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### Impact of COVID- 19 pandemic on mood disorders among middle aged people

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#### Abstract

COVID 19 is an infectious air borne disease that is caused by the novel coronavirus and has been declared as a pandemic by the WHO. Mood disorder is characterized by excessive mood swings that interrupt a person's day to day activities. Middle age is the period between adult and elderly period and are the most sensitive period to develop any health problems. They are more prone to have variations in mental stability during the pandemic. The study aims to assess the impact of COVID – 19 on mood disorders among middle aged people. A quantitative approach descriptive research design was conducted among 60 middle aged people. Simple random sampling technique was used to select the samples. Self – structured questionnaire method was used to collect demographic data, and impact of COVID-19 on mood disorders among middle aged people. The study finding revealed that among 60 study participants, 60% had mild impact of corona virus (COVID - 19) pandemic on mood disorders, 33.33% has moderate and 4% had severe mood disorders among middle aged people. The mean score of impact of COVID – 19 pandemic on mood disorders among middle aged people was 10.10 with standard deviation 3.06 with minimum score of 4.6 and maximum score of 16.0.

**Keywords:** COVID 19, mood disorders, middle aged people

#### Introduction

COVID -19 also referred to as coronavirus disease 2019 is a rising respiratory disease that is caused by novel corona virus which was initially detected in December 2019 in Wuhan, China. The disease is extremely infectious and therefore the outbreak has been declared a worldwide pandemic by the WHO. The first case of coronavirus pandemic in India was reported on 30<sup>th</sup> January 2020 [1]. COVID-19 has common signs of infection including respiratory symptoms, fever, cough, shortness of breath and difficulty breathing. In more severe cases, the infection can cause pneumonia, acute respiratory syndrome, kidney failure, and even death. Clinical manifestations of COVID-19 patients have a broad spectrum, ranging from asymptomatic, mild symptoms, pneumonia, severe pneumonia, ARDS, sepsis, to septic shock. About 80% of cases are classified as mild or moderate, 13.8% experience severe illness, and as many as 6.1% of patients fall into a critical state. Based on data from 55,924 cases, the most common Review Article May 6, 2020 2 symptoms were fever, dry cough, and fatigue. Other symptoms that can be found are productive cough, shortness of breath, sore throat, headache, myalgia / arthralgia, chills, nausea / vomiting, nasal congestion, diarrhea, abdominal pain, hemoptysis, and Conjunctival congestion. More than 40% of fever in COVID-19 patients has a peak temperature between 38.1-39 °C, while 34% have a fever temperature of more than 39 °C [2]. Transmission of COVID- 19 occurs mainly when an infected person is in close contact with another person. Sample droplets containing the virus can spread from an

infected person's nose and mouth as they breathe, cough, sneeze, sing, or speak. Other people are infected if the virus gets into their mouth, nose or eyes [3]. The government around the world have implemented certain measures like physical distancing, quarantine, to reduce the transmission or spread of the disease and limit the number of unnecessary death.

The corona virus (COVID -19) identified in China at the end of 2019, has a high contagion potential and its incidence has increased exponentially. Its widespread vigorous transmission was recognized by the WHO and declared as a pandemic. Doubtful or false information about factors related to virus transmission, the incubation period, its geographic reach, the number of infected and the actual mortality rate has led to insecurity and fear in the population [4]. Quarantine can lead to different kind of problems. It can precipitate feelings of fear, anger, anxiety and panic about worse possible outcome, boredom and loneliness and guilt about not being there for family [5].

A recent survey by the Indian Psychiatric Society shows a twenty percent increase in mental illness since coronavirus outbreaks in India. Psychologists and mental health professionals speculate that the pandemic will affect the mental health of the global population with increasing cases of depression, suicide, and self-injury, apart from other symptoms reported globally for COVID 2019. Closing outlets that sell alcohol also causes symptoms withdrawal and suicide by alcoholics, reported in countries like Kerala in India. They speculate about the possibility of developing neurotic disorders such as generalized anxiety disorder and

obsessive-compulsive disorder (OCD) in large population groups. Excessive emphasis on consistent hand washing (for twenty seconds) can affect a significant population group of people who globally consider not knowing when and how to wash repeatedly. Also related to mood and emotional outburst especially panic, fear, avoidance and fear of meeting others, fear of death (Thanatophobia), fear of isolation, stigmatization, fear of not even getting important items, food, etc., may have psychological manifestations. In many countries, because of anxiety, people have hoarded important items that have caused shortages. Millions of people have lost their jobs. People work in the informal and disorganized sector worst because they struggle for their food, shelter and livelihood which creates uncertainty leading to depression, suicide, self-injury etc. [2]. In recent months, the world was taken by surprise by the outbreak of a corona virus (SARS-CoV-2) pandemic (COVID-19). Corona viruses have been recognized as a respiratory and neurotropic virus with the ability to penetrate the Central Nervous System (CNS) via the olfactory neural pathway. Viral infections may be associated with psychiatric symptoms as a direct result of the virus infection in the brain but most often due to activation of a powerful immune-inflammatory response (Cheng *et al.*, 2004). Coronavirus infection has recently been implicated in the onset of psychosis major depression and bipolar disorder. (Severance *et al.*, 2011) [6].

Infectious disease outbreaks such as COVID-19, as well as other public health events, can cause emotional distress and anxiety. These feelings of distress and anxiety can occur even in people not at high risk of getting sick, in the face of a virus with which the common people may be unfamiliar [7]. A recent report suggests immediate psychological distress, especially higher levels of depression, anxiety and PTSD symptoms in quarantined patient's with COVID-19 (Guo *et al.*, 2020). SARS-CoV-2 could affect the brain and behavior of people by causing i) direct neuronal damage, ii) immune injury, and iii) hypoxia and biogenesis. Contextually, these mechanisms have been implicated in the pathogenetic pathways of many psychiatric disorders by multiple studies [8]. Imposed quarantine or isolation is an unfamiliar and unpleasant experience that involves separation from friends and family, and a departure from usual everyday routines. Many usual activities are prohibited, and in some settings, such as in corrections and other prison contexts, isolation is a form of punishment or censure. Isolation is known to cause psychosocial problems, especially for those recognised as vulnerable. While all humans are at risk of psychological harm when kept in isolation, the most vulnerable in these situations are children and adolescents, older adults, minority groups, those from lower socio-economic groups, females and people with pre-existing mental health conditions [9]. Between early March and late April 2020, Americans experienced a confluence of economic stressors, social isolation, health concerns, and practical risks and difficulties. All of these factors have been connected to an increased incidence of mental health disorders in past research, and there is considerable concern about increases related to the COVID-19 pandemic. For example, social isolation is a very well-characterized precursor of a number of mental health problems, including major depressive disorder, anxiety disorders, and suicidal

behavior, including suicide death. The same is true of factors such as work loss and physical health issues [10].

Mood disorders are characterized by a disturbance of mood, accompanied by a full or partial manic or depressive syndrome, which is not due to any other physical or mental disorder. (R. Sreevani) [11]. Mood is an internal emotional state of an individual. A mood disorder is characterized by an excessive swing of mood. The mood state of a normal individual fluctuates between mild depressions to mild elation depending on many factors. When the mood swing is excessive in severity and in duration and when it interferes with a person's day to day activities that it becomes a mood disorder. (S. Nambi) [12]. Mood disorder diagnoses are known to be associated with poorer long-term outcomes for a range of disorders. Growing evidence that SARS-CoV-2 may affect brain function directly or indirectly likewise increases concern for interaction between preexisting disorders involving the CNS, including mood disorders, and adverse outcomes. (Victor M Castro *et al.*) [13].

Mood disorders are among the most common mental health problems worldwide and are diagnosed as depression, bipolar disorder, mania, or dysthymia. The World Health Organization reported that major depression will be the leading cause of disability adjusted life years worldwide in 2020. The prevalence of mood disorders is reported to be higher in the 35–64 year age group than in the overall population, indicating the impact of aging on this disease. Mood disorders have a major effect on individuals, their families, the health-care system and the economy in the form of health-care utilization, economic valuation of work lost and health-related quality of life. Mood disorders are also associated with other adverse health behaviors and health outcomes such as sleep and appetite disorders, irritability, daily fatigue, migraine, asthma, allergies, and suicide ideation. (Anjali Mago *et al.*) [14]. Middle aged people are more likely to be experiencing worry, anxiety, sadness, and they have less opportunity to interact with others and get social support that is essential for good mental wellbeing. Middle aged people are those section of the society who are more threatened with the job insecurity or unemployment during the pandemic. They are more vulnerable due to the exposure to non-communicable diseases. Study shows that people with preexisting non-communicable diseases (NCD's) appear to be more vulnerable to become severely ill with the virus. These NCD's include cardiovascular diseases like hypertension, person who have, had or are at the risk for a heart attack or stroke, chronic respiratory diseases, diabetes and cancer.

## Materials and Methods

The quantitative approach with descriptive research design was adopted for the present study. The data collection was done with prior permission from the Nursing Superintendent of Saveetha Medical College and Hospital. A total of 60 samples of 30 males and 30 females were selected using a simple random sampling technique. The inclusion criteria for the sampling are people between the age of 35-55 years, and who are willing to participate in the study and people who can understand English or Tamil. The exclusion criteria for the study is, age below 35 years and above 55 years, who are not willing to participate in the study and people who cannot understand English or Tamil. The purpose of

the study was explained by the investigator to each of the study participants. The data collection includes collecting demographic data by self-structured questionnaire and assessed the impact of COVID – 19 on mood disorders by using modified mood disorder questionnaire. The collected data were tabulated and analyzed by using descriptive and inferential statistics.

## Result and Discussion

### Section A: Description of the demographic variables of the middle aged people.

Most of the middle aged people 30(50%) were male and female respectively, 30(50%) were aged between 35-40 years, 28(46.6%) had high school education, 34(56.7%) were full time / part time employed, 28(46.7%) had a financial income of below 10,000, 51(85%) were married, 27(45%) had no habits and 47(78.3%) had not used any medications.

### Section B: Assessment of level of impact of corona virus (covid-19) pandemic on mood disorder among middle aged people.

**Table 1:** Frequency and percentage distribution of level of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people N = 60.

Level of Mood Disorder	No.	%
Mild (0 - 10%)	36	60.0
Moderate (11 – 15%)	20	33.33
Severe (16 – 20)	4	6.67

The above table 1 shows that 36(60%) had mild impact of Corona Virus (Covid-19) pandemic on mood disorder,

**Table 3:** Association of level of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people with their selected demographic variables.

Demographic Variables	Mild		Moderate		Severe		Chi-Square Value
	No.	%	No.	%	No.	%	
<b>Employment</b>							$\chi^2=25.475$ d.f=4 p = 0.0001 S***
Full time / Part time employed	28	46.7	4	6.7	2	3.3	
Unemployed	0	0	8	13.3	2	3.3	
Homemaker / Others	8	13.3	8	13.3	0	0	

\*\*\*p<0.001, S – Significant, N.S – Not Significant

The table 3 shows that the demographic variable employment had shown statistically significant association with level of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people at p<0.001 level and the other demographic variables had not shown statistically significant association with level of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people.

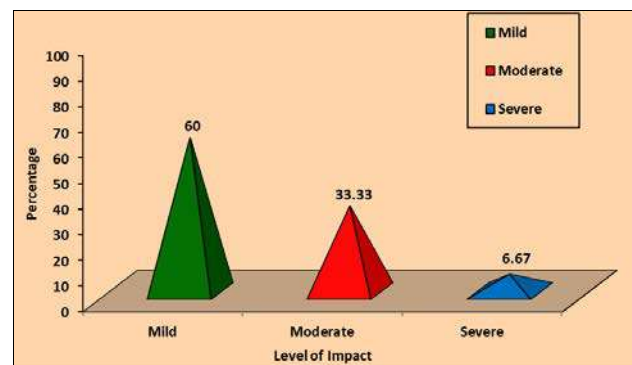
## Conclusion

Thus the findings of the study revealed that, there is a major impact of COVID – 19 pandemic on mood disorders among middle aged people. The majority of the middle aged people are stressed during the pandemic due to employment and other factors.

## Conflict of interest

The authors declare no conflicts of interest.

20(33.33%) had moderate mood disorder and 4(6.67%) had severe mood disorder among middle aged people.



**Fig 1:** Percentage distribution of level of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people

**Table 2:** Assessment of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people. N = 60

Mood Disorder	Mean
Minimum Score	4.0
Maximum Score	16.0
Mean	10.10
Standard Deviation	3.06

The table 2 depicts that the mean score of impact of Corona Virus (Covid-19) pandemic on mood disorder among middle aged people was 10.10 with standard deviation 3.06 with minimum score of 4.0 and maximum score of 16.0

## Section D: Association of level of impact with selected demographic variables.

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