a high rate of depression and anxiety during and after enforced isolation (Loades et al., 2020). Twenty percent experienced severe isolation and 30% had needed mental health service input. Odds ratios for depression in children ranged from 5.8 to 40. The most frequent mental health diagnoses included acute stress disorder (16.7%), adjustment disorder (16.7%), and posttraumatic stress disorder (6.2%) (Loades et al., 2020). Isolation is particularly dangerous for adolescents during the time of peer-group identity formation (Brown et al., 1986). The length of loneliness was a reported predictor of mental health concerns in the future (Loades et al., 2020; Brown et al., 1986).

Elderly people are at particular risk for escalating cognitive and physical decline when they are isolated (Ishikawa, 2020). Depression and cardiovascular effects are significant outcomes (Courtin & Knapp, 2017). Cognitive decline and dementia are significant consequences of loneliness in the elderly (Landeiro et al., 2016). Prior to the COVID-19 pandemic, an estimated fifty percent of people over sixty years of age were at risk of social isolation. During the quarantines imposed because of the COVID-19 pandemic, this figure has greatly increased to greater than 50% (Hwang et al., 2020).

Populations with baseline depression, stress, and substance abuse are at elevated risk of suicide when isolated during the pandemic (Sher, 2020). Confinement and isolation for greater than one week increased depressive disorders (Odds Ratio (OR) 2.795), anxiety disorders (OR 2.0) and stress-related disorders (OR 2.742) (Henssler et al., 2021).

Given the significant impact on mental health, interventions should be mandatory for all vulnerable groups in society. Interventions may differ depending on the populations involved. Interventions for children and adolescents that reduced depression included intensive peer-based mentoring during isolation (Larsen et al., 2019). Helping older adults require various components including personnel, digital access, delivery of food, games, and other resources (Fakoya et al., 2020). Interventions include the use of psychological first aid and skills for psychological recovery (Saltzman et al., 2020). Another program linked young adults and adults of extreme age which allowed healing intergenerational connections and mental health recovery (Beam & Kim, 2020). Other interventions include simple physical movement such as walking. One review identified the increased mental health benefits of walking (Kelly et al., 2018). One review has outlined tips for preventing illness and depression from isolation and include the following: 1) Spend more time with family; 2) Maintain social connections with

**Table 1.** World Health Organization Mental Health Action Plan.

World Health Organization Mental Health Action Plan*
80% of countries developing or updating their policy for mental health by 2030
Mental health integrated into primary health care services by 80% of countries – and increased mental health service coverage by 50%
80% of countries with at least two national mental health promotion and prevention programs
Reducing the rate of suicide by one third
80% of countries with a system for mental health and psychosocial preparedness for emergencies
Doubling the output on global research on mental health

Adapted from: [https://apps.who.int/gb/ebwha/pdf\\_files/EB148/B148\\_7-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/EB148/B148_7-en.pdf).

technology; 3) Basic needs must be addressed; 4) Structure every day; 5) Maintain physical and mental activities; 6) Pursue outdoor activities; 7) Manage mood, emotional responses, and thoughts; 8) Pay attention to psychiatric symptoms; 9) Older people with dementia and their caregivers need special attention (Hwang et al., 2020).

The WHO has proposed a mental health action plan which will focus on universal health coverage, mental health of children, mental health across the life course, workplace mental health and suicide prevention (WHO, 2021). **Table 1** summarizes the new global targets for 2030.

#### 4. Conclusion

In summary, isolation and loneliness can be lethal. In a national and global infectious disease disaster such as COVID-19, public health measures such as social distancing and quarantine have the danger of triggering anxiety, depression, cognitive decline, and suicide. Awareness of these dangers of necessary public health responses and allocation of resources for interventions when populations are under a lockdown should be a mandatory part of emergency planning.

#### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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