

A Cross Sectional Study on Covid-19 Related Depression amongst the Population Working from Home during the Pandemic

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ABSTRACT

BACKGROUND

Covid-19 has detrimental effects on physical and mental health globally. A large number of people have developed psychological disorders due to the pandemic. This study was an attempt to explore the occurrence of depression and its severity level amongst the population who are working from home online during the pandemic period.

METHODS

A cross sectional online survey was conducted by sharing Zung self-administered depression questionnaire using Google form. Informed consent was obtained from 106 participants and snowball sampling technique was used in the study. Chi-square test and P-value were also calculated to determine the level of significance and association between different variables.

RESULTS

Out of 106 participants, 5 (4.71 %) were found to have depression. Females were more affected than men; higher numbers came from those living in a joint family and those who were not married.

CONCLUSIONS

Our study highlighted the incidence of depression amongst the group working from home during the pandemic. It is the need of the hour to recognise the psychological impact of the pandemic on an peoples' minds and help them seek immediate help from their nearest health centre to overcome the sufferings they go through.

KEYWORDS

Covid-19 Pandemic, Depression, Mental Health

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BACKGROUND

Coronavirus disease (Covid-19) is a new deadly infectious disease caused by a novel strain of coronavirus. Most of the individuals infected with Covid-19 experience respiratory distress in the form of shortness of breath, dry cough, high grade fever, myalgia, generalised weakness, loss of taste sensation, decreased appetite and loss of weight. The deadly virus chiefly targets the respiratory system but also involve other organ systems of our body like cardiovascular system, gastro intestinal system, renal system and neurological system. The neurological manifestations and gastric related distress are also other common presentations of the Covid-19, which is quite commonly recognised.

The World Health Organisation had declared the Covid-19 as a pandemic in March 2020¹ when the virus had already infected billions of people in many countries. A pandemic is defined as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people². Any pandemic is a public health emergency which impacts not only a single person but the whole community.^{3,4} Pandemic not just cause physical health symptoms but may also lead to either immediate psychological distress or long lasting psychological sequelae. The physical health distresses are usually addressed immediately by the treating physicians, however, the psychological distress experienced by an individual often go unrecognised which impairs the global functioning of an individual and thus ruins the overall quality of life. It is inevitable for majority of the population to develop some form of the psychological distress given the pandemic situation. With so much unprecedented uncertainty looming around, shortage of the medications and the health workers, burnout of the health warriors, depletion of resources, fall of economy, sudden curfew to roam on the streets, imposition for lockdown, closure of the markets and factories and institutions, sudden curb on travelling, loss of job for daily wage labourers, shortage of food and other basic necessities incessantly put people at risk to develop psychological disorders in early or later phase.

The individuals who are more vulnerable to develop such psychiatric problems^{3,4} are chiefly the medical health workers, elderly population, those with pre-existing psychiatric illnesses, those suffering from chronic medical conditions such as human immunodeficiency virus (HIV), tuberculosis, hypothyroidism, diabetes, epilepsy etc. In addition to this, there is one new group too who are also at risk to develop psychiatric morbidity due to sudden lockdown and abrupt change in their daily routine, a special population working online from home during the pandemic on regular basis to complete their official assignments. This group of people are those who have been homebound for past 7 - 8 months and have not had the opportunity to go to their office, travel to different cities for meetings or to attend any official get together due to the current pandemic situation. Moreover, they are confined to work from single working area and may have increased work load to achieve the target in the pre-set deadlines. Some of them also develop fear of losing the job due to financial crisis faced by the companies

due to fall in the economy and also experience delay in crediting salary. Some of them feel sad for no chance to meet their colleagues and hangout with their friends or conduct face to face meeting with the team for vivid clarifications on their projects, miscommunication etc. Some bunch of people also experience boredom, loneliness and fear of self or family members contracting the deadly viral infection. These sudden and unexpected changes have brought some form of discomfort to major section of the society; however, some people are able to cope with the stress and are able to accept the changes and move on in life while few fail to combat with the pressure and end up giving into their circumstances and thus developing psychological disorders.

Some of the most common psychological disorders^{3,4} observed during the pandemic are anxiety, depression, worsening of obsessive-compulsive disorder (OCD) and psychosis, increased substance abuse etc. Anxiety is characterised by fear of unknown, which is characterised by various physical features such as shortness of breath, dizziness, tremors of hands, palpitations, nausea, epigastric discomfort, headache, excessive sweating, insomnia, increased urinary frequency, headache etc. Depression is characterised by pervasive sadness of mood, loss of interest in previously pleasurable activities, easy fatigability, loss of appetite and sleep, impaired attention and concentration, pessimistic attitude, suicidal ideations etc., lasting over two weeks of duration. Psychosis is characterised by disorganised speech and behaviour, delusion and hallucinations, etc. OCD is characterised by recurrent and repetitive, irrelevant, involuntarily, irrational and intrusive images, impulses, thoughts and behaviour lasting over two weeks and causing significant distress to an individual. Wang et al. (2020),⁵ Teufel et al. (2020)⁶ and WHO (2020)¹ in their respective studies have already emphasised on the need to address the Covid related mental health issues. Roy et al. (2020)⁷ and Alkhamees et al.⁸ in their study too found the occurrence of high level of depression among the Indian youths. There are many studies conducted to assess the mental health status of medical health workers, general population and psychiatric patients as well, however, so far there has been no study done exclusively to assess the psychological distress amongst the group working from home during this pandemic time and thus, our study is an attempt to explore the incidence of depression prevailing in this section of people and help the mental health professionals to plan the policies to address their needs.

METHODS

This was a cross sectional study conducted online involving 106 participants. The online google forms were created and mailed to the participants after obtaining informed consent from them. The survey was conducted from 2nd to 4th November 2020 and Snowball sampling technique was used. The data was then analysed with Statistical Package for the Social Sciences (SPSS) V 20 using statistical tools like chi-square with Yates' correction.

Inclusion Criteria

1. Those who are working from home exclusively.
2. Above 18 years of age.
3. Those who have given informed consent.
4. Don't have pre-existing psychiatric disorders and any medical comorbidities.
5. No history of any substance abuse.

Exclusion Criteria

1. Those who were not willing to participate in the study.
2. Those who had pre-existing psychiatric disorders.
3. Those who had medical comorbidities like epilepsy, hypo or hyperthyroidism, diabetes, bronchial asthma, ischaemic heart disease etc.

Measures

A semi-structured and self-rating questionnaire was created. The questionnaire contained an informed consent, socio demographic details like age, gender, marital status, type of family, past history of medical illness and psychiatric disorders. The psychometric tool, Zung Self Rating Depression Scale was used to assess anxiety and its severity level.

Zung Self Rating Depression Questionnaire

It was designed by William WK Zung to screen and grade the severity of depression. It is a self reporting questionnaire comprising 20 questions. Each question has four options. The participant must mark the option that closely resemble the symptoms they experience. The scoring of the option range from 1 to 4. The lowest score being 20 and highest is the 80 score.

A score of 20 to 49 was considered as the normal range, 50 to 59 as mild depressed, 60 to 69 as moderately depressed, 60 to 69 to severe grade and above 70 as severely depressed.

RESULTS

Sl. No.	Sex	Frequency	Percentage
1	Male	63	59.43
2	Female	43	40.57
3	Total	106	100

Table 1. Gender Distribution of the Participants in the Study

A total of 106 participants had given their consent to participate in the study, out of which 63 (59.43 %) were men and 43 (40.57 %) were women. Out of these 106 participants, 5 (4.71 %) were found to have depression.

Sl. No.	Gender	Frequency	Normal	Depression	Percent	P-Value
1	Male	63	61	2	1.88	0.659
2	Female	43	40	3	2.83	
3	Total	106	101	5	4.71	

Table 2. Gender Distribution of Participants Identified to Have Depressive Disorder

(Chi-square = 0.1937)

The rate of occurrence of depression was slightly higher among the females (2.83 %) than in males. (1.88 %).

Sl. No.	Marital Status	Frequency	Normal	Depression	Percent	P-Value
1	Married	84	81	3	3.57	0.60
2	Unmarried	22	20	2	9.09	
3	Total	106	101	5	12.66	

Table 3. Marital Status of the Participants Who Developed Depression

(Chi-square value = 0.2727)

The marital status was found that the incidence of depression was higher among the unmarried (9.09 %) group than the married (3.57 %) group.

Sl. No.	Type of Family	Frequency	Normal	Depression	Percent	P-Value
1	Nuclear	102	99	3	2.94	0.00161
2	Joint	4	2	2	50	
3	Total	106	101	5	52.94	

Table 4. Type of Family of the Participants Who Presented with Depressive Disorder

(Chi-square value = 9.939)

Those residing in the joint families (50 %) had higher depression than those who lived in nuclear family (2.94 %) with the chi-square with Yates' correction score of 9.939 and the P-value was 0.00161. Here, the P-value was below 0.05 and thus it had significant value and showed chance association between depression and joint families.

Sl. No.	Gender	Frequency	Normal	Mild Depression	Moderate Depression
1	Male	63	61	2	0
2	Female	43	40	2	1
3	Total	106	90	4	1

Table 5. Gender Distribution of Participants with Varying Grades of Depression

DISCUSSION

There are very few studies done to explore the incidence and prevalence of depression among the general population, however, no specific study so far has been carried out to assess the incidence of depression among the population working from home online during the Covid-19 pandemic. Thus, our study was an attempt to widen our horizon of understanding about the incidence of depression in this unrecognised above-mentioned group. We conducted an online cross-sectional study by creating Google form and shared the zung self-rating depression questionnaire with the participants after obtaining the informed consent from them. A total of 106 participants had given their consent to participate in the study, out of which 63 (59.43 %) were men and 43 (40.57 %) were women candidates. Out of these 106 participants, 5 (4.71 %) were found to have depression. Out of these 5, 4 of them had mild grade depression and one was diagnosed with moderate grade depressive symptoms. Amongst the 63 men, 61 (96.82 %) scored within the normal range while remaining 2 (3.17 %) qualified for mild grade depression. In case of female participants, 3 (6.97 %) were found to experience depression of varying intensities while other 40 (93.02 %)

scored within the normal range. The chi-square with Yates' correction and P value was also calculated to assess any chance association between the gender and depression. The chi-square statistic was found to be 0.1937 and P-value was 0.659. There was no specific association between the gender and depression in our study findings as P-value was insignificant at $P < 0.05$.

Our study also found that the rate of occurrence of depression was slightly higher among the female gender (2.83 %) than male population (1.88 %). Besides that, the marital status was also assessed and it was found that the incidence of depression was higher among the unmarried (9.09 %) group than the married (3.57 %) group. The chi-square statistic with Yates' correction was 0.2727 and P-value was 0.60. Thus, not significant at $P < 0.05$. In addition to this, those residing in the joint families (50 %) had higher depression than those who lived in nuclear family (2.94 %) with the chi-square with Yates' correction score of 9.939 and the P-value was 0.00161. Here, the P-value was below 0.05 and thus it had significant value and showed chance association between depression and joint families.

In a meta-analysis by Salari et al. (2020),⁹ their study highlighted the following findings that, the prevalence of depression was 33.7 % in sample size of 44,531 population, whereas the prevalence of anxiety was 31.9 % in a sample size of 63,439 population and 29.6 % population experienced stress in 9074 population. Our sample size comprised of 106 participants, found 5 (4.71 %) participants working from home to experience depressive disorder of varying intensities which is of quite significance.

Rehman et al. in another cross-sectional web-survey (2020)¹⁰ on 403 participants to assess the incidence of stress, anxiety and depression on general population during lockdown period reported that both men and women suffered equally in contrast to our study where we found that females experienced depression in relatively higher proportion than their male counterparts. However, both studies found that the majority of the participants had experienced mild grade of depressive symptoms and very few had moderate and severe grade illness and that the distress was higher amongst the females.

In a longitudinal survey done by Wang et al. (2020)⁵ in China involving 1738 participants to study the impact on mental health of the Chinese population during pandemic found that around 16.5 % were depressed, 8.1 percent had some stress and 28.8 % had anxiety disorder. Their and our study both found that more number of females had psychological distress compared to men.

Teufel et al. (2020)⁶ in an online cross sectional survey on 15,704 participants in Germany reported 14.3 % population were screened positive to have depression and 65.2 % screened positive for some psychological distress. Their study also stated that females had outnumbered men in developing depression, similar to our study.

In another online cross sectional survey by Alkhamees et al. (2020)⁸ in Saudi Arabia, the psychological impact on the general population was assessed comprising 1160 participants and found that 23.6 % suffered from some form of psychological distress and 28.3 % individuals were found to suffer from depression and women being affected more

than men, once again similar findings in terms of female gender having more depression symptoms.

Waleed Burhamaah et al. (2020)¹¹ in their study web cross-sectional survey on 4132 participants explored the psychological burden of the Covid 19 burden and associated lockdown in Kuwait and stated that prevalence of depressive symptoms was 30.13 %. About 69.31 % females screened positive for some level of psychological disorders, most were married (59.37 %). However, our study found that unmarried people had higher number of depression cases than the married group, however both studies had similar findings in reporting the females being more depressed than the males.

Our study highlights the incidence of depression being higher among the female gender, more so who are unmarried and live in the joint family. Most of the studies conducted state that women were more commonly affected than men and our study too had similar observation. Besides, our study also found a chance association between the joint family and depression with P-value of 0.0016 being significant below $P < 0.05$.

There are multiple factors that contribute to why a person actually develops any psychological distress during the pandemic period. Psycho-social factors such as loss of job, fear of losing job due to sudden layoff by the companies, pay cut, death of family member from the deadly corona virus, health crisis, interpersonal conflicts, financial crisis, increased work load, sensational news on television or newspapers, inability to work under pressure, change in routine activities, being in isolation, inability to meet family members, loneliness and boredom, distortion of the facts by social media, excessive use of recreational drugs, excessive eating, play a pivotal role in germination of the disease especially amongst those who live in a joint family as they have to shoulder the responsibility to cater the needs of every family member. In addition to this, being the sole responsible person to run a joint family and sudden decline in the resources to meet the demands of family may further worsen the situation.

Other factors like poor internet connection while working, constant noise in the background and sudden emergency to attend during office hours thus impairing the concentration and work performance are some other reasons that further worsens an individual's mood. The World Health Organisation (2020)¹ has even issued the guidelines to address the pandemic related mental health issues. This study is a small attempt to identify the incidence of depression disorder among this unrecognised group of people and highlight the need to address their concerns and help the mental health policymakers to plan guidelines to address the unmet needs of this section of people.

CONCLUSIONS

Our study highlighted the incidence of depression amongst the group working from home during the pandemic. It is the need of the hour to recognise the psychological impact of the pandemic on peoples' minds and help them seek

immediate help from their nearest health centre to overcome the sufferings they go through.

Limitations

The sample size was small. Being an online cross-sectional study, it hindered us from examining the participants in person and our reach was limited to a smaller section of people. In addition to this, we had used a self-rating questionnaire; so the reliability of the participants with regard to answering the questions was low.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

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