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# COVID-19 mental health challenges: A scoping review

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## Abstract:

The COVID-19 pandemic has disordered the lives of millions in an unprecedented way. A state of mental health crisis has emerged across the globe. The lifestyle and well-being of the individual and social integrity have been adversely affected. One-third of US citizens and one in five Indian citizens suffer from depression due to this pandemic. This scoping review aimed to estimate the mental health challenges and their possible solutions in the recent two years (2020–2021). Our search strategy used search engines such as Medline, Google Scholar and PubMed. The search strategy used the MeSH keywords “Mental Health AND Covid-19”. The findings emerged in the following key points: anxiety and depression, social isolation and quarantine, and vulnerable or high-risk groups. Out of 216 articles screened, 20 were found eligible to meet the inclusion criteria. Most of the studies focused on psychological anxiety, stress and mental disorder during the pandemic. Psychosocial assessment and monitoring in the context of COVID-19 should include inquiries about stressors related to COVID-19, like exposure to infected sources, infected family members, loss of loved ones, physical distance; secondary adverse events like economic loss, psychosocial effects like depression, anxiety, psychosomatic preoccupations, insomnia, increased substance use, domestic violence; and indicators of vulnerability like pre-existing physical or psychological conditions.

## Keywords:

Covid-19, mental health, pandemic

## Introduction

The COVID-19 pandemic has disordered the lives of millions in an unprecedented way. Although various pandemics and disease outbreaks have occurred, such as plague outbreaks, cholera pandemic, Spanish flu, Asian flu, severe acute respiratory syndromes (SARS), Middle East respiratory syndromes (MERS), Ebola and Zika, the psychological impact of COVID-19 has been enormous. The scientific community is concerned about morbidity and mortality caused by COVID-19 and the long-term psychological effects of a pandemic on the population. A stage of mental health crisis has emerged across the globe. The lifestyle and well-being of the individual and their social integrity have been affected adversely.

The Centers for Disease Control and Prevention (CDC) estimates that nearly one-third of US adults were suffering from anxiety or depression as of June 2020.<sup>[1]</sup> In India, mental illnesses have increased by 20% since the pandemic.<sup>[2]</sup> The pandemic has raised the demand for mental health services; on the contrary, the World Health Organization (WHO) projected that 93% of countries had halted their mental health services due to the pandemic.<sup>[3]</sup> Even though the pandemic has a negative mental health impact, India allocates only 0.05% of its annual healthcare budget to mental health, while developed countries allocate 5%–18%.<sup>[4]</sup>

The COVID-19 pandemic-related psychological problems are not seen only in COVID-19 survivors but also in the healthcare workers dealing with them. The lockdown restrictions taken to deal with

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the pandemic causes social isolation, hence generating distress. The shadow effect of the pandemic is worsening the condition of vulnerable groups like women and children as the rise in domestic violence is evident. The United Nations (UN) report on women suggests that one in three women across the globe were subjected to physical or sexual violence, mainly by an intimate partner, during the pandemic.<sup>[5]</sup>

Currently, the world's focus is on controlling and mitigating the impact of this pandemic through the identification, testing and treatment of infected people and the development of drugs, vaccines and treatment protocols. But despite efforts to beat this pandemic, we are not entirely sure in which direction the pandemic will move in the coming days.<sup>[6]</sup>

## Objective

This scoping review aimed to estimate the mental health challenges and their possible solutions.

## Materials and Methods

Since the onset of the pandemic, many studies have focused on mental health challenges. For this scoping review, articles published from 2020 to 2021 were included. (Inclusion and exclusion criteria are listed in Table 1.) The databases searched were Medline, Google Scholar and PubMed. The search strategy used MeSH keywords "Mental Health AND Covid-19"

## Results and Discussion

Out of 216 studies screened, 20 were found eligible [Figure 1], amongst which 7 were published in the year 2020, and the rest 13 in 2021. [Table 2]. Out of 20 selected studies, only two studies were meta-analyses. All of the studies focused on COVID-19 mental health challenges exclusively. The majority of studies were based in America, Europe and Asia and observed anxiety and depression as the most common mental health disorder. Only one study was done on the African population. The prevalence of such mental disorders increased during the pandemic among all individuals, especially vulnerable groups (children, healthcare workers (HCWs), and frontline workers (FLWs)).

**Table 1: Inclusion and exclusion criteria**

Criteria	Inclusion	Exclusion
Time period	January 2020 to December 2021	Any study outside of these dates
Language	English	Non-English
Species	Human	Non-human
Article type	Systematic review	All other articles

## Study population among the selected studies

Out of 20 studies, 12 were on the general population, 2 on children and adolescents, 2 on high-risk or vulnerable groups, 1 on the African population, 1 on university students, 1 on relatives of HCWs and infected persons, and 1 was on nurses.

There were no studies that focused on disabled patients. [Figure 2]

## Critical mental health issues among the selected studies

Among the 20 selected studies, anxiety and depression were most profoundly discussed. Out of 20 selected studies, 15 found anxiety and depression to be the most prevalent mental health disorders during the pandemic. Insomnia and other sleep problems were discussed in seven studies. Posttraumatic stress disorder (PTSD) or posttraumatic stress syndrome (PTSS) and psychological distress or stress were described in six studies. Eight studies discussed other mental health disorders like eating disorders, obsessive-compulsive disorder (OCD), bipolar disorder, and other psychological effects. [Figure 3]

## Factors of the mental health challenges from the selected studies

The studies reported the effects of social isolation, quarantine and lockdown on children's and adolescents' mental health. Out of 20 selected studies, five reported social isolation, lockdown measures and quarantine as the cause of mental health disorders. Five of the selected articles explained discrimination against the female gender as the root cause of mental health problems in times of pandemics. Seven studies compared the prevalence of mental health issues in low- and middle-income countries (LMICs) to high-income countries. Three studies found the prevalence of such disorders to be less in Asia than in the USA and Europe. Three studies found higher odds of mental health challenges in the students. Also, the mental health disorders were found more in chronically ill and comorbid patients in two studies. One study revealed that prolonged media exposure led to anxiety. One study explained the high prevalence of mental health issues in HCWs.

## Recommendations from the selected studies

Out of 20 selected studies, eight recommended targeted intervention, investigations and regular follow-up of the patients and their relatives. Five studies recommended Training of HCWs for new digital intervention, reducing the digital gap, improving telemedicine, resource planning. Four studies gave further research improvement, including a larger representative sample, and two studies described prevention and preparedness for such disorders during the pandemic.

**Table 2: Summary of the selected studies**

Author	Study Population	Type of Disease	Summary/Conclusion	Recommendation	Limitation
Vindegaard N <i>et al.</i> , 2020 <sup>[7]</sup>	General population	Depression/ depressive symptoms; anxiety; psychological distress; poor sleep quality	Studies investigating HCWs found increased depression/depressive symptoms, anxiety, psychological distress, and poor sleep quality. Studies of the general public revealed lower psychological well-being and higher scores of anxiety and depression compared to before COVID-19.	Research evaluating the direct neuropsychiatric consequences and the indirect effects on mental health is highly needed to improve treatment, mental health care planning and preventive measures during potential subsequent pandemics.	Conducted only in Asia
Wu T <i>et al.</i> , 2020 <sup>[8]</sup>	General population	Anxiety; depression; stress; insomnia	Non-infectious chronic disease patients were quarantined, and COVID-19 patients had a higher risk of depression and anxiety than other populations.	Interventions for mental health are urgently needed for preventing mental health problems.	All included studies were from the early phase of the global pandemic. Additional meta-analyses are needed to obtain more data in all pandemic phases.
Ravi P hilip Rajkumar, 2020 <sup>[9]</sup>	General population	Anxiety; depression; self-reported stress	In the population-based study, female gender, being a student, having symptoms suggestive of COVID-19 and having poor perceived health were associated with higher rates of anxiety and depression.	There is a need for more representative research from other affected countries, particularly on vulnerable populations.	The available literature has emerged from only a few affected countries and may not reflect the experiences of persons living in other parts of the world.
Jones EAK <i>et al.</i> , 2021 <sup>[10]</sup>	Adolescents	Anxiety; depression; stress; other psychological disorders	Anxiety: Several studies established an association between the COVID-19 pandemic and rates of anxiety among adolescents; Depression: An association between the pandemic and depression was found in a non-specified population. Stress and Other Psychological Disorders: Several considered various psychological disorders and other forms of psychological distress, such as burdensomeness, belongingness, psychological distress, stress and trauma, and drug abuse.	More emphasis may be suggested on the global implementation of telemedicine to address the psychological needs of adolescents	NA
Chen J <i>et al.</i> , 2021 <sup>[11]</sup>	African populations	Anxiety; depression; insomnia	The meta-analytical findings revealed several crucial evidences on the prevalence of mental health symptoms during the COVID-19 crisis in Africa.	Call for more studies on mental health in Africa	The validity of our findings depends on the quality and reporting of the original studies.
Varghese A <i>et al.</i> , 2021 <sup>[12]</sup>	Nurses	Anxiety; depression; PTSD; insomnia	Significant risk factors for mental ailments include caring for COVID-19 patients, being a woman, low self-efficacy, resilience, social support, and physical symptoms (sore throat, breathlessness, cough, lethargy, myalgia, fever).	The disaster preparedness plan envisaged by nations should have provisions to address the mental health of nurses.	Most of the included studies were cross-sectional.
Nam SH <i>et al.</i> , 2021 <sup>[13]</sup>	Vulnerable and non-vulnerable groups	Anxiety and depression; Adults>elderly	Patients with chronic disease, severe mental illness and pregnant women showed significantly higher depressive symptoms than respective control.	Future studies should examine longitudinal studies on how the mental health of a vulnerable group has changed throughout the COVID-19 era.	The study cannot confirm the prevalence of diagnosed psychiatric disorders.

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**Table 2: Contd...**

Author	Study Population	Type of Disease	Summary/Conclusion	Recommendation	Limitation
Henssler J et al., 2020 <sup>[14]</sup>	General population	Psychological effects; depression	Individuals experiencing isolation or quarantine were at increased risk of adverse mental health outcomes, particularly after a containment duration of one week or longer.	Need for mental health prevention strategies for populations at risk, particularly HCWs exposed to infection and individuals who already were facing psychosocial adversities before quarantine or isolation, including those with low income, lack of social networks, or mental health problems	Due to the partial use of cross-sectional study designs, temporality of events is difficult to assess; frequent lack of consideration for important confounders
Krishnamoorthy Y et al., 2020 <sup>[15]</sup>	General population	Poor sleep quality; stress; psychological distress; insomnia; posttraumatic stress symptoms; anxiety; depression	The burden of psychological morbidities was highest among COVID-19 patients, followed by HCWs and the general population.	Digital training materials; training of staff to support newer ways of working	NA
Nochaiwong S et al., 2021 <sup>[16]</sup>	General population	Depression; posttraumatic stress symptoms, stress; psychological distress; sleep problems	Prevalence of mental health problems was higher in countries with a low-to-medium human development index (HDI) (for depression, anxiety, PTSS, and psychological distress), high HDI (for sleep problems), and high gender inequality index (for depression and PTSS).	An improvement of screening systems and prevention, prompt multidisciplinary management, and research on the social and economic burden of the pandemic are crucial.	Included some geographical regions
Almeda N et al., 2021 <sup>[17]</sup>	General population	Anxiety; eating disorders; bipolar disorders; obsessive-compulsive disorders	Anxiety was the most highlighted disorder, followed by depression and substance use. The second most common disorders were eating disorders, bipolar and obsessive-compulsive disorders.	The problems related to the digital gap must be considered.	NA
Wang Y et al., 2020 <sup>[18]</sup>	General population	Psychological distress	The overall prevalence of anxiety was 33% among the predominantly general population, and the prevalence of depression was 30%. Younger age (majority <35 years) versus older age (>35 years) was associated with higher odds of primary outcomes of psychological distress. Lower SES strata were associated with higher odds of psychological distress. More prolonged media exposure (10 studies and 20 data points) was associated with higher odds of anxiety. Social/family support and physical activity were inversely associated with higher odds of anxiety and depression.	Concerted efforts are urgently needed for interventions in high-risk populations to reduce urban-rural, socioeconomic, and gender disparities in COVID-19-related psychological distress.	Only included peer-reviewed publications in the current meta-analysis
Pappa S et al., 2021 <sup>[19]</sup>	High-risk group;	Anxiety and depression;	The prevalence of anxiety and depression was similar among	This study can inform the targeted	Some countries were not represented in

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Table 2: Contd...

Author	Study Population	Type of Disease	Summary/Conclusion	Recommendation	Limitation
	Southeast Asia	Europe > Asia	frontline HCWs (18%), general HCWs (17%) and students (20%) while being noticeably higher in the general population (27%).	identification of mental health symptoms and facilitate appropriate resource planning and allocation in the ongoing COVID-19 pandemic	this analysis and may limit the generalizability of the findings.
Santabarbara J et al., 2020 <sup>[20]</sup>	General population	Anxiety	Consistently reported risk factors for the development of anxiety included initial or peak phase of the outbreak, female gender, younger age, marriage, social isolation, unemployment and student status, financial hardship, low educational level, insufficient knowledge of COVID-19, epidemiological or clinical risk of disease, and some lifestyle and personality variables.	The results of this study suggested that rates of anxiety in the general population could be more than 3 times higher during the COVID-19 pandemic. These findings suggest a substantial impact on mental health that should be targeted by individuals and population-level strategies.	Comparison between them was hindered by methodological differences
Chiesa V et al., 2021 <sup>[21]</sup>	General population	Mental health	The impact of lockdown measures on mental health was established. Quarantine in children is linked to anxiety, stress and depression.	NA	Methodological and terminological challenges
Almeida IL et al., 2021 <sup>[22]</sup>	Children and adolescents	Anxiety and depression,	The review shows a strong association between social isolation and anxiety and depression in children and adolescents.	The mental and physical health of children and adolescents need a careful follow-up by health professionals during and after the pandemic	NA
Boden M et al., 2021 <sup>[23]</sup>	Infected/recovered adults > healthcare providers > community adults	Psychiatric morbidity; PTSD; depression	Psychiatric morbidity (20%-56%), PTSD (10%-26%) and depression (9%-27%) were most prevalent in most populations. The highest prevalence of each disorder was found among infected/recovered adults (18%-56%), followed by healthcare providers (11%-28%) and community adults (11%-20%).	Needed are investigations of causal links between specific pandemic-related stressors, threats, traumas and mental disorders	NA
Pashazadeh Kan F et al., 2021 <sup>[24]</sup>	General population	Anxiety, Females > males, Older adults > adults, Europe > America > Asia	Anxiety was significantly higher among females and older adults. In addition, Europe revealed the highest prevalence of anxiety at 54.6%, followed by America at 31.5% and Asia at 28.3%.	It is essential to identify those who are more likely to be suffering from mental disorders at different layers of populations, to apply appropriate supportive interventions with a view to provide targeted mental health services during the outbreak	The lack of quantitative data about the prevalence of anxiety in some of the geographical regions concentrated our findings on some particular countries, including China, which negatively affected the generalization of the results
Gentry SV et al., 2021 <sup>[25]</sup>	Relatives of HCWs; relatives of affected people	Anxiety and depression; PTSD and PTSS,	Among relatives of HCWs, 29.4% reported symptoms consistent with probable anxiety disorder and 33.7% with probable depression. Prevalence rates for probable anxiety disorder ranged from 24% to 42%, and probable depression from 17%	The better mental health outcomes for relatives of people affected by epidemic diseases are promoted by social and practical	The EPHPP tool was not sensitive to differences in the quality of studies that all had significant limitations. The richness of

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Table 2: Contd...

Author	Study Population	Type of Disease	Summary/Conclusion	Recommendation	Limitation
			to 51% for the relatives of affected people.	support, public health guidance that recognizes the caring role of relatives, and being supported to find the positives alongside the negatives in their situation	qualitative synthesis was restricted by the heterogeneity of available data.
Liyanage S et al., 2021 <sup>[26]</sup>	University students	Anxiety and depression; Males > females; USA > Europe > Asia	Anxiety disorders are the most prevalent mental health disorders and affect approximately one-third of adults during their lifetime. The anxiety prevalence in Asia is 33%, the prevalence of anxiety in Europe is 51%, and the highest prevalence of anxiety in the USA is 56%.	There is a need to develop effective risk communication strategies through online and mass media health communication in collaboration with media partners and public health agencies	It was challenging to incorporate the prevalence of depression and anxiety of included articles as they used different assessment tools.

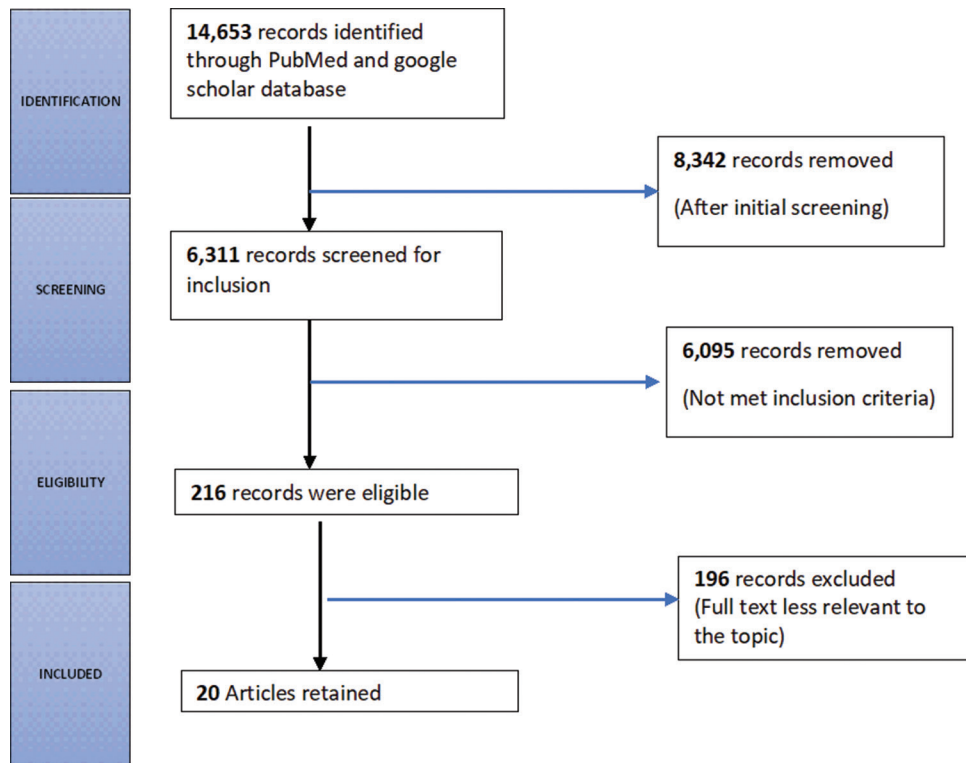


Figure 1: PRISMA flowchart of the selected studies

**Limitation of the selected studies**

The selected studies reported language bias and differences in the tools for assessing depression and anxiety in different studies. Hence, the comparability of the studies is questionable. Out of 20 studies, only one study was done in Africa. All parts of the world were not included in the selected studies. Studies done in 2020 reported a shortage of data for establishing any correlation between mental

health challenges and the pandemic. Two studies and one study used only cross-sectional studies and peer-reviewed articles, respectively. Hence, temporality cannot be established.

Figure 4 concludes the mental health challenges and probable solutions during the COVID-19 pandemic from the above-selected studies. The high-risk or vulnerable groups involved were children,

adolescents,<sup>[10,17]</sup> women,<sup>[9,12,13,20,24]</sup> the elderly,<sup>[24]</sup> HCWs and FLWs.<sup>[19,23]</sup> The factors which increase the odds of mental health challenges are the following: social isolation, quarantine, lockdown measures,<sup>[8,14,21,22]</sup> associated Comorbidities,<sup>[8,13]</sup> low socioeconomic status,<sup>[18]</sup> decreased access to mental health care,<sup>[9]</sup> and fear of the pandemic.<sup>[18]</sup> Few proposed solutions for the same: decreasing digital and technological gaps,<sup>[17]</sup> social and mental support groups,<sup>[24]</sup> increasing mental health care accessibility,<sup>[24]</sup> training programs for HCWs,<sup>[15,16]</sup> improving telemedicine<sup>[10]</sup> and effective risk communication.<sup>[26]</sup>

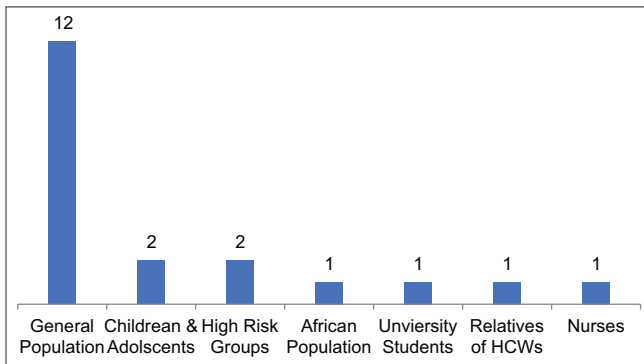


Figure 2: Study population among the selected studies

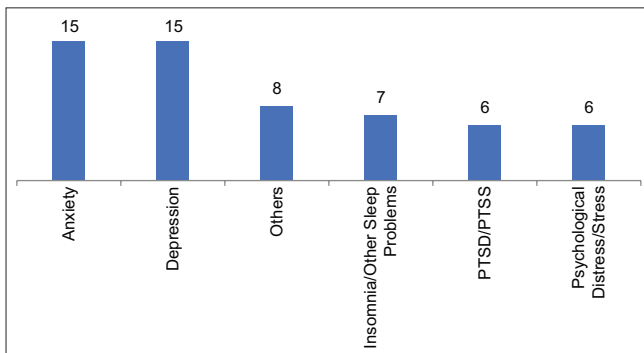


Figure 3: Key mental health challenges among the selected studies

### Limitations

The present study included only a systematic review and meta-analysis from 2021 to 2022. Only Medline, PubMed and Google Scholar databases were searched. Databases like Scopus, CINHALL, etc., were not included. Only those studies that had the full text available and were published in English language were selected.

### Conclusion

The prevalence of mental health disorders ranges from 17% to 56% across various populations and geographical regions. These mental health issues are emerging as significant challenges globally, especially in the pandemic. There are several mental health issues, out of which anxiety and depression are the most common. Improving telemedicine, digital technology, support groups and health care accessibility can help in reducing such a burden. Hence, the resources should be directed towards these challenges as managing mental health and psychosocial well-being is as crucial as managing physical health.

### Abbreviations

FLWs = Front Line Workers, HCWs = Health Care Workers, WHO = World Health Organization

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### Conflicts of interest

There are no conflicts of interest.

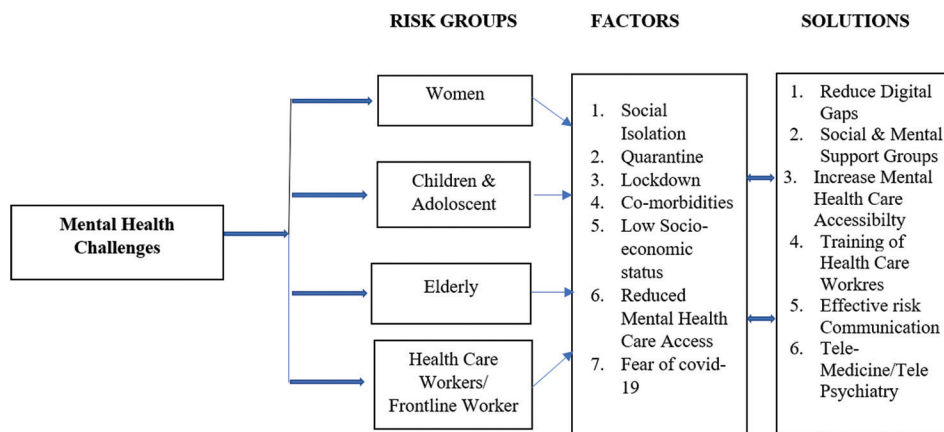


Figure 4: Summary of mental health Challenges and solutions during the COVID-19 pandemic

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