

SHORT ARTICLE

Mental well-being of general population during COVID-19 pandemicPriyanka¹, Sanjeev Kumar Rasanian²¹Assistant Professor, Department of Community Medicine, Lady Hardinge Medical College & Associated Hospitals, New Delhi;²Director Professor & Head, Department of Community Medicine, Lady Hardinge Medical College & Associated Hospitals, New Delhi

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Abstract

Background: COVID-19 pandemic has drastically affected the mental health of people worldwide, with emergence of new mental health problems and worsening of the existing ones. **Objectives:** This research was conducted with the objective to study the level of mental wellbeing among adult general population during COVID-19 pandemic in India and to identify the association of socio demographic factors with the level of mental wellbeing of study subjects. **Methods:** It was a community based online cross sectional study involving general population more than 18 years of age. Data collection was done by using a goggle form link which was circulated via online platforms. Data was analyzed using Microsoft excel and SPSS version 21. Qualitative data was expressed in proportions or percentages and quantitative data was expressed in mean and standard deviation. Chi square test and logistic regression analysis was done to find out association of demographic factors with mental wellbeing. **Results:** 58.4% subjects had normal mental wellbeing score while 25.1% were found to be at risk of developing psychological distress and 16.5% were at risk of depression. Lower wellbeing scores were significantly associated with younger (<36 years) as well as older age (>55 years), female gender, divorced or widowed, unemployed, businessmen and students. Lower scores were also associated with increased consumption of alcohol and tobacco. **Conclusion:** A large proportion of study population had a poor mental wellbeing during the on-going COVID-19 pandemic.

Keywords

Adult Population; COVID-19; Mental Well-being; Pandemic

Introduction

The ongoing pandemic of COVID-19 has drastically affected the health of people across the globe. Stringent public health measures have been implemented to curtail the spread of virus which has resulted in implementing lockdowns and restricting the movement of people.(1) The restrictions designed to prevent the spread of corona virus are having a profound impact on the way we live our daily lives. People have been advised to minimize face to face interactions, follow social distancing at all times, use face masks and sanitize hands at frequent intervals as the new normal. All these factors coupled with the fear and uncertainty associated with COVID-19 crisis has adversely affected the mental health of general public.(2) New mental health problems have developed and existing ones have gotten worse. It is a sort of mental health emergency

and prioritizing mental health has never been more critical than it is now.(3) But, still this aspect is often neglected specially in countries like India where mental health issues are stigmatized and not commonly talked of. Although there has been a focus on research about mental wellbeing during COVID-19 pandemic in some parts of the world, but very limited similar studies have been conducted in Indian population.

Aims & Objectives

1. To estimate the level of mental wellbeing among adult general population during COVID-19 pandemic in India.
2. To determine the association of socio demographic factors with the level of mental wellbeing of study subjects.

Material & Methods

This was a community based online Cross-sectional study by using internet based social media applications.

Study Population: General public of age group >18 years who had access to internet, using social media applications and who were literate and could understand English or Hindi.

Sampling technique: Study subjects were enrolled by direct recruitment. They were contacted through phone contacts other than those associated with the investigators, messaging apps and other social media platforms and groups. Google form link was sent consisting of Participant Information sheet and a mandatory consent check box. It mentioned the purpose of study and only those who gave their consent to be included in the study were able to go to the next section of questionnaire. The online survey continued for a period of one month from 1st to 31st July, 2020.

Study tool: An online pre designed, pre tested, self-administered questionnaire was designed in Google forms. The study tool contained information about demographic profile of participants like age, sex, occupation, marital status etc. They were asked questions regarding the effect of the current pandemic and lockdown restrictions on mental health and wellbeing. This also included any change in their smoking and alcohol consumption, if they are using them. For assessing mental wellbeing, Warwick Edinburgh Mental Well-being Scale (WEMWBS) was used, which is a validated tool for use in general population. It measures subjectively perceived wellness and psychological function on a likert scale. The 14-item scale has 5 response categories, summed to provide a single score. The items are all worded positively and cover both feeling and functioning aspects of mental wellbeing. The wellbeing score above 45 is considered normal, while those with scores between 41 and 45 is considered to be at high risk of psychological distress and those with scores less than 41 could be at high risk of depression.(4) the permission to use this scale in the current research has been obtained from the copyright owners.

In order to address language barrier, questionnaire was circulated in both english and hindi so that participants can choose and respond in their preferred language. The hindi version has already been validated.

Data analysis: Data was entered in MS-Excel and analyzed using SPSS version 22. Qualitative data was expressed in proportions or percentages and quantitative data was expressed in mean and standard deviation. Chi square test was used to check the association of various socio demographic factors and different categories of WEMWBS scores. The data was further analyzed by using multiple logistic regression method.

Ethical Considerations: A subject information sheet explaining the purpose of study, risk benefits and consent form was prefixed to the questionnaire. Only the subjects willing to consent for study could access the questionnaire. The approval to conduct the research was obtained from the Institutional Ethics committee. The responses were collected anonymously without any identifying information of the respondents and the data was kept purely confidential.

Results

During the study period, a total of 1112 subjects gave consent and completed the study questionnaire. 861 (77.4%) responses were obtained in English and 251 (22.6%) were in Hindi questionnaire. The responses were obtained from 30 states and union territories of the country. The mean age of the participants was 35.57(±14.4) years. 389 (34.9%) study subjects belonged to a relatively younger age of 25years or less. 11% were aged more than 55years. 60% participants were females and 62% were currently married. Approximately one fifth of the respondents were employed in Government job, almost the same proportion in private job and the largest chunk (36.6%) were students (Table 1).

649 (58.4%) subjects had normal mental wellbeing score while 279 (25.1%) were found to be at risk of developing psychological distress and 184 (16.5%) were at risk of depression. The mean well-being score of participants was found to be 46.62 (±9.59SD).

Mental wellbeing scores were found to be higher in the age group of 36 to 55 years as compared to the other age groups. The proportion of subjects having normal wellbeing scores was lesser in those aged less than 36 years and least in those more than 55 years. This difference was found to be statistically highly significant ($p=0.000$). Almost one fourth respondents in the age groups of 26 to 35 years and more than 55 years were found to be at risk of developing depression. Females were found to have lower scores as compared to males ($p=0.012$). Marital status was also significantly associated with mental wellbeing with currently married subjects having highest proportion with normal wellbeing scores (62.8%) and divorced/separated/widowed having lowest proportion (27.3%). Almost one third subjects who were divorced/separated/widowed were found to be at risk of developing psychological distress as compared to approximately one fourth in case of currently married and unmarried, the former group also had the largest proportion at risk of developing depression (40%). As far as occupation is concerned, the proportion of subjects with normal wellbeing scores was significantly higher in Government employees (84%), self employed (77.3%) and home makers in case of females (86.1%). It was found to be lower in students (49.1%), retired (47.9%) and least in the unemployed (14.2%). Slightly less than half of businessmen (44.4%) and retired persons (43.8%) were

found to be at risk of psychological distress while almost one fourth students were at risk of depression.(Table 1)

We further analyzed the association of demographic factors with mental well-being by using logistic regression method. The level of mental wellbeing was taken as dependent variable and age, sex, marital status and occupation were taken as independent variables in the regression model. All four demographic variables were found to be significantly associated with the status of mental wellbeing (Table 2).

127 (11.4%) respondents admitted to be consuming tobacco in any form. Out of these, 64.6% reported an increase in consumption while 18.9% reported a decrease in tobacco use during the COVID 19 pandemic. We tried to find out the relationship of this change in tobacco use with WEBWMS scores. Out of the respondents with normal mental well-being scores, 47.7% had increased the consumption whereas 73.5% of the respondents at risk of psychological stress or depression had increased tobacco consumption during the pandemic and this association was found to be statistically significant ($p < 0.05$).

227 (20.4%) subjects consumed alcohol and 38.3% of these reported increased and 23.3% reported decreased alcohol consumption during the pandemic. 28.8% of subjects with normal mental wellbeing and 48.6% of those at risk of psychological stress or depression admitted to have increased alcohol intake during pandemic ($p < 0.01$) (Table 3)

Discussion

The mean well-being score of participants was found to be 46.62 ($\pm 9.59SD$). 41.6% respondents had less than normal scores, which suggests a lower level of mental wellbeing in a large proportion of subjects. Several other researchers from different parts of the world have also reported a lower level of mental wellbeing among general population during COVID-19 pandemic.(5-9) Some other studies suggest that the levels of stress, anxiety and depression are quite high among general public because of the effects of pandemic.(10-25) This shows that the current pandemic has negatively affected the mental health and wellbeing of people.

We tried to analyse the association of various demographic factors with mental wellbeing scores. The proportion of WEMWBS score of more than 46 was lowest in the age group of people more than 55 years followed by those less than 25 and 25 to 35 years. This shows that mental wellbeing was poorer among the old (>55years) as well as young (<36years) and it was comparatively better in the middle aged population (36 to 55years). The reason may be that the young people are more concerned about economic challenges, jobs and careers and future consequences of the pandemic. Md Shaheed Mahmud et al, have found that due to the current pandemic, the future workforce are getting more anxiety regarding their future career.(26) Older population may be more afraid of

the adverse consequences of COVID-19 as they commonly have co-morbid conditions like diabetes and hypertension and are vulnerable to morbidity and mortality because of the disease.(27) As a result, their social life is also disrupted and it becomes a major source of distress for them.(8) Our results are in accordance with other studies which have reported lower mental wellbeing and higher level of anxiety and stress in younger population because of the pandemic.(10,16,19,21,23,27,28,29) Mohammad Ali et al, in their study from Bangladesh, found that people more than 50 years of age are more psychologically disturbed by the pandemic.(6) Other authors have also pointed out that the risk of mental health problems because of COVID-19 pandemic is more in elderly.(2,20)

In our study, a significantly higher proportion of females had a lower mental wellbeing score as compared to males. This shows that the psychological impact of the pandemic is more in case of females. Because of the current situation, many people are working from home, children are studying from home only, domestic helps are not available and all this has disproportionately increased the burden on women who are considered primarily responsible for domestic chores and care of children. This impact is severe for working women. Similar findings have been shown by others.(5,7,10-16,21,24,27,29,30) However, Yeen Huang from China and Ebru Morgul et al from Turkey have found no difference with gender of the psychological impact of COVID-19.(19,29)

Mental well scores were significantly higher in the currently married people and quite lower in widowed/separated/divorced people. Thus, family especially the spouse acts as a major support system in times of crisis. Other researchers have also reported better mental wellbeing among those currently married.(16,18,23,27) Occupation of the study subjects also had a significant impact on their mental well being. A higher level of wellbeing scores were seen in Government employees and housewives in case of females as compared to those having a private job, business, are retired or students. Those working under Government sector have a better job security and less chances of loss of wages which can be contributory factor in better psychological health. Other studies also point out a better psychological wellbeing in Government employees than others.(6,16,19,23) Absar Ahmad et al and Hossein A et al, in their study on Indian population, have found that the fear of financial loss and related stress is higher among businessmen.(6,18) Several other authors have also mentioned poorer mental health in students as a result of pandemic.(5,15,23,31,32) Because of closure of educational institutes, there is a shift to online mode which may not be very comfortable for students and some may have internet access problems. Career of this year's university graduates is at stake and students are

concerned that the consequent stress will adversely affect their exam performance.(32) Very poor mental wellbeing was found among unemployed persons which is consistent with findings of Mohd Ali from Bangladesh.(6)

A significantly larger proportion of subjects with lower mental wellbeing scores had increased the consumption of both tobacco and alcohol as compared to people with higher scores. This is an indication that mental stress is related to increase in substance use. There is existing evidence that psychological stress is associated with increased abuse of psychoactive substances including alcohol and tobacco.(33-35) Hence, there is a need to look into this aspect and take corrective measures well in time.

Conclusion

We conclude that a considerable proportion of study population (41.6%) had a poor mental wellbeing during the on-going COVID-19 pandemic. Both young (<35years) as well as old >55 years of age, females, divorced/widowed, students businessmen and unemployed were found to have more risk of getting psychological distress or depression. Out of the people who consumed alcohol or tobacco in any form, a considerable proportion had increased their use and it was significantly related with lower level of mental wellbeing in these individuals.

Recommendation

There should be more focus on mental health and wellbeing of population by the policy makers as well the physicians. General public should also be familiarised about the negative mental health consequences and encouraged to report to health care system if they experience any such issues.

Limitation of the study

This study has a few limitations. The study was conducted during COVID-19 pandemic and to avoid the risk of infection and in order to receive maximum responses in limited time, online mode was used. Sampling method was non random and there are high chances of selection bias. But this was the only feasible mode of data collection at that time owing to the restrictions put forth because of the pandemic. Secondly, because of the cross sectional design, it is difficult to make causal inferences.

Relevance of the study

This study has pointed out that the level of mental wellbeing among adult Indian population is poor during COVID-19 pandemic and certain groups are more vulnerable for developing mental health issues. It is a high time to draw the attention of policymakers towards this issue so that immediate corrective measures can be taken.

Authors Contribution

P: Performed data acquisition and analysis and prepared manuscript. SKR: Reviewed and edited the manuscript.

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Tables

TABLE 1 SOCIO DEMOGRAPHIC CHARACTERISTICS AND MENTAL WELL-BEING OF STUDY SUBJECTS

		Mental Well-Being				Remarks
		Number (percentage)*	Normal	At risk of psychological distress	At risk of depression	
Age	<25	389 (34.9)	225 (57.8)	93 (23.9)	71 (18.2)	Chi square-40.254; df- 8; p value= 0.000
	26-35	194 (17.5)	114 (58.8)	35 (18.0)	45 (23.2)	
	36-45	239 (21.5)	155 (64.8)	63 (26.4)	21 (8.8)	
	46-55	165 (14.8)	104 (63.0)	43 (26.1)	18 (10.9)	
	>55	125 (11.2)	51 (40.8)	45 (36.0)	29 (23.2)	
Sex	Male	441 (39.7)	281 (63.7)	94 (21.3)	66 (15.0)	Chi square-8.846; df-2; p value= 0.012
	Female	671 (60.3)	368 (54.8)	185 (27.6)	118 (17.6)	
Marital Status	Unmarried	401 (36.1)	210 (52.5)	95 (23.7)	96 (23.9)	Chi square-41.179 df-4; p value= 0.000
	Currently married	689 (62.0)	433 (62.8)	177 (25.7)	79 (11.4)	
	Divorced/Separated/Widowed	22 (1.9)	06 (27.3)	07 (31.2)	09 (40.9)	
Occupation	Government Job	219 (19.7)	184 (84.0)	19 (8.7)	16 (7.3)	Chi square-116.952; df-14; p value=0.000
	Private Job	238 (21.4)	134 (56.3)	70 (29.4)	34 (14.3)	
	Business	99 (8.9)	40 (40.4)	44 (44.4)	15 (15.2)	
	Self employed	44 (4.0)	34 (77.3)	08 (18.2)	02 (4.5)	
	Student	407 (36.6)	200 (49.1)	99 (24.3)	108 (26.5)	
	Retired	48 (4.3)	23 (47.9)	21 (43.8)	04 (8.3)	
	Home maker	36 (3.2)	31 (86.1)	04 (11.1)	01 (2.8)	
	Un employed	21 (1.9)	03 (14.2)	14 (66.7)	04 (19.1)	
	Total	1112 (100)	(58.4)	(25.1)	(16.5)	

*The percentages mentioned in italics are column percentages.

TABLE 2 LOGISTIC REGRESSION ANALYSIS OF SOCIO DEMOGRAPHIC FACTORS AND LEVEL OF MENTAL WELL-BEING AMONG STUDY SUBJECTS.

	B	SE	df	Significance
Constant	.349	.222	1	0.117
Age	-.292	.067	1	0.00
Sex	.989	.191	1	0.000
Marital status	.467	.117	1	0.010
Occupation	-.183	.033	1	0.000

TABLE 3 DISTRIBUTION OF STUDY SUBJECTS

	Normal mental well-being	At risk of psychological distress or depression	Total	Remarks
Tobacco consumption (n=127)				
Increased	21 (47.7)	61 (73.5)	82 (64.6%)	Chi square-8.977, df-2; p-0.011
Decreased	11 (25.0)	13 (15.7)	24 (18.9%)	
No change	12 (27.3)	09 (10.8)	21 (16.5%)	
Alcohol consumption (n=227)				
Increased	34 (28.8)	53 (48.6)	87 (38.3%)	Chi square-12.967; df-2; p-0.008
Decreased	33 (28.0)	20 (18.3)	53 (23.3%)	
No change	51 (43.2)	36 (33.1)	87 (38.3%)	