



Original Research Article

Psychological impact of COVID-19 on the general population of India: A cross-sectional study

Aishwarya Nagarajan^{1,*}, Prateek Malhotra¹, Ruby Chauhan², Sumant Swain¹

¹International Institute of Health Management and Research, Dwarka, New Delhi, India

²Amity Institute of Public Health, Amity University, Noida, Uttar Pradesh, India



ARTICLE INFO

Article history:

Received 27-02-2021

Accepted 16-03-2021

Available online 30-04-2021

Keywords:

Mental health

Psychological impact

GHQ-12

COVID-19

Pandemic and SARS- CoV- 2

ABSTRACT

Background: The COVID-19 pandemic has affected the general population across the world. A health crisis of such a large scale is likely to have a psychological impact of varying degrees in the general population.

Objective: The aim of the study is to establish the psychological impact of the COVID-19 pandemic on the general population of India.

Materials and Methods: A cross-sectional study was conducted using a semi structured questionnaire containing questions regarding socio-demographic characteristics, General Health Questionnaire (12-item) and counselling seeking behaviour was disseminated in a snowball sampling technique through an online survey form. Total 405 participated in the study with a non-response rate of 1.23%.

Results: It was observed that there is significant relation of sociodemographic characteristics of age, employment status and also counselling seeking behaviour on the psychological impact of the participants. 68 students experienced fair to worse psychological impact. 157 participants under the fair to worse impact deny seeking counselling.

Conclusion: The pandemic of such large magnitude is bound to have a psychological impact on the population due to various factors and policymakers must take this into consideration.

© This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

1. Introduction

The world has now completed one year of COVID-19. In the past few months, the novel coronavirus has caused major havoc globally. The first case of coronavirus disease (COVID-19) in India was reported in the state of Kerala on January 30, 2020. The affected had a travel history from Wuhan, China.¹ Since then, the cases in India have been rapidly increasing and spread to many states. By October 26, 2020, India had 79,10,171 confirmed cases of COVID-19 with 1,19,603 deaths and case fatality rate is 1.5%.² India had 8.80 deaths per 100,000 people due to COVID³ and daily confirmed cases are reported 5715 per million populations.⁴ Based on current projection scenario, it has been estimated that cumulative death of COVID-19 could

touch 243,435 in India by February 1, 2021.⁵

The healthcare professionals have been working incessantly to treat the individuals affected by the virus. The government, public and private health institutions, epidemiologists, virologists and many other significant health and non-health bodies have been working round the clock to come up with newer and efficient ways to control the spread. A complete nation-wide lockdown was announced in India on March 25, 2020.⁶ The national news and media have been covering the pandemic to provide minute by minute updates and explaining the lethality of the disease.

The concerns of social distancing, quarantine, self-isolation and frequent use of protective measures in the society have significantly affected every individual variably. Psychological impact in various forms like anxiety, post-

* Corresponding author.

E-mail address: dr.aishwarya.n@gmail.com (A. Nagarajan).

traumatic stress symptoms, anger, distress and confusion have been evident among individuals.⁷

Global pandemics like these affects not only the economy, financial stability and markets of the country but are also likely to take a toll on the mental health of the population. In times of uncertainty, due to the lack of information, misinformation or even lack of awareness caused by the virus, the establishment of the fact that this may cause anxiety, stress and have a deeper psychological impact is pertinent.⁸

Humans have always been social and mobile. They derive a sense of social security and pleasure through social networking and movement to the desired places, be it for work, entertainment or religious purposes. With the phased and zoned lockdown periods and restricted mobility, people are at a loss of ideas to utilize the free time at hand. A study shows that adults, in stressful situations, activate their attachment systems in response to the stress.⁹ The long periods of social distancing, uncertainty in source of income of individuals, layoffs, limited or zero physical contacts with the outside world has resulted in anxiety and increased stress levels in the population.¹⁰

Experts of Psychiatric Society of Goa have analysed that the outbreak accompanied by the lockdown has caused increase in the cases of stress, anxiety, depression and other mental health;¹¹ while another recent survey by Indian Psychiatry Society revealed that there was a sudden rise in mental illness cases up to 20% in society.¹² As there is very limited evidence and relevant literature present today highlighting the psychological impact on the general population due to COVID-19 pandemic in India. Hence, to fill the vacuum, the aim of our study is to establish the fact that any global pandemic or epidemic of such massive scale is bound to have some psychological impact on the general population and not just the tirelessly working healthcare workers.

2. Materials and Methods

In order to achieve the study objectives, quantitative method was used for data collection and analysis. The study was conducted through various processes including brainstorming discussions to establish the study objectives, and the study methodology. A preliminary literature review was also conducted during the early phase of the study.

2.1. Study design and study population

A cross-sectional study was conducted through an online survey which was disseminated to the potential participants through emails and instant messaging applications. Since, data was collected during the lockdown conditions, an online mode was preferred to be the most feasible and safest way of data collection as compared to face-to-face community-based data collection. A non-probability

convenience sampling was conducted to recruit the participants. The data was collected from May 8, 2020, 8 P.M (IST) to June 16, 2020, 8 P. M. (IST).

Sample size for this study was calculated using Cochran formula with confidence interval of 95% with an uncertainty of 50% along with 5% relative precision and 10% nonresponse rate. According to the above-mentioned formula, the sample calculated was 384. After factoring the 10% non-response rate and rounding off the size, the final sample of the study was 430. Among 430 Indian citizens who were approached, 405 participated in the study. Out of which 5 were excluded as they disagreed to participate in the study; so, the actual sample turned out to be 400 with a response rate of 98.7%.

2.2. Study tool

An online questionnaire was designed to assess psychological impact of COVID-19 on general population. The questionnaire was evaluated by the team and was adopted in English only. It contained mainly 3 parts:

(1) To assess the socio-demographic status of the participants, the following covariates were measured: gender, age, employment status and their current living status.

(2) Psychological impact was measured using the 12 items from General Health Questionnaire (GHQ), a validated measure widely administered in the community or non-clinical settings. There are 12 questions about respondents' depression and anxiety symptoms, confidence and overall happiness etc., which were measured on a four-point scale (0- 'less than usual', 1- 'no more than usual', 2- 'rather more than usual', and 3- 'much more than usual').¹³ Finally, the values of the 12 questions were then totalled, resulting in a scale ranging from 0 to 36 (0-11.26 showing 'Better'; 11.27-20.54 showing 'Fair' and 20.55-36 showing 'Worse' psychological impact).¹⁴

(3) Counselling seeking behaviour was assessed by understanding whether they were seeking counselling or not.¹⁵

2.3. Statistical analysis

The collected data were coded and analyzed with the help of IBM SPSS Statistics for windows, version 24 (IBM Corp, Armonk, NY, USA) software. The categorical data is presented as percentages analysed through descriptive statistics. Pearson's Chi-squared test was also incorporated to find out the association between the independent and dependent variables. While, bivariate analysis was done to study the association between socio-demographics, GHQ12 and counselling seeking behaviour considering the significance level of $p < 0.05$ and confidence interval of 95%.

2.4. Ethical considerations

The study was reviewed and approved by the student ethics committee research board of the International Institute of Health Management Research (IIHMR), Delhi. All ethical procedures were adhered to; participants were informed about the objective and purpose of the study; an informed consent was obtained along with it. The participation was made voluntary and only those respondents who agreed to participate, were above 18 years of age and were citizens and residents of India were included in the study. The respondents who disagreed to participate and those with incompletely filled questionnaires were excluded from the study. In order to maintain anonymity of the participants, no data pertaining to their personal identity were collected. It was assured that the collection of the data was for research purposes only.

3. Results

Sociodemographic characteristics of the study participants have been shown in Table 1. Out of the total participants, female respondents constituted 62.5%. The maximum responses were found to be in the age range of 20-24 years. A total of 47.3% participants were employed and 31.3% were students. Only 4.5% participants reported they lived alone while rest lived with either family or friends.

Figure 1 categorized the participants as better, fair and worse impact on psychology on the basis of GHQ-12 questionnaire. 34.8% of the participants have fallen in the fair category while 8.8% have worse impact on their psychology.

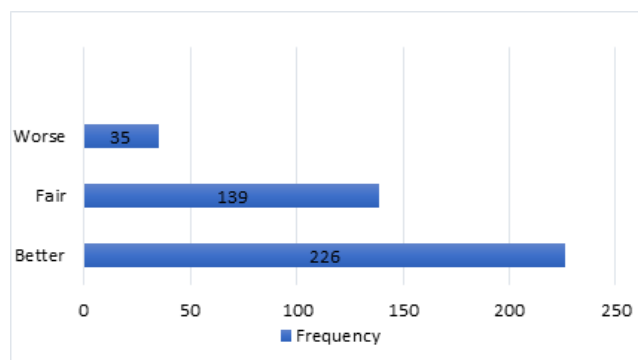


Fig. 1: Depicting GHQ-12 scoring with the population (N=400)

In Table 2, a chi-square test was conducted to assess the association, if any, between the variables and the GHQ-12 scale. Demographic characteristics of age, employment status have shown significant impact of COVID-19 on the psychological health. However, gender and current living status does not seem to have a significant relationship with it.

In Table 3, out of 174 participants that fall under fair to worse category only 17 participants seek counselling

and it was noted that there is a significant relationship between the psychological impact and their counselling seeking behaviour.

4. Discussion

The COVID-19 pandemic has indeed created a sense of panic and urgency for healthcare services in India and globally. The nation-wide lockdown has caused reduced mobility, confinement to indoor living and concerns of social distancing. These preventive and controlling measures during lockdown in India, though effective ways of limiting infection transmission, causes mental health issues in the masses. With limited permission to venture outdoors, the population has resorted to updates over news media and engaging in social media. Social media has become a main source for COVID-19 updates and information. According to a study in China on mental health problems and social media exposure, it has been found that there is high prevalence of mental health issues, which are positively associated with social media exposure during the pandemic.¹⁰

According to another report by Nicola Montemurro, even the populations who are not at high risk of infection can get the feeling of distress and anxiety when faced with the threat of virus infections that they are not familiar with.¹⁶ This is consistent with our study findings that 43.5% of participants are in the fair to worse category of psychological impact during this COVID-19 pandemic.

In a similar study done in China, it has been found that the young and student groups seem to be prone for psychological impact due to the pandemic.¹⁷ The need for financial sufficiency may be a cause of anxiety in such dire uncertain times. This is in line with our findings where 54.4% of students were having fair to worse psychological impact. A study conducted in India which presents that 25% of participants were depressed, 28% were anxious and 11.6% were stressed during the period of lockdown,¹⁸ which correlates with the findings of our study which also present that 44.4% of people who live alone have fair to worst impact on the psychology.

Though our study also highlights the fact that counselling for psychological impact is imperative as 27 participants (6.7%) agreed that they are seeking counselling. A review study states that when faced with sudden lifestyle changes, uncertainty regarding duration and outcome of the situation and economic crisis, each individual is impacted in varied manners and to varied extents. Psychological rebuilding requires a strong framework for counsellors and therapists.¹⁵ Yet another study revealed the need of counselling and assistance for healthcare workers, the author has mentioned a systematic plan for providing by building medical team for mental health intervention with hotlines for assistance to reduce down the level of stress among medical worker.¹⁹

Table 1: Sociodemographic characteristics (N=400)

Characteristics		Frequency (n)	Percentage (%)
Gender	Female	250	62.5
	Male	150	37.5
Age	15-19	11	2.8
	20-24	125	31.3
	25-29	97	24.3
	30-34	20	5.0
	35-39	18	4.5
	40-44	24	6.0
	45-49	27	6.8
	50-54	29	7.2
	55-59	24	6.0
	60-64	10	2.5
	65-69	8	2.0
	70-74	5	1.3
Employment status	75-79	1	0.3
	80-84	1	0.3
	Employed	189	47.3
	Student	125	31.3
Who do you currently live with?	Unemployed	86	21.5
	Alone	18	4.5
	With family/friend	380	95
	Alone with pet(s)	2	0.5

Table 2: Bivariate analysis of variables related to socio-demographic characteristics and General Health Questionnaire (GHQ-12)

Variables		General Health Questionnaire (GHQ-12)			p-Value
		Better [n (%)]	Fair to Worse [n (%)]	Pearson ² value	
Gender	Female	138 (55.2)	112 (44.8)	1.055	0.498
	Male	88 (58.7)	62 (41.3)		
Age	15-24	64 (46.7)	73 (53.3)	102.862	0.005
	25-54	127 (59.3)	87 (40.7)		
	>55	35 (71.4)	14 (28.6)		
Employment Status	Employed	111 (58.7)	78 (41.3)	10.998	0.005
	Student	57 (45.6)	68 (54.4)		
	Unemployed	58 (67.4)	28 (32.6)		
Who do you currently live with?	Alone	10 (55.6)	8 (44.4)	0.393	0.979
	With family/friends	215 (56.6)	165 (43.4)		
	Alone with pet(s)	1 (50)	1 (50)		

Table 3: Bivariate analysis of variables related to counselling and General Health Questionnaire (GHQ-12)

Variables		General Health Questionnaire (GHQ-12)			p-Value
		Better [n (%)]	Fair to Worse [n (%)]	Pearson ² value	
Are you seeking counselling?	Yes	10 (37)	17 (63)	7.045	0.035
	No	216 (57.9)	157 (42.1)		

5. Conclusion

This study is a sincere effort to bring to light the fact that a pandemic of this magnitude is bound to have some psychological impact on the general population. The causes are multifactorial. The government and policy makers must take into account these factors for better efficiency of implementation of policies. The Government of India and even private stakeholders such as NGOs, private healthcare providers, educational institutes are providing online or remote facilities for self-assessment and virtual assistance for seeking help, guidance and counselling. However, there is a need for more facilities in close proximity to the general population to ensure easier accessibility and availability. Strengthening of the mental health work force system (therapists, psychologists and counsellors) is also the need of the hour.

6. Limitations

Due to the nation-wide lockdown conditions, face-to-face sampling techniques and information collection was not possible and a pilot study also could not be conducted. Furthermore, only the population who could understand and write English could be targeted in this study. More research is required in varied languages in order to capture a larger population in urban as well as rural areas.

7. Source of Funding

None.

8. Conflict of Interest

The authors declare that there is no conflict of interest.

References

- COVID-19 pandemic in India. (2020). In Wikipedia. Available from: https://en.wikipedia.org/w/index.php?title=COVID-19_pandemic_in_India&oldid=970190369.
- COVID-19 State wise Status of India. October 26, 2020. Ministry of Health and Family Welfare, Government of India.
- Mortality Analyses. October 26, 2020. Coronavirus Resource Centre. Johns Hopkins University, USA. Available online 26th October 2020 as. Available from: <https://coronavirus.jhu.edu/data/mortality>.
- Corona Tracker. October 26, 2020. COVID-19 India Overview. Available online 26th October 2020. Available from: <https://www.coronatraccker.com/country/india/>.
- COVID-19 IHME Projections: India. (October 26, 2020). COVID-19 Mortality, Infection, Testing, Hospital Resource Use, and Social Distancing Projections. Seattle, United States of America: Institute for Health Metrics and Evaluation (IHME), University of Washington. Available from: <https://covid19.healthdata.org/india?view=total-deaths&tab=trend>.
- COVID-19 pandemic lockdown in India. (2020). In Wikipedia. Available from: https://en.wikipedia.org/w/index.php?title=COVID-19_pandemic_lockdown_in_India&oldid=964782753.
- Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian J Psychiatry*. 2020;51. doi:10.1016/j.ajp.2020.102083.
- Wang C, Pan R, Wan X, Tan Y, Xu L, McIntyre RS, et al. A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain Behav Immun*. 2020;87:40–8. doi:10.1016/j.bbi.2020.04.028.
- Kidd T, Hamer M, Steptoe A. Examining the association between adult attachment style and cortisol responses to acute stress. *Psychoneuroendocrinology*. 2011;36(6):771–9. doi:10.1016/j.psycheneu.2010.10.014.
- Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, et al. Mental health problems and social media exposure during COVID-19 outbreak. *PLOS ONE*. 2020;15(4). doi:10.1371/journal.pone.0231924.
- Goa: Coronavirus lockdown triggers rise in mental health issues. April 10, 2020. Deccan Herald. New Delhi. Available from: <https://www.deccanherald.com/national/west/goa-coronavirus-lockdown-triggers-rise-in-mental-health-issues-823707.html>.
- Singh R, Singh TA, Singh T, Gaur R, Pandey PK, Jamal F, et al. Origin and Remediation of Melanoidin Contamination in Water Sources. *Int J Curr Microbiol Appl Sci*. 2019;8:1399–1415. doi:10.20546/ijcmas.2019.802.164.
- Li LZ, Wang S. Prevalence and predictors of general psychiatric disorders and loneliness during COVID-19 in the United Kingdom. *Psychiatry Res*. 2020;291:113267. doi:10.1016/j.psychres.2020.113267.
- International Federation on Ageing—Ppt video online download. (New Delhi). Available from: <https://slideplayer.com/slide/6595621/>.
- Vostanis P, Bell CA. Counselling and psychotherapy post-COVID-19. *Counselling Psychother Res*. 2020;20(3):389–93. doi:10.1002/capr.12325.
- Montemurro N. The emotional impact of COVID-19: From medical staff to common people. *Brain Behav Immun*. 2020;87:23–4. doi:10.1016/j.bbi.2020.03.032.
- Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health*. 2020;17(5):1729. doi:10.3390/ijerph17051729.
- Verma S, Mishra A. Depression, anxiety, and stress and socio-demographic correlates among general Indian public during COVID-19. *Int J Soc Psychiatry*. 2020;66(8):756–62. doi:10.1177/0020764020934508.
- Rana W, Mukhtar S, Mukhtar S. Mental health of medical workers in Pakistan during the pandemic COVID-19 outbreak. *Asian J Psychiatry*. 2020;51. doi:10.1016/j.ajp.2020.102080.

Author biography

Aishwarya Nagarajan, Student

Prateek Malhotra, Student

Ruby Chauhan, Student

Sumant Swain, Assistant Professor

Cite this article: Nagarajan A, Malhotra P, Chauhan R, Swain S. Psychological impact of COVID-19 on the general population of India: A cross-sectional study. *J Community Health Manag* 2021;8(1):24-28.