

## Research Article



## The Psychological Impact of Covid-19 Pandemic among General Population

Dr P Sharmila Nirojini\*, M. Sivadarsha, Stephy Mary Koshy, Zum Zum S, Sharon Maria

1. Dept of Pharmacy Practice, Swamy Vivekananda College of Pharmacy, Tiruchengode, Tamilnadu – 635207, India.
2. Pharm D Intern, Swamy Vivekananda College of Pharmacy, Tiruchengode, Tamilnadu – 635207, India.

\*Corresponding author's E-mail: [sharmilan@vivekanandha.ac.in](mailto:sharmilan@vivekanandha.ac.in)

Received: 10-03-2022; Revised: 21-05-2022; Accepted: 28-05-2022; Published on: 15-06-2022.

### ABSTRACT

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an emerging infection causing a widely spread pandemic of Coronavirus disease 2019 (COVID-19). The COVID-19 pandemic has a significant impact on public mental health. Therefore, monitoring and oversight of the population mental health is crucial during pandemic. Various psychological problems and important consequences in terms of mental health including stress, anxiety, depression, insomnia, fear, frustration, uncertainty during COVID 19 outbreak emerged progressively. Isolation and quarantine to reduce disease transmission have a negative impact on one's mental health. The lockdown led to the closure of educational institutions and workplaces, loss of jobs, economic loss, lack of physical activity, restrictions on travel and gatherings. All these factors cumulatively affected the mental stamina of millions worldwide.

**Keywords:** Covid-19, Psychological Impact, Depression, Fear, Anxiety, Insomnia.

### QUICK RESPONSE CODE →

DOI:  
10.47583/ijpsrr.2022.v74i02.010



DOI link: <http://dx.doi.org/10.47583/ijpsrr.2022.v74i02.010>

### INTRODUCTION

Coronavirus Disease (COVID-19) may be a highly communicable disease ever known across the world. Covid-19 first case was diagnosed from Wuhan (Hubei Province, China) on December 31<sup>st</sup>, 2019. On January 30<sup>th</sup>, 2020 the World Health Organization (WHO) declared a global health outbreak emergency, on March 11<sup>th</sup>, 2020, as pandemic.<sup>1</sup>

While the first focus has been on preventing transmission of the virus, finding vaccines and a cure, there's a realization that the consequences and aftermath of this crisis, especially for mental health globally, could be unprecedented in the general population, those living in over-crowded households, and individuals with health conditions (especially mental health conditions) have reported more daily stressors.<sup>2</sup>

The potential mental health crisis, other studies have attempted to understand factors associated with vulnerability to worsening of the psychological symptoms.<sup>3</sup> The aim of restricting activities was to save lives by preventing viral transmission, to reduce its incidence, and to decrease the burden on the medical care.<sup>4</sup>

Uncertainty and unpredictability of the present pandemic, lockdown and physical-distancing might cause social isolation, loss of income, loneliness, inactivity, limited access to basic services, increased access to food, alcohol, and online gambling, and decreased family and social support, especially in older and vulnerable people.<sup>5</sup>

Changes in behaviour and adaptations determine perceived levels of stress, depression and anxiety. Emerging evidence suggests that individuals with pre-existing psychiatric disorders have experienced worsening of psychiatric symptoms.<sup>2</sup> Insomnia is associated with mental health impairments, including moodiness increment, productivity reduction, including suicide in the COVID-19 pandemic context, maintaining sleep hygiene is highly suggested because it helps in strengthening the immune system.<sup>6</sup>

The implementation of restrictions and preventive measures by government to limit the spread of COVID-19, including measures such as lockdowns, quarantine, isolation, and social distancing policies, has been reported to have led to immediate negative consequences on people's mental health.<sup>7</sup>

The general population may also receive threatening information such as daily statistics concerning COVID-19 infection and deaths reported from the news or social media the general population avoid contact with other individuals due to great fear of infection, developing feelings of helplessness or suffering from panic. In other words, the general population might experience psychological problems directly due to the COVID-19 pandemic.<sup>8</sup>



The downturn in the economy caused by COVID-19 will lead to unemployment, financial insecurity, and poverty, which hinder access to health services, thereby having deleterious effects on physical and mental health and quality of lifetime of its individuals. The economic breakdown that's likely to occur within the aftermath of the pandemic could exacerbate health-care disparities and can probably disproportionately affect socially disadvantaged patients, including those from ethnic minorities. Mental health concerns and treatment usually take a backseat in settings with constrained resources that were geared for pandemic containment.<sup>9</sup>

The outbreak of COVID-19 may differentially exacerbate anxiety and stress in people subjected to the important or perceived threat of the virus. The uncertainty of the incubation period, asymptomatic transmission, extraordinary large-scale quarantine measures, curfew, and lockdown surge the likelihood of adverse psychosocial effects on the public. Importantly, the quarantine measures lead to substantial decline in economic activities, raise in unemployment or in job insecurity, increases in cost of living, and to implement severe cuts in government's public spending. The economic crisis may weaken the protective factors and strengthen the risk factors of population mental well-being.<sup>[9]</sup> Other psychological reactions that appear in pandemics include emotional distress, maladaptive behaviours, and defensive responses. People who have greater susceptibility to psychological problems are particularly vulnerable.<sup>10</sup>

#### **Most relevant psychological reactions to covid-19 infection:**

1. Depression
2. Anxiety
3. Insomnia
4. Fear
5. Frustration and boredom
6. Disabling loneliness

#### **1. Depression**

Depression is one of the common psychological state issues faced in general population during covid-19 pandemic. In all the previous pandemic situations, an increase in the prevalence of depression was documented, and therefore the COVID-19 pandemic was no exception. The various research conducted to assess the prevalence of depression during the COVID-19 pandemic, and most the studies reveal a higher prevalence of depression in general population during the covid -19 pandemic.<sup>11</sup> resulting from such high-count unprecedented restrictions and uncertainties prevailing during this pandemic. The psychological state of the overall population is predicted to affect the mental state of general population adversely.<sup>[12]</sup> It has changed the lives of the people

drastically by the process they experience the outcomes of the disease.

Lockdown has caused a drastic economic crisis affected the daily income of many people and leads many families into poverty and hunger. It also negatively impacts on the general population resulting in depression. Quarantine and isolation have kept people faraway from one another, thus depriving them of a social life. This loneliness is additionally a major driver of depression.<sup>12</sup>

#### **2. Anxiety**

Anxiety, which may be defined as the pathological counterpart of normal fear, is identified by disturbance of mood, thinking, behaviour and psychological activity.<sup>13</sup> The pandemic situation has raised a general sense of alarm within the general population. In situations of uncertainty, people tend to urge anxious about the issues quite quickly. The prevalence of hysteria has increased altogether the groups compared to the pre-pandemic situation. COVID-19 patients fear being stigmatized in society and knowledge guilt for spreading it within the community. It causes feelings of fear to predominate, out of proportion to any threat. Everyone may experience anxiety at a various level and intensity. These different levels of hysteria and worry will be important when causing clinically significant distress in social, occupational, or other major areas of functioning. Social isolation related to restrictions and lockdown measures are linked to feelings of uncertainty for the future, fear of new and unknown infective agents resulting in abnormally increased anxiety.<sup>14</sup>

Anxiety is closely associated with fatigue and reduced performance in healthcare workers while boredom and loneliness are directly related to anger, frustration and sufferings linked to quarantine restrictions. Tragic effects associated with pervasive anxiety in a pandemic period may include the perceived lower social support, separation from loved ones, loss of freedom, uncertainty and boredom.<sup>[14]</sup> People with generalized anxiety disorder typically experience anxiety and worry alongside some of the following symptoms for a minimum of 6 months.<sup>11</sup>

#### **3. Insomnia**

Sleep is an essential part of a human life. During the times of pandemic, sleep becomes more essential in terms of both quality and quantity, as it has several mental and physical health benefits.<sup>15</sup> Sleeplessness and poor sleep quality can seriously impair the psychological functioning of the people and affect their decision-making process. It also can jeopardies the people's immune reaction and render them more vulnerable to contracting the virus and developing the disease.<sup>[16]</sup> Recent evidence studying various psychological problems among general public, healthcare workers and COVID-19 patients together have acknowledged that the poor sleep quality was the foremost common psychological morbidity during this COVID-19 pandemic. Among the general public, it was found to be the second most common psychological problem<sup>16</sup>



Another review conducted to study the sleep problems exclusively, have also found that almost 40% of the populations have poor sleep quality.<sup>17</sup> Sleep problems are underestimated compared to other mental health problems during any pandemic. Sleep related problems during an epidemic shouldn't be ignored because it can cause some serious consequences in their future.<sup>18</sup> Poor sleep quality or insomnia during a pandemic can lead to future risk of obesity, cardiovascular & metabolic conditions, cognition and mood disorders, and can even lead to suicidal ideation and death.<sup>19</sup>

This can also result in accelerated cellular senescence leading to rapid and overall ageing. Stressful nature of the pandemic together with the private vulnerability factors plays a crucial role within the mechanism and pathogenesis of the sleep disturbances.<sup>20</sup> This can exacerbate an existing sleep related conditions and also facilitate the emergence of a more modern condition. During this pandemic, several countries have implemented widespread lockdowns, resulting in marked change within the habits, customs and practices at workplace and residential within the entire population.<sup>21</sup> Combination of this stress of widespread infection, and disruption within the daily routines may need dramatically affected the people's sense of well-being and security and influenced the sleep disturbances.<sup>21</sup>

#### 4. Fear

The unprecedented nature of the pandemic created a sudden sense of uncertainty regarding not only health but also educational and economic circumstances lead to psychological disturbances. As an emerging disease, scientific evidence has been scarce from the beginning associated with various infection characteristics like transmissibility, routes of transmission, signs and symptoms and options for treatment. The information received from reliable sources changed as per the emerging evidence, which gave thanks to doubts and mistrust within the general public, creating a fertile ground for misinformation and disinformation. This results in more people being victims of fear than of the particular disease.<sup>22</sup>

At the peak of pandemic, there were even reports of people resorting to suicide for fear of disease-related complications.<sup>23</sup> The source of fear has been hypothesized to be four-fold. These are fears arising for self, for others, of not knowing, and of what action needs to be taken. The fear for significant others relates to relationships. There could be a way of guarding oneself against any external one that might convince be a source of the disease, also as fearing that somebody close to one might get affected.<sup>24</sup>

Fear of the unknown may be a prime driver of hysteria because it results in frantic looked for any updates during which crucial updates from reliable sources might actually find yourself being missed. Fear of courses of action pertain to doubts regarding completing daily activities like shopping within the scenario of social distancing, and a pull

towards other hyperactive compensatory behaviours like increased social media usage to cope with the altered daily routines. These could also be managed by clear awareness regarding susceptibility, fostering proper attachments with people and promoting emotional support and responsible behaviors.<sup>24</sup> Fear of the disease has become as a double-edged sword. Functional fear of contracting COVID-19 has been shown to be the sole predictor of positive behaviour change like social distancing and hand hygiene regardless of political interventions.<sup>25</sup> While some level of fear is good to ensure that people follow national guidelines, preventive protocols and social distancing, it had the potential of generating panic in the community and increasing psychological distress. There are records of delayed health-care seeking behaviour for emergency conditions thanks to fear of COVID-19 resulting in negative outcomes, which entails that the general public should be aware of the risks posed by general health conditions even in the light of the pandemic.<sup>26</sup>

#### Strategies to prevent mental illness during the pandemic:

- Effective use of electronic and social media to communicate during pandemic
- Healthy Expression of Emotions
- Limiting Exposure to Pandemic Related News
- Focusing on the Positive and Improving Skills
- Regulating Eating and Sleeping Habits
- Yoga and meditation
- Guidelines for Healthcare Workers<sup>5</sup>

Despite the preliminary nature of this study, the findings of the psychological impact of covid -19 provide information that can be used to maintain and enhance the psychological wellbeing of the general population. This information can also be used to guide the development of interventions aimed at preventing the risk of mental disorders among the general population during the COVID-19 pandemic. Knowing the psychological impact of the COVID-19 is thus imperative to guide future policies and plans for their psychological wellbeing the ensuring the optimal care needed for the general population during the pandemic.

#### MATERIALS AND METHODS

**Study design:** A cross-sectional observational survey study.

**Study duration:** The study was carried out for six months.

**Study population:** A total of 1581 subjects were included in the study based on inclusion and exclusion criteria.

**Source of data:** Web based questionnaire.

**Data analysis:** The standardized google document containing the 36 closed ended questions was prepared and circulated through social among the general population. The questionnaire consists of



sociodemographic details and standardized measuring scale questions with different scoring to find the severity.

The study was conducted as an online cross sectional survey among the general population from. After obtaining a electronic consent the survey was conducted assessing peoples sociodemographic profiles and psychological outcomes. The measuring scale used for the assessment of depression, anxiety, insomnia, and fear are patient health questionnaire (phq-9), generalized anxiety disorder assessment -7 (gad-7), insomnia severity index (isi) and fear covid- 19 scales (fcv-19s).

#### The patient health questionnaire-9:

The phq-9 was based on the diagnostic criteria for depression, the response options were: 0 = "not at all", 1 = "several days", 2 = "more than half the days" and 3 = "nearly every day". The total score ranged from zero to 27, with a higher score indicating greater self-reported depression. 0 – 4 no depression, 5 – 9 mild depression, 10 -14 moderate depression, 15 -19 moderately severe depression, 20 – 27 severe depression<sup>27</sup>

#### The generalized, anxiety disorder

The generalized anxiety disorder-7 (gad-7) was used to measure the severity of self-reported anxiety. The response options were: 0 = "not at all", 1 = "several days", 2 = "more than half the days", and 3 = "nearly every day". The total score ranged from zero to 21, with a higher score indicating greater self-reported anxiety. 0-4 minimal anxiety, 5-9 mild anxiety, 10- 14 moderate anxiety, 15-21 severe anxiety<sup>27</sup>

#### Insomnia severity index

The significant impairment can be measured by the index using five questions which were asked, the repentance of choosing options depicts the severity as never and rarely indicates non-significant insomnia, occasionally, most nights/days, always for any one of the questions the person is likely to suffer from insomnia, occasionally, most nights/days and always for two or more question has significant insomnia<sup>28</sup>

#### Fear of covid 19 scale

The fcv-19s was used for assessing on fear of covid-19 five-item Likert-type scale the answers included "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree". The minimum score possible for each question is 1, and the maximum is 5. A total score is calculated by adding up each item score (ranging from 7 to 35). The higher the score, the greater the fear of coronavirus-19.<sup>29</sup>

#### Inclusion criteria:

- Any gender who was able to read and respond to the questions.
- The individuals having internet connection with applications in which the Google form can be opened.

#### Exclusion criteria:

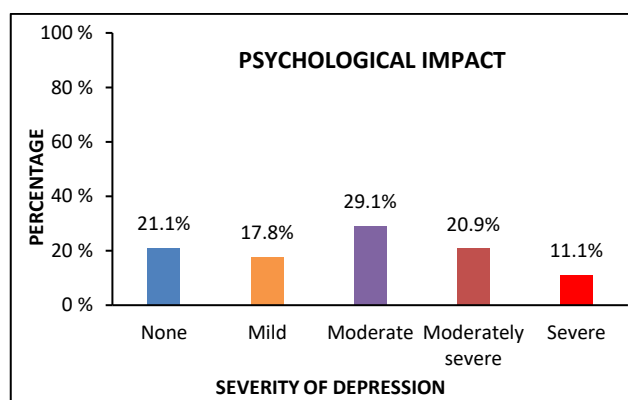
- unwilling and not providing informed consent for the study.

#### Statistical analysis

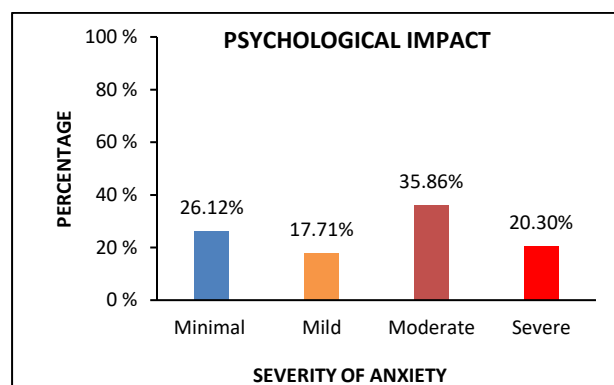
The data were entered into microsoft excel 2010 spread sheets and result were analysed by spss-25 software using chi- square test. P value less than 0.05 was considered as significant.

#### RESULTS

Among 1581 respondents, majority were male of adult age 47.20% (747) were in the age group of 17- 26years, 20.1% (334) were in the age group of 27-36, 15.7% (249) were in the age group of 37-46, 10.7% (169) were in the age group of 47-56, 5.2% (82) were in the age group of 56 and above. The assessment of psychological impact shows that majority of them had moderate severity of depression graph 1, moderate severity of anxiety graph 2, Significant insomnia graph 3, and Significant fear graph 4, the causes for the impact was due to various factors like which includes health, stress in taking care of family, stress at work, loneliness, E- learning, financial crisis graph 5, graph 6, graph 7, graph 8. The study shows that moderate depression, moderate anxiety, significant insomnia and significant fear was more in males than females (32.50%, 42.40% ,78.40%,92.60%) respectively and the severity of moderate depression, moderate anxiety and fear more in the age group of 37- 46years (45.00%, 59.00%, 98.80%) respectively, insomnia in the age of 57 years and more (95.10%).

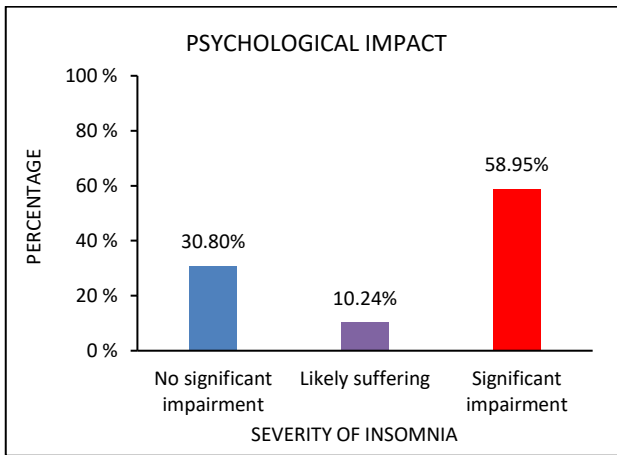


Graph 1: Severity of depression

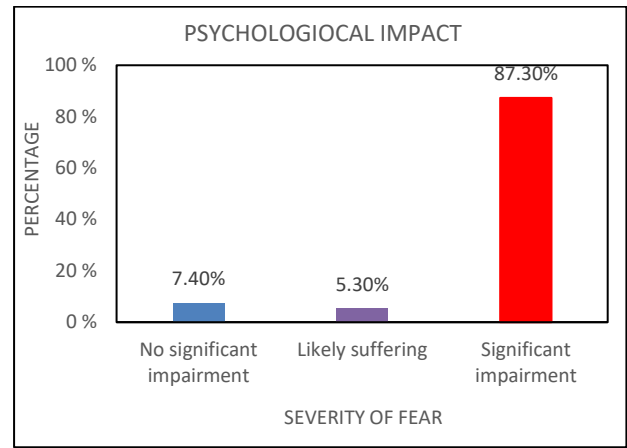


Graph 2: Severity of anxiety

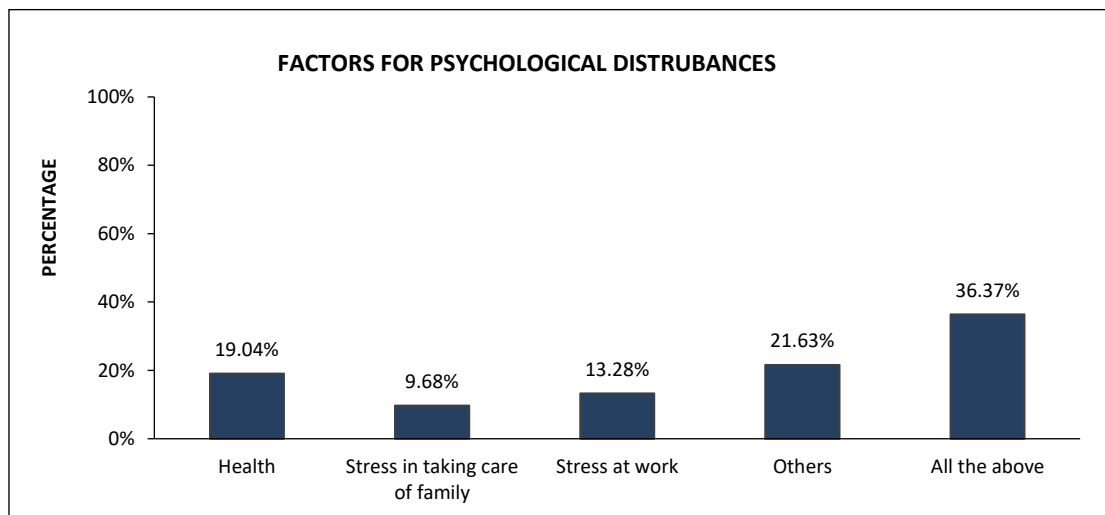




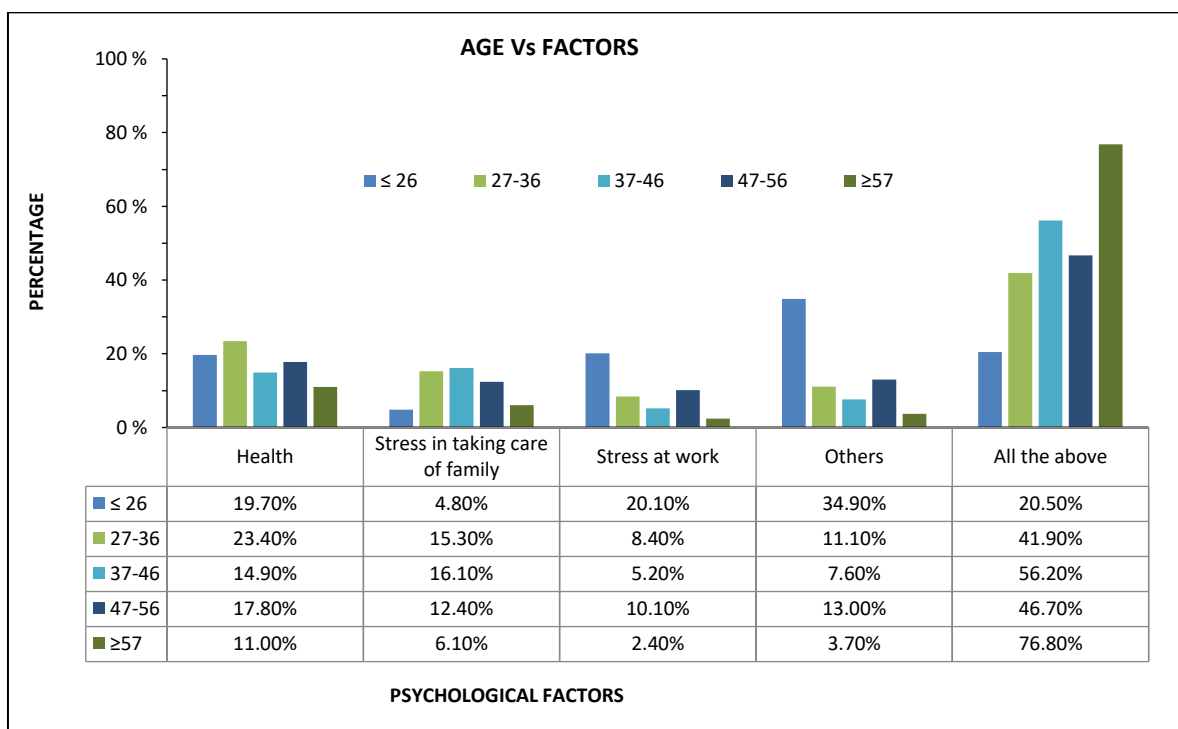
Graph 3: Severity of insomnia



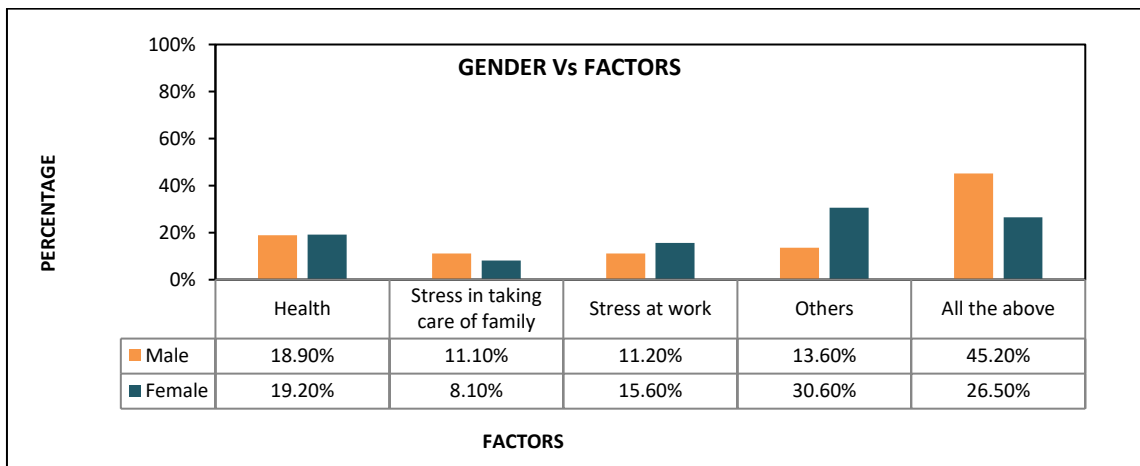
Graph 4: Severity of fear



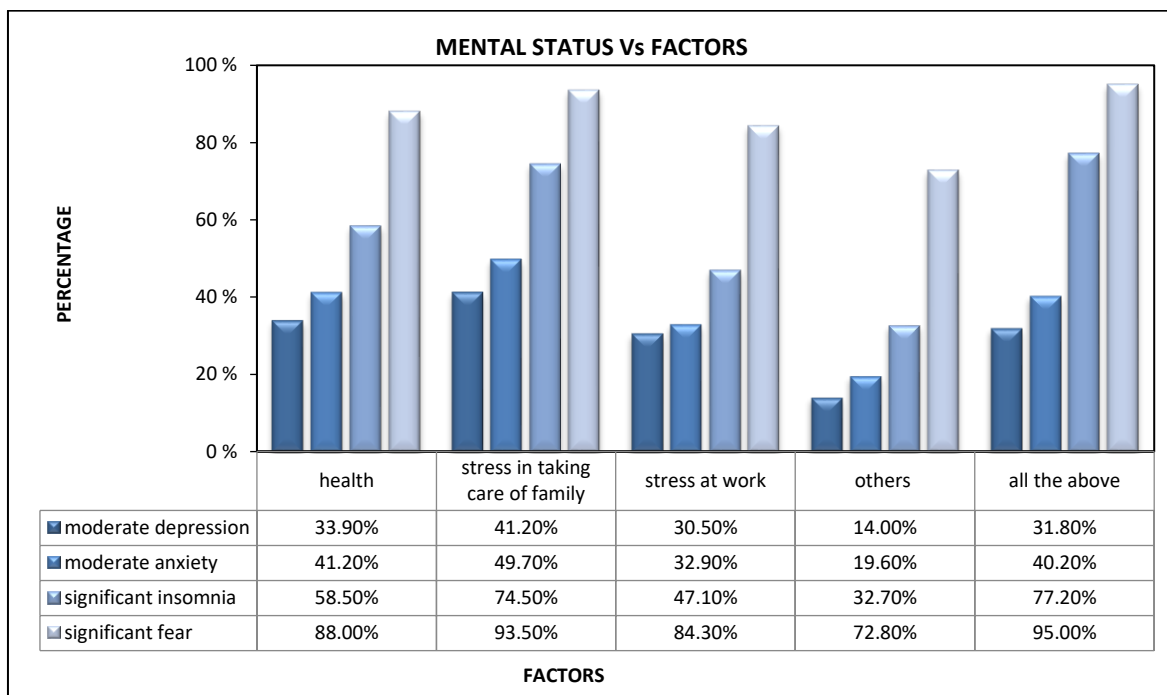
Graph 5: Reasons for Psychological Disturbance



Graph 6: Age vs factors



Graph 7:



Graph 8:

**DISCUSSION**

The study assesses the psychological impact of the COVID-19 pandemic among general population. In this study the prevalence of psychological morbidities and severity of depression, anxiety, fear and insomnia was studied among the general population.

Among 1581 respondents included in the study, (11.13%) had severe depression, (20.93%) had moderately severe depression, (29.09%) had moderate depression, (17.77%) had mild depression and (21.06%) had no significant impact. It also shows (20.3%) were with severe anxiety, (35.86%) had moderate anxiety, followed by (17.7%) had mild anxiety and (26.12%) had minimal anxiety. Additionally (58.95%) had significant impairment (Insomnia), (10.24%) were likely to suffer from insomnia and (30.80%) had no significant impairment, (86.65%) had significant

impairment fear, (5.94%) were likely to suffer from fear and (7.40%) had no significant impairment.

It was found that majority of the respondents were with moderate severity of depression (29.1%), anxiety (35.8%), significant insomnia (59.8%) and fear (87.3%) which is consistent with study findings, a cross sectional study by Abdul Majeed A. et al<sup>30</sup> reported a higher prevalence of psychological impact of the outbreak reported moderate to severe depressive (23.6%), anxiety (28.3%), and stress symptoms (22.3%) respectively.

The present findings also shows that the psychological impact moderate depression, moderate, anxiety, significant fear and significant insomnia was more common among the men than female gender of age groups 37-46 years, similarly a study by Sylvia Detri Elvira et.al shows higher prevalence of the psychological disturbances was with male



rather than the females.<sup>31</sup> The P value was found to be <0.05 which is significant.

To prevent the rapid spread of the covid-19 infection the government-imposed lockdown to limit the country side movement this restriction forces the public to stay at home which further leads to economic lose, closure of educational institutions which influences the student population all of the included factors closely affect the mental health of the general population

The present study depicts that the factors for the psychological disturbances to the prevalent age group and gender was due to all the following factors (36.37%) which includes health (19.04%), stress in taking care of family (9.68%), stress at work (13.28%), loneliness, E- learning, financial crisis (21.63%).

Additionally, the present findings shows that the factors for the psychological disturbances with varying severity of moderate depression and moderate anxiety (29.1%, 35.86%) was due to stress in taking care of the family (41.20%, 49.70%) and significant insomnia and fear (58.95% 86.65%) was due to all the factors including Health, stress in taking care of family, stress at work, others (financial crisis, E – learning, loneliness) (77.20%, 95.0%). The P value was found to be <0.05 which is significant.

## CONCLUSION

The study shows the occurrence of depression, anxiety, fear and insomnia among the general public during the phase of the COVID-19 pandemic in general population. The study also found that a substantial proportion of individuals had exhibited psychological distress. Personal experience with the disease-related events and perceived threat to the society and family were found associated with the symptoms of mental health illness. This study examined perceptions of the impact of COVID-19 on health, finances, and organizational support on general population during pandemic. The results highlight that pandemic leads to greater demand on the limited health care resources, Mental health care can improve the psychological status of general population and provide better quality of life, the government policy should address the mental health problems in times of pandemics and should formulate strategies to improve the mental health.

## REFERENCES

- Upadhyay R, Singh B, Singh U. Psychological impact of quarantine period on asymptomatic individuals with COVID-19. *Social Sciences & Humanities Open*. 2020 Jan 1;2(1):100061.
- Rathod S, Pallikadavath S, Young AH, Graves L, Rahman MM, Brooks A, Soomro M, Rathod P, Phiri P. Psychological impact of COVID-19 pandemic: Protocol and results of first three weeks from an international cross-section survey-focus on health professionals. *Journal of affective disorders reports*. 2020 Dec 1;1:100005.
- Czys AH, Nandy K, Hughes JL, Minhajuddin A, Fatt CR, Trivedi MH. Impact of the COVID-19 pandemic on adults with current and prior depression: initial findings from the longitudinal Texas RAD study. *Journal of affective disorders*. 2021 Nov 1;294:103-8.
- Khawar MB, Abbasi MH, Hussain S, Riaz M, Rafiq M, Mehmood R, Sheikh N, Amaan HN, Fatima S, Jabeen F, Ahmad Z. Psychological impacts of COVID-19 and satisfaction from online classes: disturbance in daily routine and prevalence of depression, stress, and anxiety among students of Pakistan. *Heliyon*. 2021 May 1;7(5):e07030.
- Joseph R, Lucca JM, Alshayban D, Alshehry YA. The immediate psychological response of the general population in Saudi Arabia during COVID-19 pandemic: a cross-sectional study. *Journal of Infection and Public Health*. 2021 Feb 1;14(2):276-83.
- Hasan M, Maliha Z, Rahman A, Mamun MA. Insomnia in Bangladeshi young adults during the COVID-19 pandemic: the role of behavioral factors, COVID-19 risk and fear, and mental health issues. *Sleep and vigilance*. 2021 Dec;5(2):315-22.
- Alimoradi Z, Broström A, Tsang HW, Griffiths MD, Haghayegh S, Ohayon MM, Lin CY, Pakpour AH. Sleep problems during COVID-19 pandemic and its' association to psychological distress: A systematic review and meta-analysis. *EClinicalMedicine*. 2021 Jun 1;36:100916.
- Singh RK, Bajpai R, Kaswan P. COVID-19 pandemic and psychological wellbeing among health care workers and general population: A systematic-review and meta-analysis of the current evidence from India. *Clinical epidemiology and global health*. 2021 Jul 1;11:100737.
- Gonzalez-Diaz SN, Martin B, Villarreal-Gonzalez RV, de Lira-Quezada CE, Macouzet-Sanchez C, Macias-Weinmann A, Guzman-Avilan RI, Garcia-Campa M, Noyola-Perez A, Garcia-Gonzalez DU. Psychological impact of the COVID-19 pandemic on patients with allergic diseases. *World Allergy Organization Journal*. 2021 Mar 1;14(3):100510.
- Krishnamoorthy Y, Nagarajan R, Surendran G, Sakthivel M. Impact of COVID-19 on psychological status of general population. In *Anxiety, Uncertainty, and Resilience During the Pandemic Period-Anthropological and Psychological Perspectives* 2021 May 10. IntechOpen.
- Prakash J, Dangi A, Chaterjee K, Yadav P, Srivastava K, Chauhan VS. Assessment of depression, anxiety and stress in COVID-19 infected individuals and their families. *medical journal armed forces india*. 2021 Jul 1;77:S424-9.
- Hikmah K, Prisyandy L, Melinda G, Ayatullah MI. An online survey: Assessing anxiety level among general population during the coronavirus disease-19 pandemic in Indonesia. *Open Access Macedonian Journal of Medical Sciences*. 2020 Nov 13;8(T1):451-8.
- Serafini, Gianluca, Bianca Parmigiani, Andrea Amerio, Andrea Aguglia, Leo Sher, and Mario Amore. "The psychological impact of COVID-19 on the mental health in the general population." (2020): 531-537.
- Medic G, Wille M, Hemels ME. Short-and long-term health consequences of sleep disruption. *Nature and science of sleep*. 2017;9:151.
- Krishnamoorthy Y, Nagarajan R, Saya GK, Menon V. Prevalence of psychological morbidities among general population, healthcare workers and COVID-19 patients



- amidst the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry research*. 2020 Nov 1;293:113382.
16. Jahrami H, BaHamam AS, Bragazzi NL, Saif Z, Faris M, Vitiello MV. Sleep problems during the COVID-19 pandemic by population: a systematic review and meta-analysis. *Journal of Clinical Sleep Medicine*. 2021 Feb 1;17(2):299-313.
  17. Léger D, Bayon V. Societal costs of insomnia. *Sleep medicine reviews*. 2010 Dec 1;14(6):379-89.
  18. Cappuccio FP, D'Elia L, Strazzullo P, Miller MA. Sleep duration and all-cause mortality: a systematic review and meta-analysis of prospective studies. *Sleep*. 2010 May 1;33(5):585-92.
  19. Morin CM, Drake CL, Harvey AG, Krystal AD, Manber R, Riemann D, Spiegelhalter K. Insomnia disorder. *Nat Rev Dis Primers*. 2015 Sep 3;1:15026.
  20. Mandelkorn U, Genzer S, Choshen-Hillel S, Reiter J, Meira e Cruz M, Hochner H, Kheirandish-Gozal L, Gozal D, Gileles-Hillel A. Escalation of sleep disturbances amid the COVID-19 pandemic: a cross-sectional international study. *Journal of Clinical Sleep Medicine*. 2021 Jan 1;17(1):45-53.
  21. Buysse DJ. Insomnia. *JAMA*. 2013 Feb 20;309(7):706-16.
  22. Ornell F, Schuch JB, Sordi AO, Kessler FH. "Pandemic fear" and COVID-19: mental health burden and strategies. *Brazilian Journal of Psychiatry*. 2020 Apr 3;42:232-5.
  23. Goyal K, Chauhan P, Chhikara K, Gupta P, Singh MP. Fear of COVID 2019: First suicidal case in India. *Asian J Psychiatry*. 2020 Mar;49:101989
  24. Schimmenti A, Billieux J, Starcevic V. The four horsemen of fear: An integrated model of understanding fear experiences during the COVID-19 pandemic. *Clinical Neuropsychiatry*. 2020 Apr;17(2):41.
  25. Harper CA, Satchell LP, Fido D, Latzman RD. Functional fear predicts public health compliance in the COVID-19 pandemic. *International journal of mental health and addiction*. 2021 Oct;19(5):1875-88.
  26. Lazzerini M, Barbi E, Apicella A, Marchetti F, Cardinale F, Trobia G. Delayed access or provision of care in Italy resulting from fear of COVID-19. *The Lancet Child & Adolescent Health*. 2020 May 1;4(5):e10-1.
  27. Choi EP, Hui BP, Wan EY. Depression and anxiety in Hong Kong during COVID-19. *International journal of environmental research and public health*. 2020 Jan;17(10):3740.
  28. Morin CM, Belleville G, Bélanger L, Ivers H. The Insomnia Severity Index: psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*. 2011 May 1;34(5):601-8.
  29. Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction*, 1–9. Advance online publication. <https://doi.org/10.1007/s11469-020-00270-8>.
  30. Alkhomees AA, Alrashed SA, Alzunaydi AA, Almohimeed AS, Aljohani MS. The psychological impact of COVID-19 pandemic on the general population of Saudi Arabia. *Comprehensive psychiatry*. 2020 Oct 1;102:152192.
  31. Elvira SD, Lamuri A, Lukman PR, Malik K, Shatri H, Abdullah M. Psychological distress among Greater Jakarta area residents during the COVID-19 pandemic and community containment. *Heliyon*. 2021 Feb 1;7(2):e06289.

**Source of Support:** The author(s) received no financial support for the research, authorship, and/or publication of this article.

**Conflict of Interest:** The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

For any question relates to this article, please reach us at: [globalresearchonline@rediffmail.com](mailto:globalresearchonline@rediffmail.com)  
 New manuscripts for publication can be submitted at: [submit@globalresearchonline.net](http://submit@globalresearchonline.net) and [submit\\_ijpsrr@rediffmail.com](mailto:submit_ijpsrr@rediffmail.com)

