

PSYCHOSOCIAL IMPACT OF THE COVID-19 PANDEMIC: AGE BASED CORRELATION

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Abstract

Background: COVID-19 pandemic has been one of the most challenging pandemics to mankind in recent times and is still lurking around. Our study was aimed to correlate and understand the psychosocial impact of COVID-19 pandemic on the Indian population according to age by using a novel COVID-19 Pandemic Mental Health Questionnaire (CoPaQ) questionnaire.

Aim: To study and correlate the psychosocial impact of the COVID-19 pandemic on the general population using CoPaQ.

Materials and methods: A questionnaire-based survey (novel CoPaQ questionnaire) was given as an online “Google form” (in english) to all the participants (N=115). The subjects of both genders, aged > 18yrs, following the inclusion and exclusion criteria, were recruited and the responses were recorded and assessed.

Results: During the survey, a total of 115 responses were collected and analysed. High level of worriedness was found in only 5 % of the subjects. COVID appropriate behaviour was found in 50% of the subjects. Mental health impact including sleep disturbances and substance abuse was also found in low numbers (4%). Moderate level of stress related to close contacts was found in 15% of the subjects. General levels of media awareness, and the general sensitivity to surroundings was found to be higher in 14% and 12% of subjects respectively.

Conclusions: The present survey suggests that definitely there is increase in awareness of COVID appropriate behaviour among population, however, about one-fifth of the subjects are experiencing stress and anxiety, due to lockdown and the ongoing COVID-19 pandemic. Thus, there is urgent requirement to expand mental health services and counselling sessions for general population.

Key words: Novel COVID-19 Pandemic Mental Health Questionnaire (CoPaQ), Psychosocial impact, general Indian population.

1.1 Introduction:

With onset of COVID-19 pandemic, India registered its first COVID-19 case in January 2020, and hence, it was declared a health emergency in the country leading to quarantine measures and nationwide lockdown. The collective approach was the requirement for an outbreak of this severity.

During the initial stages of COVID-19 in India, almost one-third respondents had a significant psychological impact (1) due to quarantine and lockdown leading to feeling of loneliness. This led to the dire need for more systematic assessment of physical and mental

needs of the population, which could help the government in formulating not only drug treatment but also various alternative and conservative interventions like counselling sessions for affected individuals. However, psychological ramifications of the pandemic in the general population have not yet been well studied. This study measures the psychosocial burden of COVID pandemic and nationwide lockdown on general Indian population.

1.2 Aim & objective: This study aimed to assess and correlate the psychosocial impact of the COVID-19 pandemic on the general population.

1.3 Materials and methods:

The present study was a descriptive cross-sectional study conducted in the tertiary care hospital, for a period of 5 months. Subjects were included based on the inclusion and exclusion criteria.

Inclusion criteria

- Age group: > 18 years - 57 years, both genders.
- Minimum educational qualification required was to be a graduate from any profession to comprehend the google form in English.

Exclusion criteria

- Healthcare workers
- H/o any psychiatric illness or chronic disease like diabetes, hypertension or COPD, diagnosed prior to the onset of COVID-19 pandemic.
- H/o substance abuse (smoking, alcohol etc.)
- H/o antidepressants or any long-term medications.
- Pregnant and lactating females.

Sample size: Considering the existing data and based on our objective, a minimum sample size of 100 was proposed. Prevalence of anxiety and depression during the COVID-19 pandemic have been reported as 71.80% and 24.70% respectively in general population.(2) Taking the lowest of these values and using the following formula:

$$N = \frac{Z_{\alpha}^2 \times p^2 \times q^2}{l^2}$$
 where $Z_{\alpha} = 1.96$, $p = 0.2$, $q = 0.8$, l (allowable absolute error) = 0.05, 115 subjects from the general population were considered for the study.

Sampling technique: No sampling frame was available for the population universe. Also, in view of the current pandemic situation, meeting the study population in person and recruiting them for inclusion in the study was not feasible. Hence convenience sampling was done for selecting the sample. All available direct contacts of the investigators of this study, meeting the eligibility criteria, were included in the study.

Study tools: Partly pre-designed, semi-structured, pre-tested, online, self-administered questionnaire, which included the following parts:

- Socio-demographic information
- Health related information
- COVID-19 related mental health questions, based on the COVID-19 Pandemic Mental Health Questionnaire (CoPaQ)

Method of data collection: Due to the present pandemic, conducting face-to-face interviews was not possible. Hence, the present study was a questionnaire-based study given as an online “Google form” in English to all the participants. The questionnaire, including informed

consent, was incorporated into Google forms and circulated through online platforms i.e. E-mail, WhatsApp, etc. Two reminders were given at one-week intervals, to those who did not revert within a week, failing which no further reminders were given.

Initially at study entry, a patient information sheet, an online informed consent, and data - including a thorough history taking (demographic & clinical) were obtained; followed by an online self-administered questionnaire at the same time. The response options “yes” or “no” or responses rated from 0-4, were considered as a reliable response of the subject.

The COVID-19 Pandemic Mental Health Questionnaire (CoPaQ) is a novel self-administered questionnaire specific to COVID-19. We used a modified questionnaire based on the English long version of CoPaQ questionnaire. It took about 10 minutes to complete it. Considering the ongoing pandemic at the time of study, a fast-track ethical clearance was obtained from the departmental scientific review committee.

Statistical analysis:

The data was compiled and analysed using MS Excel (R) office 365, GraphPad prism 8.4.2 and SPSS version 25. Analysis of the questionnaire was based on moderate-to-high correlations between the scores in each domain of our instrument and the corresponding questionnaire. Descriptive statistics were presented in the form of proportions/percentages for categorical variables and median/Interquartile range (along with mean & standard deviation wherever necessary) for continuous data. Results were presented as Mean \pm Standard Deviation (SD). Correlation was given by regression coefficient r^2 (value ranging between 0 to 1). p- Value of <0.05 was considered significant.

1.4 Results:

1. Baseline demographic parameters (Table 1)

In our study, out of 115 subjects, there were 32, 69 and 14 subjects in age category of 18-24 years, 25-44 years and 45-64 years respectively. Out of 115 subjects, 67 were females, 47 were males and 1 was categorised under other gender.

2. Psychosocial parameter analysis. (Fig. 1)

a. Level of worriedness

Correlation of the functional parameters showed that the level of concern amongst Indian population was not strongly related to the age ($r^2 = 0.002336$). Also, level of worriedness among subjects like getting reinfection or dying of COVID 19, averaged from 1 ± 0.5 (p-value= 0.6). Majority of the subjects (60%) were not at all worried.

b. Behavioral aspect.

COVID appropriate behavior was found in more than 50% of the subjects. Most of our subjects of all the age groups were following COVID guidelines such as washing hands, social distancing, wearing face masks and avoiding overcrowding (3 ± 0.8 with p-value= 0.6). Hence, there was no correlation found in this aspect ($r^2 = 0.002417$).

c. Adherence to COVID 19 pandemic measures in past 2 weeks

About 85% of our subjects adhered strongly with COVID pandemic measures. Among all the age groups, all the subjects said they followed the measures strictly with their response mean

of 4 ± 0.1 (p-value= 0.4). There was no correlation between following COVID guidelines and different age groups ($r^2 = 0.0058$).

d. Mental health Impact over the past 14 days preceding the filling of questionnaire

The extent of impact on mental health was not very significant among the group (1.3 ± 0.3 ; p-Value = 0.9). Mental health impact including sleep disturbances, substance abuse or obsessive-compulsive behaviour such as an urge for obsessive washing and/or disinfecting hands out of fear of contamination or becoming ill was found but in low numbers (4%). No such age correlation was seen ($r^2 = 0.0040$).

e. Stress over the past 14 days.

Moderate level of stress related to close contacts like staying in a small accommodation was found in around 15% of the subjects (1 ± 0.7 , p-value= 0.2). Age correlation was also not significant here ($r^2 = 0.024$).

f. Expected impact outcomes since COVID 19 started.

It was seen that general perception like faith in religion or focusing more on health was found to be moderate (2 ± 0.4) in approximately 40% of all subjects (p-value = 0.20). Age based correlation was also not significant here ($r^2 = 0.014$).

g. General levels of media awareness and sensitivity to surroundings.

General levels of media awareness, and the general sensitivity to surroundings such as matters of concern regarding the government, public institutions and international diplomacy, was found to be higher in 14% and 12% of subjects respectively (p-value = 0.12). Correlation between the age groups and these parameters was quite low ($r^2 = 0.024$).

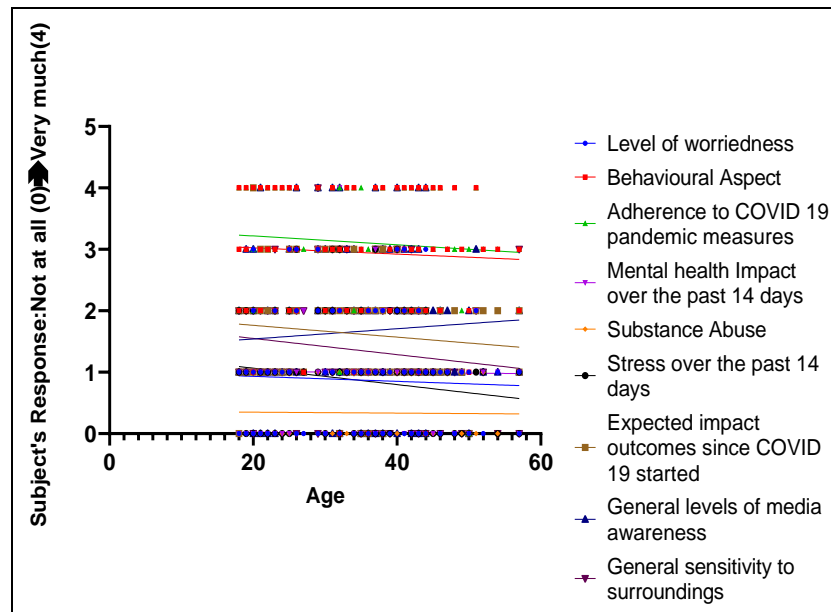


Fig 1. Psychosocial component comparison

Table 1: Baseline demographic parameters

Parameters	Subjects	
	Number	%
Age		
18-24	32	27.83%
25-44	69	60.00%
45-64	14	12.17%
Above 65	0	0.00%

Grand Total	115	100.00%
Female	67	58.26%
Male	47	40.87%
Other	1	0.87%
Grand Total	115	100.00%
Live in	0	0.00%
Married & living together	56	48.70%
Married but living separately	5	4.35%
Unmarried	54	46.96%
Grand Total	115	100.00%
Type of family		
Joint family	46	40.00%
Nuclear family	64	55.65%
Single- Parent Family	5	4.35%
Grand Total	115	100.00%
Alcohol intake		
No	103	89.57%
Yes	12	10.43%
Grand Total	115	100.00%
Status of COVID 19 like symptoms		
Do not know	3	2.61%
No	107	93.04%
Yes	5	4.35%
Grand Total	115	100.00%
7a. History of COVID		
Do not know	4	3.48%
No	106	92.17%
Yes	5	4.35%
Grand Total	115	100.00%
7b. Currently under Quarantine		
No	110	95.65%
Yes	5	4.35%
Grand Total	115	100.00%
7c. Mortality in close contacts		
Do not know	1	0.87%
No	100	86.96%
Yes	14	12.17%
Grand Total	115	100.00%

1.5 Discussion:

To the best of our knowledge, this is one of the first Indian studies using the novel CoPaQ questionnaire to understand the psychosocial impact of the COVID-19 outbreak in the general Indian population.

Our results indicate that with respect to the functional parameters related to psychosocial impact, there was no significant difference among different age groups in terms of anxiety, obsessive-compulsive behaviour, depression, sleep disorders, general levels of media

awareness and consumption along with self-research, and the general sensitivity to surroundings in general Indian population. The findings of the study are in congruence with the study conducted by Zhang et al. who also reported a mild stressful impact on the general population owing to the ongoing pandemic (3).

Various studies have been conducted recently to understand the mental burden in the population due to the ongoing pandemic with the help of multiple depression anxiety and stress scales (4–6).

A web-based survey from China, which evaluated the psychological problems among the Chinese people (n = 1074) close to the COVID-19 epidemic peak and subsequent lockdown, reported anxiety (mild/moderate/severe as evident from Beck's Anxiety Inventory) in 29% of participants and depression (mild/moderate/severe as evident from Beck's Depression Inventory) in 37% of participants, and poor mental well-being in one-third of its participants (7). The COVID-19 Pandemic Mental Health Questionnaire (CoPaQ) is highly comprehensive and novel self-report measure of personal and social consequences of the COVID-19-pandemic with an application scope world-wide (8).

In the current study, a comparison of the functional parameters in terms of anxiety and worriedness related to various aspects of COVID-19 showed that there was a no significant higher perception of risk or the fear of transmitting infection to their close contacts among general population. And, there was high level of awareness about health consequences being severe both for themselves and their close contacts. Awareness of COVID appropriate behaviour (including social distancing, wearing face masks, covering face and nose while sneezing or coughing, cancelling family visits or functions, extensive washing of hands, use of sanitisers) was also found to be present among around 80% of the subjects though with varying degree of knowledge and was equally present among all age groups. It was interesting to note that majority of the population considered it important to follow the COVID appropriate behaviour (hygienic measures and social distancing). Considering the highly infectious nature of the disease, this was a positive finding giving an impression that there is awareness of importance of COVID appropriate behaviour and measures within the general population.

On analysing the trends regarding the mental impact of the pandemic, we found that about 30% of the subjects still worry on a moderate level about reinfection, adverse personal long-term effects of COVID, death due to COVID or loss of some near dear one to COVID. About 20% of the subjects suffered from sleep disorders, such as: difficulty falling asleep (< 30 minutes), irregular sleep or early morning awakening with varied level of severity, mostly falling under moderately affected. About 40% reported being “super-alert”, watchful, or on guard and greater frequency of fearful dreams/nightmares. Also, the statistical trends revealed that the obsessive-compulsive behaviour such as an urge for substance abuse (like alcohol and smoking) or obsessive washing and/or disinfecting hands out of fear of contamination or becoming ill was observed in just a handful of subjects (about 4%). However, there was no significant correlation found in any of the psychosocial parameters with age. The aforementioned findings of our study were found to be statistically non-significant, hence these need further analysis.

The main strength of our study was the novelty of the CoPaQ questionnaire, a comprehensive tool to assess the psychosocial health covering a wide range of areas of interest affected by the COVID-19 pandemic; such as COVID-19 infection status, socio-demographic

background, and the impact on risk perception, affect, thoughts, behaviour, mental health, media usage, institutional trust, and social cohesion (8). This eases out the burden of multiple questionnaires usually given to the subjects to assess the psychosocial health during the corona crisis. However, the same accounts for the major limitation of the study since a validated scoring system is yet to be formulated by the designers of the CoPaQ questionnaire. The analysis of the questionnaire in the present study was hence based on moderate-to-high correlations between the scores in each domain of our instrument and the corresponding questionnaire. Also, because of time limit, the sample size was very limited.

1.6 Conclusion:

According to the present study, although there is still anxiety and fear prevailing in general population related to COVID 19 pandemic, we could not find any strong correlation between various domains of mental health and different age groups. Hence, to reduce the stress levels among our population there has to be focus on mental health awareness in cohesion with regular counselling sessions in all the age groups.

Future studies should investigate the utility of the novel CoPaQ questionnaire as a comprehensive, quicker and reliable tool for assessment of the psychological impact of COVID-19 pandemic in a larger population.

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Conflict of interest

The authors declare no conflict of interest.

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