



Mental Health Challenges among Post-Pandemic Populations: A Multidisciplinary Analysis

Nasir Jamal ^a

^a Medical Officer, Type D Hospital Yarhussain, Pakistan nsrjml138@gmail.com

Correspondence: Nasir Jamal (nsrjml138@gmail.com)

Received: 5 June 2025 | **Revised:** 20 June 2025 | **Accepted:** 8 July 2025

ABSTRACT

The COVID-19 pandemic has not only impacted physical well-being, but also the mental one, leaving a complicated structure of psychological problems that are still present among the world populations. The present work relies on the secondary information gathered in the peer-reviewed literature, the world health reports, and the clinical surveys to investigate the prevalence of post-pandemic mental healthcare problems, their nature, and their determinants. The results reveal that there is a strong rise in anxiety, depression, post-traumatic stress disorder (PTSD), and sleep disturbances among the various age groups and socio-economic backgrounds. Some of the contributing factors are long-term social isolation, economic instability, loss grief, daily routine disruption, and an increase in uncertainty regarding the future. There is also an indication that the vulnerable groups such as healthcare personnel, elderly, and people with pre-existing mental illness are overly impacted. To deal with short- and long-term effects of the pandemic-induced psychological distress, it is recommended to use multidisciplinary interventions that would include psychological support, community engagement, telehealth services, and policy-level mental health planning. This paper highlights the importance of international concerted efforts to reduce the mental health impact of post-pandemic societies.

Keywords: Mental Health, COVID-19, Post-Pandemic Stress, Anxiety, Depression, Multidisciplinary Interventions.

INTRODUCTION

The mental health of the entire world has never been challenged as much as it is during the COVID-19 pandemic as millions of the population of all demographics are under threat. In addition to the direct danger of being infected by the virus, social, economic, and psychological consequences of the pandemic have also become a significant contributor to a significant rise in mental health disorders globally. According to reports by the World Health Organization (WHO, 2022) and international surveys, there are high levels of anxiety, depression, post-traumatic stress disorder (PTSD), and sleeping problems in the general population. The lockdowns, quarantine, and physical distancing as a significant factor in the increased challenges of mental health management as they disrupt the normal social processes and undermine the social support systems that are critical in the face of emotional resilience (Brooks et al., 2020). Moreover, insecurity in the economy and losing jobs and financial difficulties faced during the pandemic have increased stress and psychological pressure, especially against low-income and marginalized groups (United Nations, 2020).

Healthcare personnel has been one of the most severely impacted and experienced elevated burnout, emotional fatigue, and moral distress as a result of a long time working in high-risk areas and heavy workloads (Lai et al., 2020). Likewise, the elderly, people with underlying psychiatric issues, and solo

residents have been affected disproportionately, and the literature of the deterioration of depression, cognitive ability, and increased loneliness was reported (Armitage and Nellums, 2020). These challenges were exacerbated by the interference with normal healthcare including mental health services, leaving most people without proper care. According to secondary data of clinical and population-based research, these psychological effects are most likely to continue during the post-pandemic phase, which may impose a long-term burden on the overall health of the population (Vindegaard and Benros, 2020).

Besides the individual factors, society- and structure-based determinants have been very critical in determining the mental health outcomes. Resilience and coping strategies at a population level have been affected by public health messaging, confidence in government response, and telehealth services and community support systems (Galea et al., 2020). The mental health outcome differences have been noted between the high-income and the low- and middle-income nations that are characterized by disparity in healthcare infrastructure, social safety netting, and cultural approaches toward mental illness. As a result, future efforts to deal with post-pandemic mental health must use a multidisciplinary approach that incorporates clinical psychology, psychiatry, public health, social policy, and community interventions.

This research is aimed at synthesizing secondary data on mental health problems that arise in the post-pandemic era, examining the factors and risk, and outlining how multidisciplinary interventions can help reduce the prevalence of psychological distress. This study will give recommendations to policymakers, caregivers and community agencies in developing successful mental health initiatives by looking at the various trends around the world and the disproportionate effects on vulnerable groups. This study has the importance of informing the strategies that encourage psychological resilience, decrease mental disorder burden in the long run, and support the general well-being of populations that have to overcome the post-pandemic world.

LITERATURE REVIEW

The psychological toll of the COVID-19 has been generally acknowledged as one of the most acute challenges of the 21st century in terms of public health. There has always been an evidence of high degree of anxiety, depression, post-traumatic stress disorders (PTSD) and sleeping problems in many segments of the population as studies that have been carried out in different countries have always demonstrated. According to Rajkumar (2020), the psychological burden does not only apply to the individuals who were infected with the virus, but it also applies to the general population who are exposed to extended social isolation, economic uncertainty and media news of morbidity and mortality levels. It has been shown that social isolation under lockdowns and quarantine conditions derailed the regular social support networks, which are key to psychological resilience, contributing to the worsening of loneliness, hopelessness, and emotional distress (Brooks et al., 2020). Longitudinal studies also provide secondary data that indicate that those who have undergone prolonged periods of confinement do not recover mentally in the long-run, which points to the long-term nature of psychological implications of the pandemic (Xiong et al., 2020).

Unemployment and economic instability have been also cited as one of the significant causes of psychological distress in the pandemic. According to reports provided by United Nations (2020), there was a large-scale loss of jobs and reduction of income that over burdened the low-and-middle-income households leading to increased stress and symptoms of depression. Not only did financial strain elevate anxiety in the face of the immediate survival needs but it also led to an even greater feeling of insecurity about the future, which led to heightened vulnerability in the mental health. As literature shows, socio-economically disadvantaged populations were more vulnerable to poor psychological outcomes, and structural inequalities complicated the fact that the pandemic led to mental health issues (Banks and Xu, 2020). Additionally, the financial instability, combined with other stressors, including the caregiving burden and homeschooling during lockdowns, only contributed to the stresses and burnouts of families and women reported higher levels of stress and burnout than men (Fegert et al., 2020).

The healthcare workers became one of the most vulnerable populations of the pandemic. Medical professionals were exposed to high rates of burnout, anxiety, depression, and PTSD due to high levels of occupational stress, fear of infection, moral dilemmas, and patient suffering (Lai et al., 2020). According to secondary studies, frontline workers, especially those working in intensive care units, had experienced chronic stress because of the long working hours, the lack of personal protective equipment (PPE), and the emotional burden due to death of patients. Also, healthcare professionals were sharing higher levels of insomnia and somatic complaints and that undermined their psychological health and effective performance (Pappa et al., 2020). The use of institutional support, counseling services, and peer support programs was observed to alleviate the effects of psychological distress to a certain degree, yet the lack of resources and personnel in the system hampered the overall application (Chen et al., 2020). The psychological toll of healthcare workers highlights a necessity to plan and develop occupational mental health initiatives, which can support workforce resilience during international health emergencies, on the policy level.

Elderly and people with a pre-existing mental health condition have been determined to be especially vulnerable to the psychological impacts of the pandemic. Older populations were disproportionately impacted by social isolation, routine disturbance, and decreased access to healthcare services, which resulted in greater levels of depression, cognitive impairment, and anxiety (Armitage and Nellums, 2020). Similarly, patients who had previous psychiatric diagnoses of anxiety disorders, depression, or schizophrenia were found to have their symptoms worsened by the lack of continuity of the treatment process and the inability to receive in-person treatment (Gonzalez-Blanco et al., 2020). The important intervention was telehealth services, which ensured continuity of care delivery among such populations, and the studies revealed moderate effectiveness in decreasing the severity of symptoms and enhancing treatment adherence (Wind et al., 2020). Nevertheless, not all older adults and low-income individuals could receive mental health services due to the inequalities in digital access and technological literacy, which are also indicators of inequity.

Scarce challenges also confronted adolescents and children in the pandemic. School suspensions, social isolation, and lack of opportunities to have fun broke developmental patterns, which precipitated stress, irritability, and depressive symptoms (Loades et al., 2020). According to secondary sources, the long-range online schooling was linked to increased anxiety and lower social competence, because young people had difficulties in keeping their social lives and academic activity at a distance (Golberstein et al., 2020). Moreover, children living in vulnerable families were exposed to the increased level of stressors in the family (parental conflict and financial strain), which adversely impacted their emotional and behavioral outcomes (Patrick et al., 2020). The literature points to the fact that early interventions, such as school-based counseling, family support programs and organized social engagement opportunities are necessary to counteract the long-term psychological impacts on younger communities.

The topic of the role of media and information dissemination in the pandemic has also been actively studied. The ongoing news reports and misinformation about the pandemic led to the development of anxiety, fear, and uncertainty in the general population (Garfin et al., 2020). Secondary sources demonstrate that an abundance of negative news cycles and conflicting information may worsen psychological distress and that correct, clear, and constant communication by health authorities may enhance coping strategies and preventive behavior among the population (Cuan-Baltazar et al., 2020). The role of mental health literacy campaigns to educate populations on stress management, coping measures, and the need to seek professional assistance also has been mentioned in literature as effective interventions to reduce the prevalence of pandemic-related psychological distress (Singh et al., 2020).

Mental health is also affected by social and structural factors, which exacerbate the effect of the pandemic. The population-level mental health outcomes are a result of disparities in healthcare access, socio-economic disparities, and structural vulnerabilities (Galea et al., 2020). As an example, the uniformly stressed communities were forced to endure more stress because of the lack of access to testing, healthcare services, and social safety nets, leading to an increased prevalence of depression,

anxiety, and post-traumatic stress (Horesh & Brown, 2020). According to cross-national research, it was observed that the national results in terms of psychological outcomes in the population during the pandemic were comparatively better in countries that had more developed social support systems, universal healthcare coverage, and indexed proactive mental health policies (OECD, 2021). The results highlight how a multidisciplinary intervention involving the provision of mental health, social policy, economic support, and planning of health services is needed to manage the psychological problems of the post-pandemic period.

A number of evidence-based approaches to addressing post-pandemic mental health issues have been found in the literature. Cognitive-behavioral therapy (CBT), mindfulness-based stress reduction, and tele-counseling are among the psychological interventions that have proven to be effective in decreasing anxiety symptoms and depression symptoms (Ho et al., 2020). Community-based initiatives, peer support networks, and social engagement programs are found to foster resilience and social connectedness particularly in those groups that are isolated, vulnerable, and connected (Wind et al., 2020). Increased funding to mental health services, inclusion of mental health into primary healthcare, and public awareness campaigns are policy-level interventions that are critical in ensuring mental health support is maintained at the population level (Pfefferbaum & North, 2020). This is supported by literature that indicates that an individual therapy, community involvement, technological advancements, and policy changes need to be integrated into a structured multidisciplinary and multilevel intervention to address the issues of mental health challenges in both the short- and long-term effects of the pandemic.

Conclusively, the literature underlines that mental health issues that follow the pandemic are widespread, multifactorial, and are probably not to end with the immediate crisis. At risk groups such as healthcare providers, elderly individuals, children and patients with an underlying mental illness are overrepresented. Psychological distress is further aggravated by socio-economic differences, social alienation, broken routines and media-induced fear. The most effective strategy to curb these challenges is the multidisciplinary interventions combining clinical, social, and policy interventions. This review highlights the importance of mental health planning proactively, coordinated, and evidence based in post-pandemic societies by compiling secondary research on the topic across the world.

METHODOLOGY

The proposed study assumes a secondary research method, which means that it will be based on literature sources, governmental reports, and peer-reviewed articles to explore the issue of mental health problems among post-pandemic populations. The adoption of secondary data was informed by the high presence of global and regional research on psychological outcomes and the prevalence of mental health disorders and the effectiveness of interventions in and after the COVID-19 pandemic. The secondary sources were epidemiological surveys, clinical research, meta-analyses, systematic reviews and reports of international organizations like the World Health Organization (WHO), Centers of Disease Control and Prevention (CDC) and the United Nations (UN). This methodology allowed performing a thorough study of mental health dynamics in various groups, making it a global approach and revealing susceptible groups and critical factors of psychological suffering (Rajkumar, 2020; Pfefferbaum and North, 2020).

Databases like PubMed, Scopus, Web of Science, and Google Scholar were also used to collect the necessary data by using such keywords as post-pandemic mental health, COVID-19 anxiety, depression, PTSD, telehealth interventions, and psychological resilience. Inclusion criteria selected studies published in 2020-2023 to focus on the studies occurring within the context of the post-pandemic environment, whereas the seminal works on psychological impact of pandemics were also reviewed to supply the historical background. Non-empirical studies, non-peer-reviewed studies, or studies that had no direct link to the outcomes of mental health during pandemics were filtered out to retain analytical rigor. Also, WHO, CDC, and UN reports of grey literature were included to complement the results of peer review and offer insights of policy relevance.

Thematic synthesis and qualitative content analysis were used to analyze the data. The most important patterns, trends, and common themes concerning the issue of mental health difficulties were found in the literature. Themes were prevalence of anxiety, depression, PTSD, sleep problems, occupational stress among health care workers, effects of social isolation, economic pressures and age, gender and socio-economic group disparities. Evidence-based interventions and multidisciplinary interventions suggested in the literature were also analyzed and incorporated into the results of clinical psychology, psychiatry, social work, community programs, and public health. In such a manner, the study was able to generalize the variety of evidence into a consistent account that reveals the causes, effects, and possible remedies to the mental health issues that might arise after the pandemic (Vindegard and Benros, 2020; Galea et al., 2020).

Although a secondary research provides a comprehensive analysis range, some shortcomings are admitted. The research is based on the data gathered previously which can be different in terms of methodology, sample size, and cultural background, which can be a factor of comparability. Moreover, the quality of research studies in different areas is uneven, and low- and middle-income nations are frequently underrepresented in mental health research, which restricts the extrapolation of the results. Such limitations notwithstanding, secondary research is a reputable and viable strategy of exploring the world mental health patterns, vulnerable groups, and informing evidence-based interventions and policy suggestions.

DATA ANALYSIS AND FINDINGS

The secondary data analysis using peer-reviewed publications, global human health reports, and population surveys shows that the levels of psychological distress among post-pandemic populations are significantly high. The situation caused by the COVID-19 pandemic affected social, economic, and healthcare systems all over the world, providing the environment favorable to anxiety, depression, post-traumatic stress disorder (PTSD), and sleep disturbances (Rajkumar, 2020; Pfefferbaum and North, 2020). The information gathered as the results of various cross-sectional studies indicates that between 20% and 35% of the general population had anxiety, with the rates reported as even higher in countries with longer lockdowns and higher rates of infections (Xiong et al., 2020). The same was true of depression as prevalence estimates of between 18% and 32% depict the prevalent impacts of social isolation, uncertainty, and grief. It is worth noting that young adults and adolescents had been more anxious and depressed, probably because of interrupted education schedules, social isolation, and a future-oriented uncertainty (Loades et al., 2020; Golberstein et al., 2020).

One of the most impacted categories was the medical workers, who struggle with serious psychological difficulties as they are exposed to high-risk healthcare settings over an extended period, higher workloads, and patient deaths. According to studies, about 25-40% of medical workers complained of anxiety and depression-like symptoms, and 10-20% of them had PTSD-like symptoms (Lai et al., 2020; Pappa et al., 2020). Frontline workers in the intensive care units and emergency departments experienced burnout and occupational stress to a very high degree, worsened by the lack of personal protective equipment (PPE), moral dilemma, and fear of infecting the family members. It has been shown that institutional interventions, including counseling services, peer support networks, and structured working schedules, minimally decreased the level of distress, yet the systemic issues like the shortage of staff and high patient loads minimized their effectiveness (Chen et al., 2020).

Elderly people and those who had mental health issues were disproportionately affected psychologically. The alteration of routine, social isolation, and limited access to healthcare services were factors that increased depressive symptoms, cognitive impairment, and anxiety among the older groups of people (Armitage and Nellums, 2020). Patients with previous psychiatric diagnoses also complained that their symptoms deteriorated, which justifies the continuity of care by using telehealth services. Telemedicine turned out to be a vital remedy to address the shortage of services, and its moderate efficiency was associated with symptom control, but the lack of digital literacy and the internet posed challenges to other

vulnerable groups (Wind et al., 2020). School closures, social isolation, and low recreational activities also caused high levels of stress and irritability among children and adolescents. According to secondary sources, such disturbances had adverse effects on emotional growth and social competence and were especially apparent in socioeconomically disadvantaged families (Patrick et al., 2020).

Another important role of socio-economic and environmental determinants in the determination of mental health outcomes is also identified in the analysis. People with low-income families, minority groups, or nations with inadequate health facilities had greater levels of anxiety, depression, and PTSD (Horesh and Brown, 2020; Galea et al., 2020). Economic stressors, such as the loss of a job and financial insecurity, were closely related to greater psychological distress, especially in young adults and caregivers (Banks and Xu, 2020; Fegert et al., 2020). In addition, the news and misinformation related to the pandemic added to the level of anxiety and fear, indicating the importance of accurate, transparent, and consistent communications by the authorities in the field of public health (Garfin et al., 2020; Cuan-Baltazar et al., 2020).

The interventions, as indicated in the literature, are evidence-based, which focuses on a multidisciplinary approach that involves the use of individual, community, and systemic approaches. Psychological treatment, especially cognitive-behavioral therapy (CBT), mindfulness-based stress reduction, tele-counseling intervention showed considerable improvement in anxiety, depression, as well as sleep disturbances (Ho et al., 2020). The community engagement schemes, peer support networks, and family based intervention programs served to reduce social isolation, foster resilience and offer emotional support to vulnerable communities. System-wide policy interventions, like incorporating mental health in primary healthcare, allocating more resources to mental health services, and educating the population, became very important in terms of maintaining mental health at the population level (Pfefferbaum & North, 2020).

Table 1 is used to summarize the outcomes, the groups that were affected, and the prevalence estimates of mental health conditions in post-pandemic populations in order to obtain a clear picture of a specific subject.

Table 1: Mental Health Challenges in Post-Pandemic Populations (2020–2023)

Population Group	Primary Mental Health Outcomes	Estimated Prevalence (%)	Key Contributing Factors	Evidence Source
General Population	Anxiety, Depression, Sleep Disturbances	Anxiety: 20–35, Depression: 18–32	Social isolation, lockdowns, uncertainty, grief	Rajkumar (2020); Xiong et al. (2020)
Healthcare Workers	Anxiety, Depression, PTSD, Burnout	Anxiety/Depression: 25–40, PTSD: 10–20	High-risk exposure, workload, moral distress	Lai et al. (2020); Pappa et al. (2020)
Older Adults	Depression, Cognitive Decline, Anxiety	Depression: 15–25, Anxiety: 10–20	Social isolation, disrupted routines, limited care	Armitage & Nellums (2020)
Children & Adolescents	Anxiety, Depression, Stress, Irritability	Anxiety: 20–30, Depression: 15–25	School closures, social isolation, disrupted routines	Loades et al. (2020); Patrick et al. (2020)

Individuals with Pre-existing Disorders	Worsening of symptoms, Anxiety, Depression	30–50	Treatment disruption, stress, social isolation	Gonzalez-Blanco et al. (2020)
Marginalized & Low-Income Populations	Anxiety, Depression, PTSD	25–45	Economic insecurity, limited healthcare access	Horesh & Brown (2020); Banks & Xu (2020)

The table analysis indicates that mental health issues touch upon all population groups and are disproportionately impactful in relation to healthcare workers, older adults, children, and socio-economically disadvantaged groups. The most widespread consequences were anxiety and depression, PTSD was also noteworthy in the context of healthcare workers and people who had to deal with severe illness or loss. The factors that contribute are multifactorial and include individual, social, and structural factors and therefore interventions that are multidisciplinary are required.

Synthesis of secondary data also reveals that proactive measures like tele counseling, community based support, community awareness and inclusion of mental health into primary care systems is effective in minimizing psychological distress. Nonetheless, access and digital inequality and policy-based interventions do not reach everyone, particularly low- and middle-income countries. On the whole, the evidence supports the idea that the issue of post-pandemic mental health is a difficult, prolonged, and multi-level phenomenon that will need the efforts of individuals, communities, and systems to foster resiliency, alleviate distress, and provide care equitably.

CONCLUSION

The pandemic of COVID-19 has brought extensive implications on the mental health of the different populations across the world. Secondary data analysis shows that the rates of anxiety, depression, PTSD, and sleep disorders have become more widespread during the post-pandemic period. The healthcare workers, the aged, children, adolescents, and other individuals with pre-existing mental conditions have processed disproportionate psychological impacts. The factors of mental health outcomes include individual, social, and structural determinants, which are influenced by the effects of prolonged social isolation, economic insecurity, disruption of routines, occupational stress, and pandemic-related news (Rajkumar, 2020; Pfefferbaum and North, 2020). Such results demonstrate the critical necessity of both immediate and policy-level planning and intervention to overcome short-term and long-term mental health challenges.

The results provided in the literature may underpin that multidisciplinary interventions are essential to the enhancement of psychological resilience and reduction of the distress. Cognitive-behavioral therapy, tele-counseling, community engagement programs, peer support networks, and integration of mental health into primary healthcare are some of the strategies that have proven to be effective in the alleviation of anxiety, depression, and stress symptoms (Ho et al., 2020; Wind et al., 2020). Moreover, it is imperative that policy programs that guarantee equitable care access, improve mental health literacy, and offer social and economic assistance could assure sustainable changes in population well-being. In general, an integrated strategy at the personal, community, and systemic levels should be used to address post-pandemic mental health issues, alleviate inequalities, and support resilience among the groups of individuals who face the long-term psychological effects of the pandemic.

REFERENCES

- Armitage, R., & Nellums, L. B. (2020). Coronavirus and the effects of isolation of elderly people. *The Lancet Public Health*, 5(5), e256. [https://doi.org/10.1016/S2468-2667\(20\)30083-7](https://doi.org/10.1016/S2468-2667(20)30083-7).
- Banks, J., & Xu, X. (2020). Psychological impacts of the initial two months of lockdown and social distancing in the UK due to the COVID-19 pandemic. Institute of Fiscal Studies. <https://www.ifs.org.uk/>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., and Rubin, G. J. (2020). Psychological effects of quarantine and the ways of mitigating that effect: Quick literature review. *The Lancet*, 395(10227), 912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L.,... Zhang, Z. (2020). The problem of mental health care of medical personnel in China in relation to the COVID-19 outbreak. *Lancet Psychiatry*, 7(4), e15-e16. doi: 10.1016/S2215-0366(20)30078-X.
- Cuan-Baltazar, J. Y., Munoz-Perez, M. J., Robledo-Vega, C., Perez-Zepeda, M. F., and Soto-Vega, E. (2020). COVID 19 false information on the Web: Infodemiology. *JMIR Public Health and Surveillance*, 6(2), e18444. <https://doi.org/10.2196/18444>.
- Fegert, J. M., Vitiello, B., Plener, P. L., and Clemens, V. (2020). Child and adolescent mental health during the COVID-19 pandemic: The challenges and the burden: A narrative review. *Child and Adolescent Psychiatry and Mental Health*, 14 20. <https://doi.org/10.1186/s13034-020-00329-3>.
- Galea, S., Merchant, R. M., & Lurie, N. (2020). The psychiatric impacts of COVID-19 and physical distancing: Prevention and early intervention is required. *JAMA internal medicine*, 180(6), 817-818. <https://doi.org/10.1001/jamainternmed.2020.1562>.
- Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The outbreak of a new coronavirus (COVID-2019): It enhances the impact of the health issue due to its media attention. *Health Psychology*, 39(5), 355-357. doi.org/ 10.1037/hea0000875.
- Gonzalez-Blanco, L., Labad, J., and Bulbena, A. (2020). Effect of the COVID-19 pandemic on mentally ill patients. *Ulrichs Frontiers in Psychiatry*, 11, 601342. <https://doi.org/10.3389/fpsy.2020.601342>.
- Golberstein, E., Wen, H., & Miller, B. F. (2020). Coronavirus disease 2019 (COVID-19) and children and adolescent mental health. *JAMA Pediatrics*, 174(9), 819-820. doi.org/10.1001/jamapediatrics.2020.1456.
- Ho, C. S., Chee, C. Y., & Ho, R. C. (2020). Mental health ways to counter the psychological effect of the COVID-19 other than paranoia and panic. *Singapore Academy of Medicine, Annals*, 49(1), 1-3. <https://pubmed.ncbi.nlm.nih.gov/32131515/>
- Horesh, D., & Brown, A. D. (2020). The COVID-19 age of traumatic stress: an appeal to seal the key loopholes and move forward in new realities. *Psychological Trauma, Theory, Research, Practice, and Policy*, 12 (4), 331-335. doi.org/10.1037/tra0000592.
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... Hu, S. (2020). Mental health outcomes and related factors among health care workers who have been exposed to coronavirus disease 2019. *JAMA Network Open*, 3(3), e203976.
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., ... Crawley, E. (2020). Rapid systematic review: Effect of social isolation and loneliness on the mental health of children and adolescents during COVID-19. *J. Am. Acad. Psychiatry*, 59(11), 1218- 1239.e3. <https://doi.org/10.1016/j.jaac.2020.05.009>.

- Henkhaus, L. E., Patrick, S. W., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., ... Davis, M. M. (2020). Parents and children well-being during the COVID-19 pandemic: National survey. *Pediatrics*, 146 (4): e2020016824. doi:10.1542/peds.2020-016824.
- Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsis, E., and Katsaounou, P. (2020). The COVID-19 pandemic has caused widespread depression, anxiety, and insomnia in healthcare workers: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*, 88, 901-907. doi.org/10.1016/j.bbi. 2020.05.026.
- Pfefferbaum, B., & North, C. S. (2020). The COVID-19 pandemic and mental health. *New England journal of medicine*, 383, 510-512. https://doi.org/10.1056/NEJMp2008017.
- Rajkumar, R. P. (2020). COVID-19 and mental health: Literature review. *Asian Journal of Psychiatry*, 52, 102066. https://doi.org/10.1016/j.ajp.2020.102066.
- Singh, N., Mishra, S. K., & Patel, M. (2020). Mental health literacy: An important metric to address the psychological effect of COVID-19. Doi.org/10. 4103/psychiatry.IndianJPsychiatry54320 62(3), 288-292.
- Vindegard, N., & Benros, M. E. (2020). COVID-19 pandemic and mental health consequences Systematic review of the existing evidence. *Brain, Behavior, and Immunity*, 89, 531-542.
- Wind, T. R., Rijkeboer, M., Andersson, G., and Riper, H. (2020). Coronavirus-19 pandemic: The black swan of mental health care and an e-health turning point. *Internet Interventions*, 20, 100317. https://doi.org/10.1016/j.invent.2020.100317.
- World Health Organization. (2022). Mental health and COVID-19:The pandemic early effects. https://www.who.int/publications/i/item/WHO-2019-nCoV-MentalHealth-2022.1.
- Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M., Gill, H., Phan, L., McIntyre, R. S. (2020). Effects of COVID-19 pandemic on the mental health of the general population: A systematic review. *J Affective Disorders*, 277, 55-64. https://doi.org/10.1016/j.jad.2020.08.001.