

Original Research Article

World need to address something beyond than just a physical impact caused by COVID-19 pandemic: a prospective, multicentre study of psychosomatic impact due to COVID-19 disease

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ABSTRACT

Background: Apart from the known physical impact COVID-19 pandemic also has had a significant psychic impact on the psychological health of the general population.

Methods: The study was planned as a multi-centre cross sectional study and conducted between April 2020 and August 2020 at dedicated COVID-19 hospitals in India. Patients and accompanying relatives more than 18 years, of any gender visiting COVID hospital and willing to consent for the study were enrolled in the study. Study included three questionnaires namely, Generalized Anxiety and Depression Scale (GAD-7 Scale), questionnaire to evaluate anxiety and worry related to COVID-19 and socio demographics and COVID-19 related awareness questionnaire.

Results: The patient health questionnaire (PHQ) indicated that while 25% experienced no anxiety highly significant number of 75% experienced varying degrees of psychological impact. On the GAD-7 scale 42% experienced no generalized anxiety; however, a significant remaining 58% experienced variable degree of psychological impact. While 77% people were reasonably aware about Government initiatives, however 73% were concerned about their families or themselves getting affected.

Conclusions: Professional health care workers and Government agencies need to be keenly aware about the above results while devising treatment protocols and policy decisions.

Keywords: Anxiety due to COVID-19, COVID-19, Depression due to COVID-19, Psychological disturbances due to COVID-19

INTRODUCTION

COVID-19 pandemic has spread throughout the continent and has influenced physical and psychological well-being worldwide.¹ There is also a change in lifestyle across the globe, people step out only when it is very much essential which resulted in loneliness, boredom, insomnia, anxiety and fear, however there is lack of data in our country on the repercussions of COVID-19 disease on the

psychology and mind-set of people who are living in current pandemic. These can be difficult times for all of us as we hear about spread of COVID-19 from all over the world, through television, social media, newspapers, family and friends and other sources. Not only general population but also health care professionals are experiencing psychological turbulence due to rising COVID-19 cases and number of fatalities due to COVID-19 disease.¹⁻³ Mortality and morbidity due to COVID-19

have created a fear amongst the general population, causing social disturbance, and a constant state of anxiety.⁴ In addition, health-care workers go through the similar stress while fighting a pandemic and it is essential to regularly provide information about the pandemic and liaison psychiatric services as it could help to reduce the stress and psychological impact of the pandemic.^{5,6}

A recent study also advised that the acceptance and normalization of fears and the promotion of versatility in the populace in managing COVID-19 is essential to curb the spread.^{7,8} People who already have a history of mental illness are more vulnerable and experiences more frequent episodes of psychological disturbances. It is thus important to evaluate the people's psychology, to combat this disease.⁹ Primary objective of the study was to evaluate the psychological impact of the current pandemic COVID-19 on General Population. Whereas the secondary objective of the study is to evaluate impact of Socio-Demographic factors on the psychology of participants in the backdrop of this pandemic.

METHODS

The study was planned as a multi-center; questionnaire based cross sectional study and was conducted between July 2020 and August 2020 at a dedicated COVID-19 hospital in India. Bhaktivedanta Hospital Ethics Committee for Biomedical and Health Research is Government of India accredited (EC/NEW/INST/2019/245) and approved the research protocol and subsequent amendments. Written informed consent was obtained from participants.

Inclusion criteria

Patients and accompanying relatives more than 18 years, of any gender visiting COVID hospital and willing to consent for the study were enrolled in the study

Exclusion criteria

Patients who have a history before COVID-19 pertaining to anxiety, depression and are on medication for the same were excluded from the study.

Procedures

Study team approached 750 patients and accompanying relatives visiting COVID hospital of which 545 people agreed to be screened for eligibility for the participation in the study. Study team enrolled 500 participants as 45 participants met exclusion criteria of having history of psychiatric ailments or consuming psychiatric medication even prior to COVID pandemic.

Post voluntary consent participants were asked to fill three questionnaires namely, "Generalized Anxiety and Depression Scale (GAD-7 Scale)", "Patient Health Questionnaire (PHQ scale)" and "socio demographics and

COVID related awareness questionnaire". Expert and Participants Validation Completed by 5 Experts and 11 Participant Representatives for "socio demographics and COVID related awareness questionnaire". The GAD-7 scale is a 7-item, self-rated scale; it is used as a screening tool to measure the severity of anxiety. Participant's responses are rated on a 4-point Likert-type scale from 0 being not at all to 3 being nearly every day. The scale then measures anxiety as minimum or no anxiety (0-4), mild (5-9), moderate (10-14) and severe (15-21).^{10,11}

Statistical analysis

We received a total of 485 completed responses. The statistical analysis was done using Statistical Package for Social Sciences version 22.0. All qualitative data were expressed as proportions and percentages. Chi-square test was used for descriptive statistics (n%).

Role of funding source

The funder of the study had no role in the study design, data collection, data analysis, data interpretation or writing of the report. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

RESULTS

The median age of respondents was 39 years old, 47% were women. Results are presented in three sub headings namely Generalized anxiety and depression scale (GAD Scale), Patient health questionnaire (PHQ scale) and Socio demographics and covid-19 related awareness questionnaire. There was no statistically significant difference of psychological impact based on gender or age.

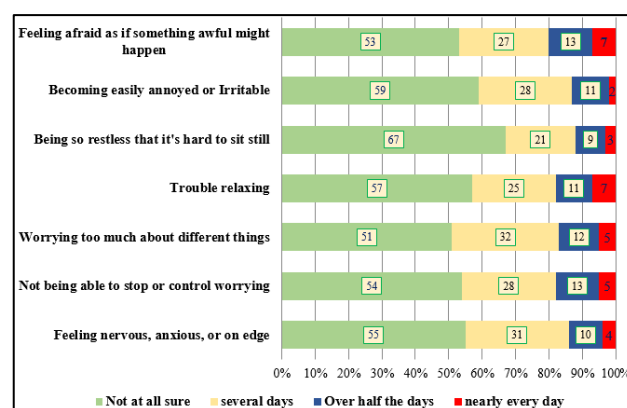


Figure 1: Generalized anxiety and depression scale (in percentage).

Generalized anxiety and depression scale (GAD Scale)

In our study 485 study participants filled questionnaires. GAD-7 scale results shows 265 (55%), 141 (29%), 57 (12%), 22 (4%) study participants answered not at all

sure, several days, Over half the days and nearly every day respectively, when inquired about feeling nervous and anxious (Figure 1). Mean of percentage of participants responses stating not at all sure , several days , Over half the days and nearly every day were 57 ,27,11and 5 respectively , in GAD scale. In GAD scale, when enquired that, If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work take care of things at home, or get along with other people, 206 (42%), 194 (40%), 75 (16%), 10 (2%) participants responded not difficult at all, somewhat difficult, very difficult and Extremely difficult respectively.

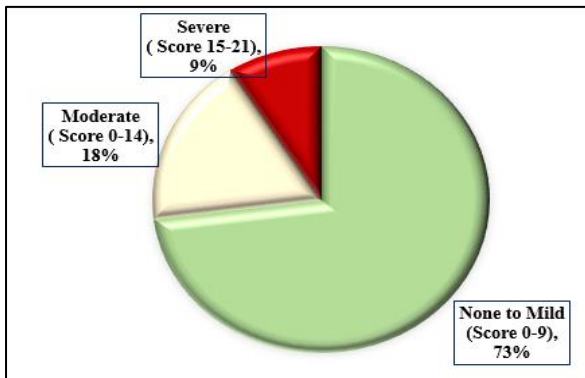


Figure 2: Severity grading for GAD-7.

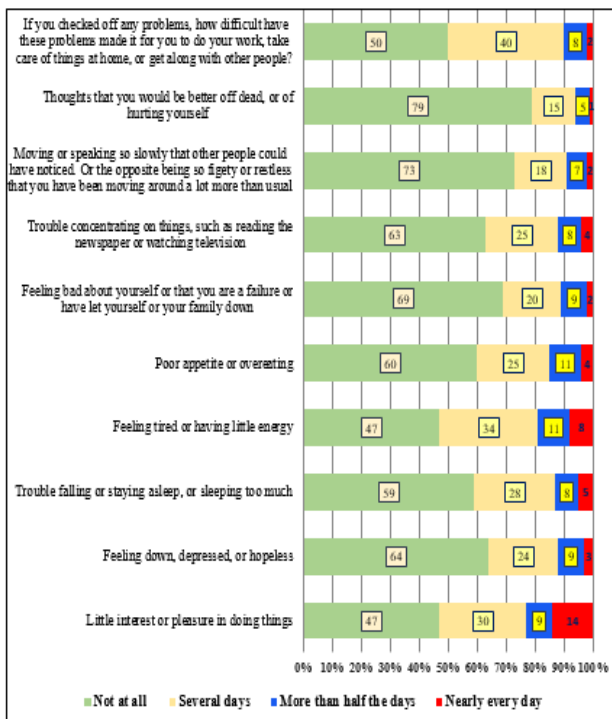


Figure 3: Patient health questionnaire (percentage wise).

Study results depicted 9%, 18% and 73% participants were “severe”, “moderate “and “none to mild ”

respectively when graded for the generalized anxiety and depression severity (Figure 2).

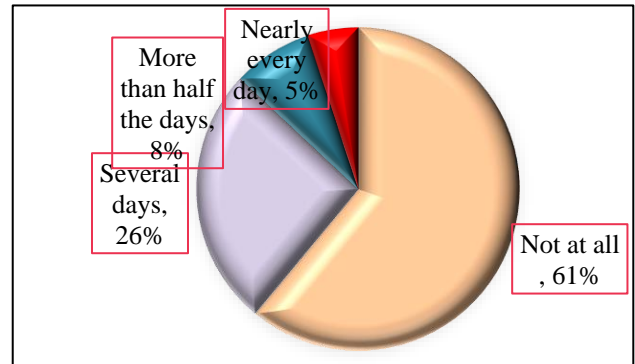


Figure 4: Mean of percentage of participants responses for PHQ questionnaire.

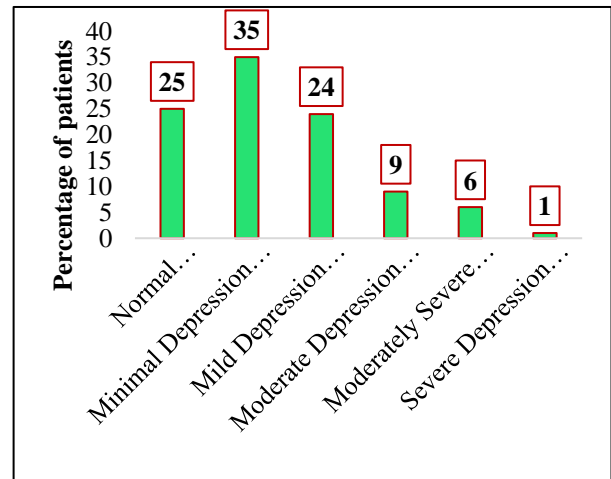


Figure 5: Grading of patient health questionnaire responses.

Patient health questionnaire scale (PHQ scale)

Study results are described in figure 3 pertaining to participants responses to patient health related questionnaire. Mean of percentage of participants responses stating not at all sure, several days, over half the days and nearly every day were 61, 26, 8 and 5 respectively, in PHQ scale (Figure 4).

In our study 168 (35%), 115 (24%), 40 (9%), 31 (6%) and 7 (1%) participants were found to be suffering from minimal depression, mild depression, moderate depression, moderately severe depression and severe depression (Figure 5).

Socio demographics and COVID-19 related awareness questionnaire

Study results are described in figure 6 pertaining to participants responses to Socio demographics and COVID-19 related awareness questionnaire. Additionally,

In our investigation 101 (21%), 213 (44%), 172 (35%) member's answered not at all, somewhat, Very much respectively when asked about, Are you worried about Govt. arrangements to control corona virus (Figure 6).

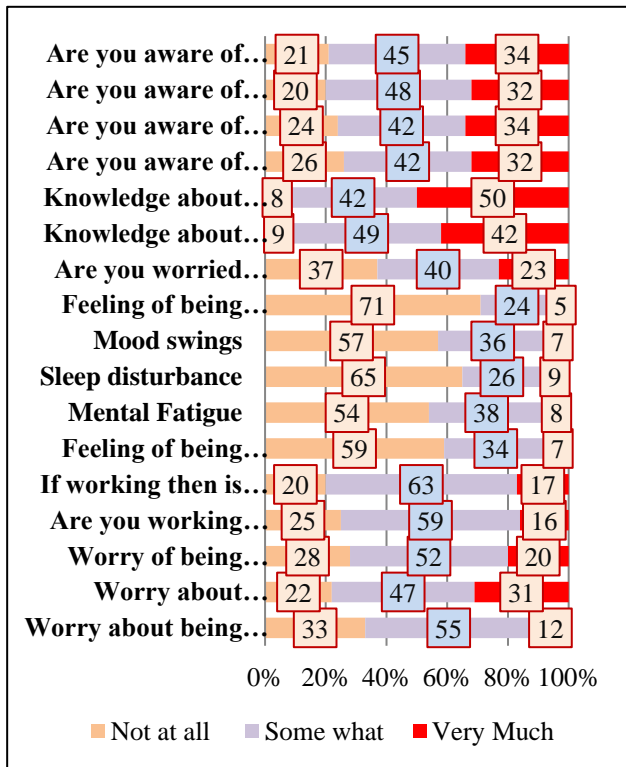


Figure 6: Awareness and knowledge about COVID-19.

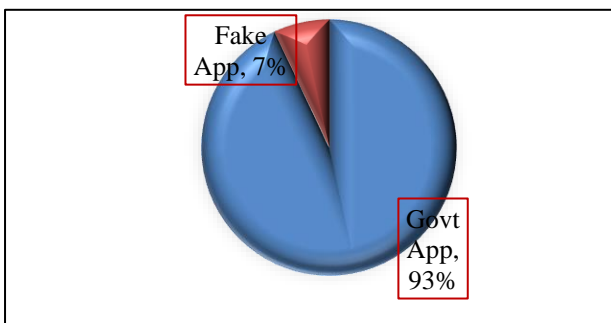


Figure 7: Questionnaire about knowledge of Arogya setu app.

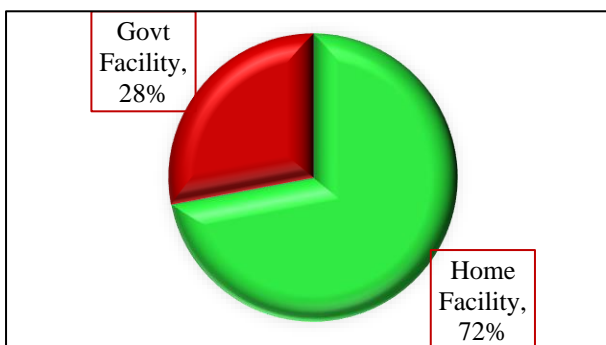


Figure 8: If required preference to get quarantined.

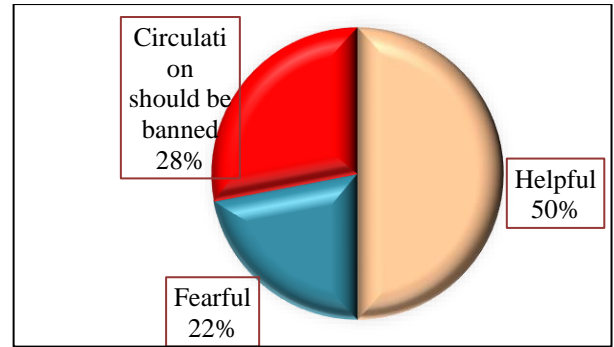


Figure 9: Information getting circulated about corona from public on WhatsApp.

In our analysis, 453 (93%), 32 (7%) participants answered Govt. app and fake app respectively when enquired, “What do you think about Arogya Setu App. It is essential to guarantee that mass populace has acknowledged this application which would help in battle against COVID-19 (Figure 7). In our study, 350 (72%) and 135 (28%) participants responded for home facilities and Government facility respectively when asked about what would you prefer if you need to get quarantined due to contact with suspected case (Figure 8). In our study investigation, 240 (50%), 109 (22%), 136 (28%) participants responded helpful, fearful and circulation should be banned respectively when inquired about Information getting circulated about corona virus from general public on WhatsApp (Figure 9).

DISCUSSION

There have been multiple studies conducted to understand anxiety in general population and patients across the world. However, in our country this is the first comprehensive study, with huge data of 485 participants studying cumulative factors associated with psychological impact due to COVID-19 disease. Discussion is presented in three sub headings namely Generalized anxiety and depression scale (GAD Scale), Patient health questionnaire (PHQ scale) and Socio demographics and COVID-19 related awareness questionnaire.

Generalized anxiety and depression scale (GAD Scale)

Apart from physical health concerns, COVID-19 has significantly affected number of psychological disorders and hence it warrants some mechanism to preserve the mental health of individuals.¹² There is evidence suggestive of association of increased anxiety and depression due to COVID-19.¹³⁻¹⁵

As per the statistics of this study, on the GAD scale 42% experienced no generalized anxiety; however a significant remaining 58% experienced variable degree of psychological impact. In the study on enquiry about “feeling nervous, anxious, or on edge, not being able to stop or control worrying, also worrying too much about different things, trouble relaxing, being so restless that it’s

hard to sit still, becoming easily annoyed or irritable, feeling afraid as if something awful might happen”, caused generalized anxiety on several days, on an average in 27% population which is very much alarming. People, who are separated from their family members for various reasons and those who are deprived of close relationship are more prone to mental health problems, suggesting need of support of family and friends to keep good mental health.¹⁶ For 16% participants, these problems made it very difficult to take care of things at home, or get along with other people. Moderate to severe anxiety was experienced by 27% population was very much alarming and warrants parallel health care system to be made accessible to deal with these issues.

Patient health questionnaire (PHQ scale)

The Patient health questionnaire (PHQ-9) is valid tool to evaluate the severity of depression. It consists of 9 questions with Likert-scale answers rated from 0 (not experienced at all) to 3 (experienced nearly daily). It detects symptoms of anxiety depression that occurred during the last two weeks.^{17,18}

Lockdown imposed due to Covid-19 disease not only affected physical health but more importantly mental health causing psychological disorders such as loneliness, sleep disturbances, fear, anxiety, and depression.^{19,20} Financial adversity and unemployment added additional stress for individuals, especially disadvantaged and vulnerable groups. Health services got diverted to attend COVID - 19 diseases leading to disruptions to existing mental health services and also fear of contracting disease due to hospital/clinic visits led to less utilization of such services by individuals. All of these factors caused more self-harm and poor mental health outcomes.²¹

Mean of percentage of participants responses stating the impact as being, not at all, several days, over half the days and nearly every day were 61,26,8 and 5 respectively, in PHQ scale. In our study 168 (35%), 115 (24%), 40 (9%), 31 (6%) and 7 (1%) participants were found to be suffering from minimal depression, mild depression, Moderate Depression, Moderately Severe Depression and severe Depression. Several government and medical institutions have provided online platforms for psychological counselling to address psychological issues due to covid-19 disease.^{22,23} Only 25% of participants stated that they are mentally fit to work during the pandemic. Majority (75%) of participants were scared of contracting COVID-19.

Socio demographics and COVID-19 related awareness questionnaire

Social demographic tools included questions related to fears and anxieties about existing health facilities, anxiety about being infected of themselves and family becoming infected, compounded by anxiety about job security. It also covers issues due to social media e.g. Information

about the corona is being disseminated from the general public on WhatsApp and Facebook. This survey can help nurture public mental health by identifying mental health issues and carefully implementing necessary measures across the country.²⁴ There is strong evidence suggesting significant levels of anxiety, anger, confusion, and stress in people who required isolation and quarantine experience.²⁵

In our analysis, 453 (93%), 32 (7%) participants answered Govt. app and fake app respectively when inquired, “What do you think about Arogya Setu app.” It was essential to guarantee that general population has acknowledged this application which would help in battle against COVID (Figure 7). Arogya Setu app is useful in disease monitoring, assessment of individuals, and updates. It is expected that the general population would trust Arogya Setu being a Government owned app. Top leadership in India motivated people to install and use the application. This application relies on self-reported data for tracking positive cases and proximity assessment.²⁶

In our study, 350 (72%) and 135 (28%) participants responded for home facilities and Government facility respectively when asked about what would you prefer if you need to get quarantined due to contact with suspected case (Figure 8). This certainly hints to either generate awareness in general population about the quality of Govt. facilities created to manage COVID-19 or actual need to improve the quality of such facilities created. Participants responding no information/awareness at all about, fever clinic, COVID care centre, COVID health centre and dedicated COVID hospital were 26%, 24%, 20% and 21% respectively. This data suggest local Govt. authorities need to be more proactive about creating awareness among masses about the various Govt. facilities created to manage COVID-19 disease.

As per this study results, 240 (50%), 109 (22%), 136 (28%) participants responded helpful, fearful and circulation should be banned respectively when inquired about information getting circulated about corona virus from general public on WhatsApp (Figure 7). This data demands need to have certain Govt. administrative control over information getting circulated through applications like WhatsApp to ensure useful and credible information is passed on in the public. Social media is one of important source of information about COVID-19.²⁷ Results of this study are consistent with previous studies.²⁸ Social network being very much contagious contributed to the spread of worry, as most of netizens share their negative feelings on social networks.^{29,30}

CONCLUSION

As per results of this paper, 40% individuals reported mild to severe depression in this COVID-19 pandemic. As per eligibility criteria of this study participants having known history of any mental illness were excluded, which means these 40 % cases were new cases which certainly

deserves attention of Govt. functionaries and health care workers to look into the mental hygiene apart from just treating COVID-19 disease. Professional health care workers and Govt. agencies need to be keenly aware about the results presented in this paper while devising treatment protocols and policy decisions.

Limitations

Interpretations of the study need to be studied in light of following limitations of the study. Causal conclusions were not possible as study design was a cross-sectional study. Study doesn't compare psychological issues prior to COVID-19 lockdown limiting for causal conclusions. All tools used in the study are self-rating to assess mental health indicators with no contributory clinical assessment.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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