

**THE COVID-19 PANDEMIC AND MENTAL HEALTH
CONSEQUENCES: A SYSTEMATIC REVIEW****Sunitha Mahadevan^{*1}, Dhanya Dharman² and Shaiju S. Dharan³**

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ABSTRACT

COVID-19 pandemic is a major health crisis affecting several nations, with over 15,380,140 cases and 630,343 confirmed deaths reported to date. At present, the focus of States and the World bodies such as the World Health Organization (WHO) is on controlling and mitigating the impact of this pandemic by identifying, testing, treating infected people, developing drugs, vaccines and treatment protocols. Such widespread outbreaks are associated with adverse mental health consequence.^[1,2] Keeping this in mind, existing literature on the COVID-19 outbreak pertinent to mental health was retrieved via a literature search on google, and published articles were classified according to their overall themes and summarised. A total of 27 studies were included. Out of these, only 13 studies evaluated indirect and indirect effect of the pandemic on health care workers and on the

general public. reported worsening of psychiatric symptoms. Based on systematic search conducted in various database such as Pubmed, Google Scholar databases until July 2020, on studies measuring psychiatric symptoms co-morbidities associated with COVID-19 among general population revealed lower psychological well-being and higher scores of anxiety, depression, stress and other psychological distress compared to before COVID-19, while no difference when comparing these symptoms in the initial phase of the outbreak.^[3,4] Studies investigating health care workers found increased depression/depressive symptoms, anxiety,

psychological distress and poor sleep quality. Fear seems more certainly a consequence of mass quarantine and thus, it is essential to preserve the mental health of individuals and to develop psychological interventions, mental health education that can improve the mental health of vulnerable groups during the COVID-19 pandemic.^[5]

KEYWORDS: COVID 19, Mental health consequences, Awareness, Quarantine.

INTRODUCTION

The global community is concerned about Coronavirus disease (COVID-19) and its long-term consequences. At present, the focus of States and the World bodies such as the World Health Organization (WHO) is on controlling and mitigating the impact of this pandemic by identifying, testing, treating infected people, developing drugs, vaccines and treatment protocols.^[6,7] As per July 23, 2020 COVID19 update the total number of Coronavirus Cases were : 15,380,140, Deaths: 630,343 and Recovered: 9,355,528. The WHO has also expressed its concern over the pandemic's mental health and psycho-social consequences (World Health Organization, 2020d).^[8,9] It speculates that new measures such as self-isolation and quarantine have affected usual activities, routines, and livelihoods of people that may lead to an increase in loneliness, anxiety, depression, insomnia, harmful alcohol, and drug use, and self-harm or suicidal behaviour (World Health Organization, 2020c) in the population.^[10,11,12] With the above objectives in mind, the current review was designed to summarise the existing literature addressing mental health concerns related to the COVID-19 pandemic.

METHODOLOGY

Search methodology and article selection

This article is an extensive review of the existing literature on COVID 19 and its mental health consequences. A search on articles in google scholar engine was undertaken using the search terms “novel coronavirus”, “COVID-19”, mental health”, “psychiatry”, “psychology”, “anxiety”, “depression” and “stress” in various combinations. A total of 27 citations were retrieved using this method. On reviewing the above citations, 4 articles were excluded because they dealt with other aspects of the COVID-19 outbreak and revealed no material relevant to mental health.

Methodological and thematic analysis of selected articles

After carefully evaluating 23 articles were included in this review and only 13 articles can be genuinely labelled as “original research. the remaining 7 articles consisted of letters to the

editor and editorials, commentary related to mental health and 3 meta-analysis papers.^[14,15,16,17,18,19,20,21,22,23,24,25,26]

A systematic review of the collected published articles were done by categorising the studies as

- (a) Cross sectional and case-controlled questionnaire surveys reporting on mental health symptoms in particular populations
- (b) Prevalence of impact of COVID-19 on the general population.
- (c) Commentary and correspondence addressing the impact of COVID-19 on healthcare workers.

The majority of published articles were online questionnaire survey and mostly from variable regions of china(8). India (3) and each from turkey and spain.

RESULTS

Cross-sectional questionnaire studies on mental health problems related to COVID-19

13 studies from China, India, Spain And Turkey examined the frequency of specific mental health-related variables in persons affected by the COVID-19 outbreak (Chatterjee et al., 2020, Ozdin and Baysak Ozdin et al., C.Gonzaler, Sanguino et al., 2020, Wang et al., 2020, Xiao et al., 2020a; Mohit, Varshney et al., 2020 Li et al., Tan et al., 2020, Cao et al., 2020, Roy et al., 2020, Gao et al., 2020, NWS chew et al., 2020, Xu et al., 2020). Their results are summarised in above (table 1 and 2).^[14,15,16,17,18,19,20,21,22,23,24,25,26] As seen in the above results, only one study has provided rough estimates of the frequencies of individual mental health symptoms ie, anxiety, depression, stress, sleep disturbances and other psychological abnormalities. Anxiety was associated with impaired sleep in most studies.

Literature addressing the mental health impact of COVID-19 on the general population. (Table 1)

Based on systematic search conducted in various database such as Pubmed, Google Scholar databases until July 2020, on studies measuring psychiatric symptoms co-morbidities associated with COVID-19 among general population revealed lower psychological well-being and higher scores of anxiety, depression, stress and other psychological distress compared to before COVID-19, while no difference when comparing these symptoms in the initial phase of the outbreak. A total of 10 studies were included and suggests that COVID-19 not only causes physical health concerns but also results in a number of psychological

disorders. The spread of the new coronavirus can impact the mental health of people in different communities. Analysing letter to editor, online survey conducted among 1904 respondents in china reveals the importance of mental health education(Nai- Ying Ko et al., 2020). *“Mental health repercussions regarding what is happening during this pandemic for people, today and beyond, will really be a problem in general,” Dr Petsanis says. “In general, stress behaviour for many, many people brings a lot of problems.”* Thus, it is essential to preserve the mental health of individuals and to develop psychological interventions, mental health education that can improve the mental health of vulnerable groups during the COVID-19 pandemic.

Table 1: Studies on mental health concerns related to COVID 19 among general public.

REFERENCE	DESIGN STUDY INSTRUMENTS	SUBJECTS	COUNTRY	MAIN FINDINGS
Chatterjee Et Al., 2020	Cross Sectional Pro Forma Questionnaire Survey	152	West Bengal, India	Depression:34.9% Anxiety:39.5% Stress:32.9%
Ozdin And Baysak Ozdin Et Al., 2020	Web Mediated Questionnaire Survey	343	Turkey	Depression:23.6% Anxiety:45.1%
C.Gonzaler, Sanguino Et Al., 2020	Cross Sectional Questionnaire Survey	3480	Spain	Depression:18.7% Anxiety:21.6% PTSD:15.8%
Wang Et Al., 2020	Questionnaire Survey Depression Anxiety Scale(DASS-21)Impact Of Event Scale-IES-R	1210	China	Moderate –Severe Depression:16.5% Moderate-Severe Anxiety:28.8% Moderate –Severe Stress:8.1%
Li et al.,2020	Cross sectional self rated survey using mobile apps Vicarious traumatisation scale	GP-214	china	Traumatisation general public higher $P<0.005$
Mohit, Varshney et al., 2020	online survey (FEEL - COVID)	1106	India	1/3rd patients had severe psychological symptoms.
Tan et al., 2020	Case-control Online questionnaire (DASS-21, ISI, IES-R	673	China	Prevalence: PTSD: 10.8%, anxiety: 6.0%, depression: 5.9%, stress: 3.3%, insomnia: 2.3%, hallucinations: 3.1%, paranoid ideations: 2.2%, suicidal ideations: 1.6%. No significant difference in any items

				between workers/ technical staff (n = 551)
Cao et al., 2020	Survey Questionnaire (GAD-7)	7143	China, variable regions	Severe anxiety: 0.9%, moderate anxiety: 2.7% mild anxiety: 21.3%
Roy et al., 2020	Survey Online questionnaire (Likert scale)	662	India	72% was worried for them self/relatives. 12% had sleep difficulties.
Gao et al., 2020	Survey Online survey (WHO-5, GAD-7)	4827	China, variable regions	Depression prevalence: 48.3%, anxiety: 22.6%

**Literature addressing the mental health impact of COVID-19 on healthcare workers.
(Table 2)**

Since the declaration of the coronavirus 2019 (COVID-19) outbreak as pandemic, there are reports on the increased prevalence of psychological symptoms observed in the general population. As COVID-19 pandemic has the potential to significantly affect the mental health of healthcare workers (HCWs), who stand in the frontline of this crisis. It is, therefore, an immediate priority to monitor mental health issues in order to understand mediating factors and inform tailored interventions. The aim of this review is to synthesise and analyse existing evidence on the prevalence of mental health consequences among health care workers during the COVID -19 outbreak. A systematic search of literature databases was conducted, 2020. Studies investigating health care workers found increased depression/depressive symptoms, anxiety, psychological distress and poor sleep quality. On the basis of letter to editors, pertaining to medical staffs through direct interviews the frequency of anxiety and depression was increasing.(Jan Xu et al., 2020, Xiao et al., 2020). They say "*most health professionals working in isolated units and hospitals do not receive training for providing mental health care*" (lima et al., 2020).

Table 2: Studies on mental health concerns related to COVID19 in health care workers.

REFERENCE	DESIGN AND STUDY INSTRUMENTS	SUBJECTS	COUNTRY	RESULTS
NWS chew et al., 2020	Self administered questionnaire	906	India, Singapore	Moderate-severe depression:48(5.3%) Moderate-severe anxiety : 79(8.7%) Moderate-severe stress : 20(2.2%) Moderate-severe psychological distress: 34(3.8%)
Cai et al., 2020	Case-control Questionnaire (SCL-90, CD-RISC, SSRS)	1521	China, Jiangsu	Prevalence of psychological abnormality: 14.1%. Phobic anxiety higher among fresh staff compared to experienced staff (P = 0.017).
Xu et al., 2020	Case-control Questionnaire (Anxiety scale, depression-score, dream anxiety score and SF-36 scale)	120	China, Shanghai	Surgical staff: significant higher degree of anxiety ($p < 0.001$), higher level of dream anxiety ($p < 0.001$), SF-36 ($p < 0.001$), and depression ($p < 0.001$) during compared to surgical staff when the outbreak was under control

DISCUSSIONS

Present study reveals that fear seems more certainly a consequence of mass quarantine and thus, it is essential to preserve the mental health of individuals and to develop psychological interventions, mental health education that can improve the mental health of vulnerable groups during the COVID-19 pandemic. Lima et al. (2020) concluded that “Most health professionals working in isolation units and hospitals do not receive any training for providing mental health care.”^[27] Fear seems more certainly a consequence of mass quarantine.” As for now *"WHO, together with partners, is providing guidance and advice during the COVID-19 pandemic for health workers, managers of health facilities, people who are looking after children, older adults, people in isolation and members of the public more generally to take care of mental health"*.

CONCLUSION

Implementing psychological interventions, providing mental health education that can improve the mental health of vulnerable groups during the COVID-19 is essential. The psychological impact of fear and anxiety induced by the rapid spread of COVID 19 pandemic needs to be recognised as a public health priority for both authorities and policy makers who should rapidly adopt clear behavioural strategies to reduce the burden of mental health consequences of this pandemic in the vulnerable population.

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