



Factors impacting mental health outcomes for at-risk populations during the COVID-19 pandemic

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ABSTRACT

In response to the COVID-19 global health crisis, numerous public health measures have been implemented to reduce the spread of COVID-19. Psychological distress and symptoms of mental illness have emerged among the global population following the outbreak of COVID-19 as a consequence of both the disease-related stress and a repercussion of mass quarantine and protective measures. Health-care workers are facing a significant mental impact in addition to the daily risk of being affected by the physical spread of the viral infection while the exacerbation of symptoms of psychological distress is a primary concern amongst individuals with pre-existing psychiatric disorders during the COVID-19 pandemic. The ongoing COVID-19 pandemic has had a significant psychological impact on the general population as well as for different at-risk groups. This review discusses the mental conditions prevalent among populations during the ongoing COVID-19 pandemic and addresses the role of risk and protective factors against the exacerbation or potential to develop psychiatric disorders in different at-risk groups.

Keywords: *COVID-19; health-care workers; mental health; quarantine; telemedicine*

INTRODUCTION

In December of 2019 in the province of Wuhan, China, a new coronavirus (COVID-19) was discovered originating from a series of unexplained cases of pneumonia caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1, 2). COVID-19 has rapidly reached the level of a pandemic with over 3.2 million cases worldwide and close to 990,000 deaths as of September 26th, 2020 as reported on *Google News*. In response to this global health crisis, numerous public health measures have been implemented to reduce the spread of COVID-19 (1). Widespread infectious diseases have been associated with mental health issues in the past, a notable example being the SARS (Severe Acute Respiratory Syndrome) outbreak in 2003 (3). Similarly, psychological distress and symptoms of

mental illness have emerged among the global population following the outbreak of COVID-19 as a consequence of both the disease-related stress and a repercussion of mass quarantine and protective measures (2). This review discusses the mental conditions prevalent among populations during the ongoing COVID-19 pandemic and addresses the role of risk and protective factors against the exacerbation or potential to develop psychiatric disorders in different at-risk groups (Table 1).

Health-care Workers

In the ongoing COVID-19 pandemic, health-care workers are facing a significant mental impact in addition to the daily risk of being affected by the physical spread of the viral infection. (3). One survey

found the prevalence of psychosocial problems in up to 23% of health-care workers. Health-care workers report diverse mental health conditions including mild (16.09%) to severe anxiety (2.17%), stress disorder (27.4–71%), depression (50.4%), insomnia (34.0%) (4), and depersonalization (38.9%) (5). Frontline health-care workers were found to be more prone to the development of these mental health conditions in addition to general emotional exhaustion and burnout from the sheer amount of daily patient contact (4). It was reported that up to 43.3% of health professionals predict their need for psychological treatment in the future. In the heightened times of COVID-19, 85.4% of healthcare workers reported that the shortage of protective gear and equipment are factors which contributed to the rise in stress and anxiety (5). Pre-existing factors such as psychological resilience, emotional resources such as social/familial support and preparedness were predictors of improved mental health outcomes for healthcare workers (3). Counselling and support teams, online platforms for medical assistance, and leisure activities such as yoga, meditation and exercise, were put in place in various health systems in an effort to battle psychological distress among healthcare professionals (4).

Individuals with pre-existing psychiatric disorders

The exacerbation of symptoms or higher levels of psychological distress is a primary concern amongst individuals with pre-existing psychiatric disorders during the COVID-19 pandemic. Relapse of pre-existing mental health conditions were seen throughout the duration of the viral outbreak due to the increased stress associated with the situation in addition to the decreased availability of regular medication and therapy (6). The adjustment to a new normality of being cautious and fearful of infection is a factor in the psychological deterioration in individuals. Stress brought on by the ongoing pandemic has evidently been a factor in the aggravation of symptoms in people with schizophrenia and bipolar affective disorder. Those with obsessive-compulsive disorder (OCD) may suffer a relapse into a washing compulsion from the repeated advice on improving personal hygiene measures (3, 6). Individuals who suffer from autism spectrum disorders (ASD) are likely to become more vulnerable to risks due to sudden and difficult changes. According to a study done on ASD

individuals, 35.5% and 41.5% of children presented with more intense and frequent behavior problems (7). Depressive symptoms may be more prevalent both as a direct result of the COVID-19 pandemic and indirectly from the social isolation as part of the community response in controlling viral infection (6). Lockdown interferes with the normal daily routine, social rhythm, thereby increasing stress levels and the exacerbation of depressive symptoms, generalized anxiety disorder, chronic insomnia, and suicide (6). The consequential inability to work, declining finances and long-term economic impact will have a negative effect on both individuals with emerging and pre-existing mental health disorders (6). With increased difficulties in coping with complex changes in day-to-day activities it is vital that individuals are offered adequate and timely support. Positive mental health was associated with the adoption of coping strategies which are forward-looking and with a greater adherence to national health-protection guidelines (8). Online psychological counseling services have been established to provide free 24-hour services including online cognitive behavioral therapy for depression, anxiety and insomnia. Artificial intelligence programs have been built to monitor and analyze various media content for suicidal ideation and designate volunteers to act accordingly. The implementation of available and user-friendly telehealth programs could be useful in the treatment of individuals with pre-existing mental conditions and those prone to their development (9).

Discharged Patients

The effect of COVID-19 extends beyond physical affliction amongst discharged patients as mental health consequences following COVID-19 continue after discharge and physical health recovery. Although symptoms for a viral infection may no longer be evident, the fear of re-infection could heighten feelings of depression, anxiety, and PTSD for these individuals (10, 11). In a previous study on subjects after their recovery from SARS, a significant percentage of individuals reported PTSD, persistent psychological distress, and diminished social functioning in the 4 years after their treatment (12). In a cross-sectional survey of discharged patients, COVID-19 symptoms after discharge were reported to be significant risk factors for depression and anxiety. Moderate to severe depression and anxiety was reported in 19% and 10.4% of subjects included

in the study, respectively (10). Symptoms including cough, fatigue, and chest distress were significant for PTSD and depression (10, 11). Other factors in addition to clinical symptoms after discharge which were found to correlate with depressive symptoms include family members diagnosed with COVID-19 and higher disease severity (11). Another perspective to take into account is the social stigma and perceived discrimination that may exacerbate psychological and emotional distress in which discharged patients may fear discrimination from their peers and their community (11, 10). Previous studies on SARS demonstrated that fear of infection tends to cause people to avoid discharged patients (10, 12). In a study to investigate perceived discrimination, it was found that there are individuals who were verbally abused, rejected by their family and community, and had their family rejected by neighbors (10). This sense of isolation created by discrimination seems to be partly responsible for symptoms of mental conditions. On the other hand, studies have reported protective factors against depression including frequent social media use and high level of resilience (11). Public education aimed at reducing stigma and discrimination are important in helping to improve the mental health of individuals who are returning to their life after their recovery from the physical impacts of COVID-19 (10).

Individuals in Quarantine

Quarantine and social distancing has been put in place as preventative measures aimed at containing infectious diseases as the number of COVID-19 patients continue to rise. Studies have reported mental repercussions to implementing this measure, reporting the impact of isolation and loneliness on the mental health of individuals starting from and up to 9 years after enforced isolation (13). Individuals isolated at the initial stages of outbreak reported unfavorable mental outcomes following the quarantine period. Studies reported significant levels of anxiety (33.3%), stress (28.5%), and depression (46.92) among subjects in home-quarantine (14, 15). Anger and irritability were prevalent in up to 57% of individuals. (14). Various mental symptoms were also reported across study samples including confusion, low self-esteem, vigilant handwashing, fear, mood alteration, insomnia, loneliness, and avoidance of social gatherings (14). It has been predicted that the COVID-19 pandemic is likely to

elevate substance use as Individuals may turn to substance use as a coping mechanism to help lessen stress and anxiety (3). A number of psychosocial factors including social exclusion, neglect, fear of infection, financial uncertainty, inadequate food supply, and the absence of recreational activities were reported to have a negative impact on the mental health of individuals in quarantine (14, 15). With the initiation of social distancing, changes to the daily routine and activities are inevitable. Face-to-face contact with people is limited in order to ensure the safety of people. As limiting social interactions and confinement has been shown to lead to psychiatric morbidity, strategies to battle psychological deterioration is crucial. Maintaining connections with social media and internet-based applications has been shown to be an alternative to staying connected with family and friends. Other preventative measures include maintaining physical and mental activities and spending time outdoors while keeping in mind the rules and safety regarding social distancing (16).

Elderly population

Older adults are more vulnerable at the onset of a crisis and this can be applied to the events of COVID-19. Unlike younger populations, older adults may suffer from an underlying health condition and are at higher risk of infection. This is especially true for those suffering from cognitive dysfunction (17). Individuals living with dementia have restricted access to relevant information about the COVID-19 pandemic and remembering safeguard procedures such as public health information can prove to be a challenge for them. Consequently, unintentionally disregarding warnings and standard preventative measures could expose them to higher risk of infection (18). With compromised adaptive functions, the pandemic may aggravate existing negative emotions, behavioral and psychiatric symptoms further impairing daily functioning and cognition (16, 17). Due to the dependency on in-person support and little knowledge of telecommunication, these individuals may feel lonely, withdrawn, and abandoned. To protect the older population, visitors are being banned from nursing homes and long-term care facilities. Gatherings within nursing homes were also prohibited. This continual isolation has resulted in the exacerbation of anxiety, fear of infection, panic, adjustment disorders, insomnia, and chronic

stress (18, 19). After a month of lockdown, individuals were reported to develop signs of exhaustion and burnout (18). Acknowledging that people living with dementia have limited knowledge of telecommunication and difficulties with social distancing, caregivers should give clear and straightforward instructions on protective measures (16).

Conclusions and future perspectives

The ongoing COVID-19 pandemic has had a significant psychological impact on the general population as well as for different at-risk groups. The long-term mental health consequences of the pandemic are unprecedented, necessitating effective and immediate interventions from healthcare systems worldwide. Common factors contributing to improved mental health outcomes among at-risk groups include psychological resilience, adopting coping strategies, and maintaining social connectedness. Counselling and support teams, online platforms for medical assistance as well as leisure activities such as yoga, meditation and exercise have been implemented in various health systems to foster mental well-being (4). 24-hour free services of online psychological counseling were also established to help battle depression, anxiety and insomnia. Modern technology has allowed for artificial intelligence programs to be built to monitor and analyze various media content for suicidal ideation (9). Future research should be focused around the effectiveness of these programs, in maintaining social connectedness through isolation, and into the methods of disseminating these preventative measures.

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