Research Article

Covid-19 Pandemic and "Feeling Depressed": An Online Survey

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A B S T R A C T

The pandemic of coronavirus has brought public life to a standstill and impacted mental health globally that may result in depression.

Objective: To study the proportion of participants feeling depressed.

Method: During the nationwide complete shutdown in India, an online survey to assess the feeling of depression was conducted among 500 participants and among them 478 responded.

Result: The proportion of respondents feeling depressed was 28%. By using Patient Health Questionnaire (PHQ)-9, the proportion of respondents with depression was found to be 51.6% including mild depression.

Conclusion: Feeling depressed during the COVID 19 pandemic is prevalent and should be addressed through mental health program at the community level.

Keywords: Coronavirus, Depression, Lockdown, COVID-19, Mental Health, Fear

Introduction

Coronavirus disease is an infectious disease caused by a newly discovered coronavirus. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020. On 11 February 2020, WHO declared name for the new coronavirus disease as COVID-19. Since the first COVID-19 case reported in early December 2019, until now, the number of active cases has reached nearly 5 million in 217 countries, and the number is still increasing.[1]

To contain the spread of the pandemic in India a nationwide lockdown was imposed since March 25 with many other measures being taken. The imposition of this lockdown like many countries in India also has significantly changed our lives due to several restriction imposed to slow down the spread of virus. The lockdown was stressful for people for various reasons. The transit system like public transport facilities such as buses, metro services, airway and trains has been put completely on halt, in response to this public mobility throughout India declined abruptly. People were made to stay at home, visits to workplaces fell and many people were instructed to work from home, home schooling of children and for some temporary unemployment. Not any recreational activities like visits to restaurants, shopping centers and movie theatres, could be undertaken. Sudden drop in industrial and commercial activities was noticed during this unprecedented lockdown. Quarantine with family members, colleagues and friends was imposed. All these

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changes added fear among the public and was associated with adverse mental health consequences.

Depression is a disorder of major public health importance, in terms of its prevalence and the suffering, dysfunction, morbidity, and economic burden. Globally, one in four people will be affected by mental or neurological disorders at some point in their lives, the total number of people with depression was estimated to exceed 300 million in 2015. Depression is ranked as the single largest contributor to global disability (7.5% of all years lived with disability in 2015). In India, the National Mental Health Survey 2015-16 reveals that nearly 15% Indian adults need active intervention for one or more mental health issues and one in 20 Indians suffers from depression.[2] Depression is more common in women than men. The report on Global Burden of Disease estimates the point prevalence of unipolar depressive episodes to be 1.9% for men and 3.2% for women, and the one-year prevalence has been estimated to be 5.8% for men and 9.5% for women. It is estimated that by the year 2020 if current trends for demographic and epidemiological transition continue, the burden of depression will increase to 5.7% of the total burden of disease and it would be the second leading cause of Disability-Adjusted Life Years (DALYs), second only to ischemic heart disease.[3]

Little is known about the effects of complete lockdown due to pandemic on the mental status of an individual. Therefore, the objective of this survey was to study the impact on mental health among general public during the nationwide complete shutdown owing to coronavirus pandemic in India.

Methods

Study settings and study participants: It was a cross-sectional study conducted between April 15 and May 01, 2020 to collect data through a pre-structured questionnaire, circulated through a web-based link via messages and mails asking them to pass it on to others. The study participants included all individuals aged 18 years and above and were telephonic contacts of the investigators.

Exclusion Criteria: All the telephonic contacts who are less than <18 years or the telephone numbers which are invalid. Based on this, the survey link was shared with 500 telephonic contacts of the investigators.

Sample Size and Sampling: Taking 15% as the proportion of people in India with some or other mental health morbidity,[2] sample size was calculated as 196 with precision of 95% and 5% alpha error. However, all adult telephonic contacts of investigating team were shared with the link of survey.

Study Tool: This is a self-administered questionnaire which helps in evaluating and diagnosing the mental health status or presence of depression of individuals which they are experiencing during the COVID-19 outbreak lockdown in India. The study collected the demographic details in addition some questions related to mental health status of the respondents. The response to assess their depression status was classified using Patient Health Questionnaire (PHQ)-9.

Study Methods: Participant information sheet and consent form were also included in the survey link. The contacted participants would only participate in the survey if they gave consent to participate. The survey lasted for 5 minutes only (average 4-6 minutes).

Statistical Analysis: The data was entered in Microsoft Excel 2007 and analyzed using using SPSS version 23. Descriptive statistics were used to characterize the study population. Association between categorical variables was assessed using Chi Square test (or Fisher exact test). P-value <0.05 was considered as significant.

Result

A total of 478 respondents were surveyed, of these, 262 (54.8%) were males and 216 (45.2%) were females, the mean age of respondents was 34.12±12.27 years ranged from 18-72 years, The majority of the survey respondents were younger age group less than and equal to 30 years (52.7%), well-educated holding professional or Post graduate degree 259 (54.2%), in professional services (55.9%), belongs to upper socio-economic status (51.9%), Hindu (66.7%) and have faith in God (93.1%).

The differences in the association between demographic characteristics and feeling depression are presented in Table 1.

Of the 478 respondents, 134 (28%) responded that they were feeling depressed. Gender has a significant association with the prevalence of feeling depression in this study (p=0.006). The respondents belonged to Hindu religion were feeling depressed (23.8%) but that feeling of depression was 36.6% among respondents of Muslim religion. Both the groups had significantly different from others groups when compared (Table 1).

Illiterate were feeling significantly more depressed (p=0.001). Similarly, labors had shown significantly more feeling of depression in unskilled workers (p=0.01) and in skilled workers (p=0.03) as compared to others. On other side, professionals had significantly less feeling of depression (p=0.001). It is also observed that feeling depressed was significantly more in lower socio-economic class groups than upper class.

To find out the depression level among respondents an objective by PHQ 9 was carried out. Respondents who said no in response to 'are you feeling depressed' considered not depressed by PHQ 9 were significantly higher as compared to respondents who were depressed (not depressed: n= 213, 92.2%; depressed: n=18, 7.8%; χ^2= 90.8; p=0.001). However, in the remaining respondents 114 (23.8%) had mild depression, and 64 (13.4%) had moderate depression.

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There was significant difference in depression severity between the respondents in 40 (8.4%) respondents who had moderately severe depression (not depressed: $n=5$, 12.5%; depressed: $n=35$, 87.5%; $\chi^2=76.5$; p=0.001) and similarly in 29 (6.1%) respondents who were in severe depression (not depressed: $n=3$, 10.3%; depressed: $n=26$, 89.7%; $\chi^2=58.108$; p=0.001) (Table 2).

Sensitivity of just asking whether one is feeling depressed was 46.9% (116/247) and specificity was 92.2% (213/231) to detect depression.

Table 1.Association between demographic variables and depression due to COVID-19 outbreak during the lockdown in India

Variables	Feeling Depressed (n=478)		Chi square	p-value
	No, n=344 (72%)	Yes, n=134 (28%)		
Age (in years)				
≤30 (n=252)	179 (71.0%)	73 (29.0%)	0.231	0.631
31-45 (n=131)	92 (70.2%)	39 (29.8%)	0.27	0.603
46-60 (n=84)	65 (77.4%)	19 (22.6%)	1.481	0.224
>60 (n=11)	8 (72.7%)	3 (27.3%)	0.003	0.955
Gender				
Female (n=216)	142 (65.7%)	74 (34.3%)	7.571	0.006
Male (n=262)	202 (77.1%)	60 (22.9%)		
Religion				
Christian (n=12)	8 (66.7%)	4 (33.3%)	0.171	0.679
Hindu (n=319)	243 (76.2%)	76 (23.8%)	8.421	0.004
Muslim (n=123)	78 (63.4%)	45 (36.6%)	6.004	0.014
Others (n=13)	8 (61.5%)	5 (38.5%)	0.72	0.396
Sikh (n=11)	7 (63.6%)	4 (36.4%)	0.387	0.534
Belief in God				
Yes (n=445)	321 (72.1%)	124 (27.9%)	0.091	0.764
No (n=33)	23 (69.7%)	10 (30.3%)		
Education				
Illiterate (n=47)	20 (42.6%)	27 (57.4%)	22.353	0.001
Higher secondary certificate (n=33)	23 (69.7%)	10 (30.3%)	0.091	0.764
Graduate degree (n=139)	106 (76.3%)	33 (23.7%)	1.79	0.181
Post-graduate or professional degree(n=259)	195 (75.3%)	64 (24.7%)	3.094	0.079
Occupation				
Unemployed (n=152)	101 (66.4%)	51 (33.6%)	3.365	0.067
Unskilled worker (n=7)	2 (28.6%)	5 (71.4%)	6.631	0.01
Skilled worker (n=52)	31 (59.6%)	21 (40.4%)	4.412	0.03
Professional (n=267)	210 (78.7%)	57 (21.3%)	13.399	0.001
Socioeconomic status				
Lower (n=9)	3 (33.3%)	6 (66.7%)	6.786	0.009
Upper Lower (n=44)	33 (75.0%)	11 (25.0%)	0.221	0.638
Lower Middle (n=40)	21 (52.5%)	19 (47.5%)	8.199	0.004
Upper Middle (n=137)	92 (67.2%)	45 (32.8%)	2.205	0.138
Upper (n=248)	195 (78.6%)	53 (21.4%)	11.34	0.001

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Table 2.Distribution of respondents according to severity of Depression assessed by PHQ 9

Depression assessed by PHQ-9	Feeling Depressed (n=478)		Chi square	p-value
	No, n=344(72%)	Yes, n=134(28%)		
None (n=231)	213 (92.2%)	18 (7.8%)	90.784	0.001
Mild depression (n=114)	87 (76.3%)	27 (23.7%)	1.404	0.236
Moderate depression (n=64)	36 (56.3%)	28 (43.8%)	9.047	0.003
Moderately severe depression (n=40)	5 (12.5%)	35 (87.5%)	76.516	0.001
Severe depression (n=29)	3 (10.3%)	26 (89.7%)	58.108	0.001

Table 3.Reasons for feeling depressed (n=134)

Reason for feeling depressed	Frequency	Percentage
Corona fear	105	78.3
Lockdown	37	27.6
Worried about family	18	13.4
Helpless to help others	11	8.2
Alone	9	6.7
Jobless	7	5.2
No income source	8	6.0
Loss of life	6	4.5
Social distancing	5	3.7
Corona cases nearby	6	4.5
Personal reason	5	3.7
Economy	4	3.0
Loss of Job	7	5.2
No cure	4	3.0
Corona News	4	3.0
Fear to get infected	3	2.2
Shopping	3	2.2
Poverty	3	2.2
Work pressure	4	3.0
Lack of Exercise	2	1.5
Improper sleep	1	0.7
Pregnant	1	0.7
Possibility of Civil war	1	0.7
Worthless	1	0.7
Anxiety	2	1.5
Don't know	24	17.9

Note: Responses are not Mutually Exclusive

Reasons of feeling depressed were corona fear (78.3%), lockdown (27.6%), worried about family (13.4%), helplessness (8.2%), alone (6.7%), Jobless (5.2%), etc. (Table 3).

The lockdown had significantly interfered with individual life. Overall, about 78.3% participants reported fear of coronavirus diseases, among those reporting fear many were depressed due to loss of life (4.5%), covid-19 positive patients in the vicinity (3.7%), no cure for the disease (3%), fear of getting infected (2.2%), etc. Moreover, 13.4 % were worried about their families, 8.2% felt helpless, 6% of respondents felt depression as there was no source of income, 5.2 % due to fear of loss of job, 3% due to economy condition during and after lockdown, 1.5% reported having anxiety and 0.7% felt worthless. Among those reporting adverse effects of lockdown were loneliness in 6.7%, work pressure in 3%, social distancing in 3.7%, disturbed sleep in 0.7%, shopping in 2.2% and pregnancy related fear in 0.7% etc.

Discussion

There is no doubt that people are experiencing extreme anxiety owing to COVID-19 pandemic due to fear of contracting the virus and seeing so many people dying every second. This fear is further aggravated due to significant changes to our daily lives during the lockdown.[4] The coronavirus pandemic has brought enormous uncertainty among young people especially preparing for exams, hoping to start university and job seekers and daily wages worker.

Preliminary evidence suggests that symptoms of anxiety and depression (16-28%) and self-reported stress (8%) are common psychological reactions to the COVID-19 pandemic, and may be associated with disturbed sleep.[5] Many studies have estimated the prevalence of depression in community samples and the prevalence rates have varied from 1.7 to 74 per 1000 population.[6] Hospital based studies have shown that 5 to 26.7% of cases have depression.[7-10] However, studies done in primary care clinics/ center have estimated a higher prevalence rate of 21-40.45%.[11-14] A study from South India on large population screened more than 24,000 subjects in Chennai using Patient Health Questionnaire (PHQ)-12 reported overall prevalence of depression to be 15.1% after adjusting for age using the 2001 census data,[15] which is nearly half (29%) to what we have reported in this study. In another study, Nandi *et al*.[16] compared the prevalence of depression in the same catchment area after a period of 20 years (in 1972 and 1992) and reported that

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the prevalence of depression increased from 49.93 cases per 1000 population to 73.97 cases per 1000 population.

It is very important to understand the psychological impact in the wake of the covid-19 outbreak, such as extreme fear either due to coronavirus, or due to lockdown consequences and to find evidence-based ways of addressing these issues.

Limitation

As a result, the conclusion was less generalizable to the entire population particularly less educated people, because there was sampling of a particular network of peers (educated), leading to selection bias.

Conclusion

Feeling depression is high among people and it was significantly more in illiterate, unskilled and Skilled workers and who belong to lower socioeconomic groups. Reasons of feeling depressed were corona fear, lockdown, worried about family, helplessness, etc.

Conflict of Interest: None

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