

Uninfected but not Unaffected: The COVID-19 Stress could Worsen the Outcome of Underlying Diseases

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Abstract

The recent pandemic of coronavirus disease 2019 (COVID-19) has a huge psychological burden, either in infected or uninfected individuals and their families, medical staffs and health care workers. Recent reports revealed various psychological distress, such as anxiety, depression, and insomnia among the general population and health care workers. Furthermore, psychological distress is associated with immune dysregulation that consequently intensify underlying diseases or augment the risk of other diseases, such as cardiovascular disease, infectious disease and cancer. Therefore, efficient interventions for coping with the psychological impacts of this pandemic disease should be more considered for health authorities.

Keywords: COVID-19 • SARS-CoV-2 • Psychological impacts • Pandemic • Stress • Anxiety • Depression

COVID-19: Emerging Infection with Emerging Sequels

On March 11, 2020, the World Health Organization (WHO) announced that the COVID-19 is a pandemic crisis [1]. Besides the direct impact of the infection in affected people, the disease has a huge psychological burden, either in affected or non-affected regions. While, the governments and health authorities of different countries dedicated different preventive policies for their citizens, including travel restrictions, quarantine facilities as well as recommendation for restriction of unnecessary commuting and enhance personal hygiene. As recently reviewed [2], quarantine and city lockdown have various psychological impacts (e.g. confusion, anger, and post-traumatic stress symptoms) and different stressors intensify these impacts, such as duration of quarantine, infection fears, boredom, frustration, financial loss, inadequate information and supplies and stigma [2]. These actions, as well as facing with many gossip and rumors in the internet and social media led to decline the quality of life and have various psychological impacts [3,4].

Sequels of the COVID-19 in uninfected individuals

It has shown that the COVID-19 has different consequences on uninfected individuals. A recent online survey in 194 cities in China revealed that more than half of the respondents (53.8% out of 1210 respondents) conveyed moderate-to-severe psychological symptoms, nearly one-third (28.8%) described moderate-to-severe anxiety, 16.5% stated moderate-to-severe depressive symptoms and 8.1% conveyed moderate to severe stress levels. Indeed, 84.7% of the respondents spent about 20–24 hours

per day at home. Greater psychological impact was reported for females and students as well [5]. A systematic review and meta-analysis assessed the effects of the COVID-19 fear on psychological and mental traits of medical staff and the general population, included 62 studies (162,639 participants) from 17 countries [6]. The results revealed that the pooled prevalence of depression and anxiety was 28% (95% CI: 23%-32%) and 33% (95% CI: 28%-38%), respectively [6]. Another Systematic review revealed a high rate of psychological symptoms, including depression (14.6% to 48.3%), anxiety (6.33% to 50.9%), stress (8.1% to 81.9%), post-traumatic stress disorder (7% to 53.8%) and psychological distress (34.43% to 38%) among general population during the COVID-19 pandemic [7] studies in pregnant women indicated that the fear of COVID-19 increased risk of depression and anxiety [8-10] (Table 1).

It is well documented that psychological distress is linked to immune dysregulation and consequently increased the risk or intensify the severity of other diseases, such as cardiovascular disease, infectious disease and cancer [11]. In pregnant women, psychological distress can augment maternal inflammatory biomarkers which consequently influence on neural growth of the fetus [12]. This condition can raise the risk of neurodevelopmental disorders in offspring, such as Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD) [13]. Hence, efficient interventions for coping with the psychological impacts of COVID-19 should be recommended for citizens and especially for health care workers and pregnant women. Health authorities should design policies to mitigate psychological impacts of COVID-19.

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Study objective and setting	Main findings	Reference
Systematic review and meta-analysis regarding psychological and mental impact of the COVID-19 on medical staff and general population. Included articles were between 1 Nov 2019 to 25 May 2020.	62 studies with 162,639 participants from 17 countries were included. The pooled prevalence of anxiety and depression was 33% (95% CI: 28%-38%) and 28% (95% CI: 23%-32%), respectively. The most common risk factors were being women, being nurses, having high risks of contracting COVID-19, having lower socioeconomic status, and social isolation. Protective factors included accurate and up-to-date information, having sufficient medical resources, and taking precautionary measures.	[6]
Systematic review regarding psychological outcomes of COVID-19 on general population and its associated risk factors. Included articles were from inception to 17 May 2020.	19 articles were included. A high rates of psychological symptoms, including depression (14.6% to 48.3%), anxiety (6.33% to 50.9%), stress (8.1% to 81.9%), post-traumatic stress disorder (7% to 53.8%) and psychological distress (34.43% to 38%) were reported in the general population during the COVID-19 pandemic in China, Italy, Spain, Iran, the US, Nepal, Turkey, and Denmark. Risk factors associated with distress were included younger age group (≤ 40 years), female gender, unemployment, presence of chronic/psychiatric illnesses, student status, and frequent exposure to social media and news regarding COVID-19.	[7]
Psychological influence of the COVID-19 on pregnant women		
To investigate the effects of the COVID-19 on depression and anxiety among Turkish pregnant women. Online questionnaire survey.	35.4% of the case group (N=92) obtained scores higher than 13 on the Edinburgh Postpartum Depression Scale (EPDS) which indicated a statistically significant effects of the COVID-19 on psychology, social isolation, and mean scores in the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI).	[8]
To examine the effect of COVID-19 fear on mental health, and preventive behaviors of Iranian pregnant women and their husbands. Cross-sectional study of 290 pregnant women and their husbands (N=580)	The findings demonstrated significant effect of fear of COVID-19 with depression, suicidal intention, mental quality of life, and COVID-19 preventive behaviors among the pregnant women and their husbands.	[9]
To investigate the symptoms of depression and anxiety and determination of associated factors with psychological distress among Canadian pregnant individuals during the current COVID-19 pandemic. Cross-sectional study of among 1987 pregnant participants (April 2020).	Prevalence of depression and anxiety were 37% and 57%; which substantially elevated these rates compared to similar pre-pandemic pregnancy cohorts	[10]

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

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