Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Asian Journal of Psychiatry 57 (2021) 102543

Contents lists available at ScienceDirect

Asian Journal of Psychiatry

journal homepage: www.elsevier.com/locate/ajp

# Fear and anxiety among COVID-19 Screening Clinic Beneficiaries of a tertiary care hospital of Eastern India

Dinesh Prasad Sahu [a], Somen Kumar Pradhan [a], Durgesh Prasad Sahoo [b], Suravi Patra [c], Arvind Kumar Singh [a], Binod Kumar Patro [a,*]

[a] Department of Community Medicine and Family Medicine, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India
[b] Department of Community Medicine and Family Medicine, All India Institute of Medical Sciences, Bibinagar, Telangana, India
[c] Department of Psychiatry, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

ARTICLE INFO

*Keywords:*
Coronavirus
Anxiety
Fear
India

ABSTRACT

India is one among the most affected countries in the COVID-19 pandemic. The increasing number of cases in India and the fear of COVID-19 infection is causing fear and anxiety. Fear and anxiety related to COVID-19 the community dwellers are less studied. This study was conducted to assess the fear and anxiety related to COVID-19 among the people seeking COVID-19 screening test. The cross-sectional study was conducted on a sample of 398 participants aged 18 years and above who attended the screening clinic of a tertiary care hospital of eastern India. Participants were assessed using Coronavirus Anxiety Scale (CAS) and Fear of COVID-19 scale which are validated screening scales. Result showed that 20.4 % of the participants were having anxiety due to COVID-19. The mean fear score was 17.87 ± 4.48. Females, Middle aged, housewives, less educated, symptomatic, co-morbid and people under institutional quarantine were having more fear. People with COVID-19 related anxiety faced more fear. These findings suggest the need for screening anxiety in COVID-19 screening clinics. People with high levels of COVID related anxiety and fear are at risk for developing psychiatric disorders hence need targeted approach to address their mental health.

## 1. Introduction

Coronavirus Disease (COVID-19) was declared as public health emergency of international concern on 30th January 2020 (World Health Organization, 2020a) and a pandemic on 11th March 2020 by World Health Organization (World Health Organization, 2020b). As on 18th December, the world has witnessed over 72 million confirmed cases and approximately 1.6 million deaths due to COVID-19. During the same period, India has 9.9 million confirmed cases and more than 0.14 million deaths (Ministry of Health and Family Welfare Government of India, 2020).

As the cases are rising and similarly the hardship, the general population is experiencing fear and anxiety related to COVID-19 (Varshney et al., 2020). More than half of the people reported fear and anxiety in China during the ongoing pandemic (Zhang and Ma, 2020).

Fear is usually an emotional state that is triggered by a real or perceived threat that is accompanied by autonomic arousal or thought of immediate danger or any escape behaviour, whereas, anxiety reflects generalized anticipation of future threat (American Psychiatric Association, 2013). Many people adapt to the threats of a pandemic and become less afraid and anxious, but a significant number of individuals will not adjust and will develop fear and anxiety (Taylor, 2019).

Fear and anxiety during a pandemic are mostly due to the uncertainty related to the disease spread, infodemics and mis-infodemics (Sahoo et al., 2020), probable contact with confirmed or suspected cases of COVID-19, contagion by the virus (Xiang et al., 2020). The stigma associated with the disease is also adding to the anxiety and fear (Dubey et al., 2020).

There is limited literature which has addressed anxiety and fear among the general population during COVID-19 pandemic. To the authors' knowledge, there is no data reported from India which has assessed COVID-19 related fear and anxiety in the general population. We did this study to estimate fear and anxiety related to COVID-19 and factors associated with it among community-dwelling population

*Abbreviations:* CAS, Coronavirus Anxiety Scale; OPD, Out Patient Department.

* Corresponding author at: Third Floor, Academic block, All India Institute of Medical Sciences, Bhubaneswar, Odisha, 751019, India.
*E-mail addresses:* dineshprasad.sahu@yahoo.in (D.P. Sahu), somenpradhan@yahoo.com (S.K. Pradhan), dpsstanley8@gmail.com (D.P. Sahoo), patrasuravi@gmail.com (S. Patra), arvind28aug@gmail.com (A.K. Singh), cmfm_binodp@aiimsbhubaneswar.edu.in (B.K. Patro).

https://doi.org/10.1016/j.ajp.2020.102543
Received 17 October 2020; Received in revised form 18 December 2020; Accepted 29 December 2020
Available online 13 January 2021
1876-2018/© 2021 Elsevier B.V. All rights reserved.

visiting COVID-19 screening centre of a tertiary care hospital in eastern India using Coronavirus Anxiety Scale (CAS) and Fear of COVID-19 scale.

## 2. Material and methods

### 2.1. Study design and study participants

A cross-sectional study was conducted during August-September 2020 among community-dwelling population visiting COVID-19 screening centre of All India Institute of Medical Sciences, Bhubaneswar a tertiary care hospital in Odisha, Eastern part of India. On average, 200 patients attend the screening clinic daily. The purpose of the clinic was to screen for symptoms suggestive of COVID-19 among the attendees and also perform COVID-19 test whenever required. Along with this, a major portion was the cancer patients who attended the screening clinic to get tested as it was mandatory to undergo testing before any procedure like chemotherapy and radiotherapy.

All the patients aged 18 years or more visiting COVID-19 screening centre of the hospital were included in the study. Health Care Workers and those not willing to participate or having any diagnosed mental disorders were excluded from the study. Assuming 37.3 % prevalence of anxiety among general population during COVID-19 (Islam et al., 2020), considering absolute precision of 5% and a significance level of 95 %, the sample size was calculated to be 356. Considering 10 % of non-response rate, the final sample size was calculated to be 395. The first 20 visitors to screening centre of the day were recruited consecutively and written informed consent was obtained prior to the interview. Ethical approval was obtained from the institutional ethics committee prior to the commencement of the study.

### 2.2. Data collection and analysis

The study tool was divided into three parts. The first part consisted of demographic variables, COVID-19 risk status, symptoms of COVID-19, quarantine status, and the reason for visiting the screening centre. The second and third part consists of the Coronavirus Anxiety Scale and the Fear of COVID-19 scale.

Coronavirus Anxiety Scale: Coronavirus Anxiety Scale (CAS) is a good screener to screen individuals with anxiety related to coronavirus and also validated in the Indian context (Chandu et al., 2020). The five items scale consists of somatic symptoms of fear and anxiety triggered by thoughts or information of Coronavirus. The responses were recorded in a 4-points Likert scale (“not at all” (0 point), “rare, less than a day or two” (1 point), “several days” (2 points), “more than 7 days” (3 points), “nearly every day over the last 2 weeks” (4 points). A score of 9 was taken as cut off for the corona anxiety score.

Fear of COVID-19 Scale: The validated 7 item fear of COVID-19 scale is useful to assess the fear generated by the coronavirus (Ahorsu et al., 2020). The participants indicated their level of agreement using a five-item Likert scale (“strongly disagree”, (1 point) “disagree”, (2 points) “neutral”, (3 points) “agree”, (4 points) “strongly agree”, (5 points).

Coronavirus Anxiety Scale was developed to capture cognitive, behavioural, emotional and physiological aspects of anxiety related to coronavirus. Whereas Fear of COVID scale was based on Hospital Anxiety and Depression Scale and Perceived Vulnerability to Disease Scale. Hence Fear of COVID scale measures psychological fear, anxiety, depression and hypochondriasis related to COVID (Ahorsu et al., 2020). To measure adverse psychological reactions including anxiety, fear, depression, stress and hypochondriasis we used both the scales in this study.

Data collection was performed by trained doctors using Epicollect mobile application. Data was kept anonymous and confidentiality was maintained. Data analysis was conducted using Statistical Package for Social Sciences Version 20. Categorical variables were presented as proportion and continuous variables were presented as mean and standard deviation. Chi-square test was applied for the level of significance for the two or more group for categorical variables. P value of less than 0.05 was considered as significant.

## 3. Results

A total of 424 beneficiaries were approached and 26 of them were excluded from the study as they were healthcare workers. A total of 398 participants of age between 18 and 85 years, (38.76 ± 13.90 years) participated in the study and two-third (66.3 %) were male. Descriptive characteristics of study participants are given in Table 1. 119 (29.9 %) participants had one or more symptoms during the visit. Among those having symptoms, fever (58.8 %) was the most common presenting symptoms followed by cough (56.3 %). Among the study participants, 160 (40.2 %) were having one or more underlying health condition. Malignancy was the commonest co-morbidity found among 99 (61.8 %) followed by immunocompromised condition among 27 (16.8 %) of the participants having any of the co-morbidities.

History of travel to other state or country was present in only 36 (9.0 %) of the participants. Similarly, a history of contact with COVID-19 positive patient was seen among 119 (29.9 %) participants. However, 47 (11.8 %) of the participants did not know about their contact status. Only 54 (13.6 %) participants were in quarantine and among them, 46 (85.2 %) were in home quarantine. The screening Out Patient Department (OPD) attendees came to OPD for various reasons. The most common reason as cited by 146 (36.7 %) attendees was a doctor’s suggestion to get tested, followed by having symptoms 99 (24.8 %) and having high-risk contacts with COVID positive patients 91 (22.8 %).

The mean score for fear was 17.87 ± 4.48 with a maximum and minimum score of 7 and 32, respectively. Mean Fear score for Corona was found to be higher among females than the males, but the difference was not statistically significant. Fear was more among the participants of age 41−50 years (18.73 ± 5.29), followed by 31−40 years (18.47 ± 4.26) and more than 50 years (17.60 ± 4.11). The least fear was among the 18–31 years age group (17.18 ± 4.29). Least fear was observed among the illiterate participants and higher fear was observed among primary and high school educated participants. Housewives were having the highest fear among the participants and those not working were having the least fear. Participants having symptoms reported more fear than the participants not having any symptoms. The mean fear score of the symptomatic individuals was 19.13 ± 4.05 and that of asymptomatic was 17.33 ± 4.56. History of travel had no impact on fear perception. Similarly, no difference was observed for those having any underlying medical condition to that of not having any. Those who did not know about any contact with any COVID-19 positive patients were more fearful than those who knew their contact status. No statistical difference was observed between the participants in quarantine and those not in quarantine. The higher mean fear score was obtained from those who had anxiety score of 9 or more and it was statistically significant than that of anxiety score of less than 9 [Table 1].

As many as 81 (20.4 %) participants were found to have anxiety during the assessment. The mean Corona Anxiety score was 3.91 ± 4.14 and the minimum and maximum score were 0 and 16, respectively. Anxiety was experienced more among females in comparison to male participations having mean anxiety score of 4.87 ± 4.54 and 3.42 ± 3.84 respectively, and the difference was found to be statistically significant. Study participants with a history of contact with confirmed COVID-19 positive patient had experienced more anxiety in comparison to who didn’t have any contacts (21.0 % vs 12.1 %). Age of the participant, occupation, quarantine status, history of travel to other state or country, presence of any symptoms and presence of any underlying disease did not have any association with anxiety experience [Table 2].

**Table 1**
Basic demographic variables and its association with mean Corona Fear Scale (CFS) score.

| Variables | Responses | N (%) | Mean CFS | P value |
|---|---|---|---|---|
| **Gender** | Male | 264 (66.3) | 17.45 ± 4.46 | 0.820 |
| | Female | 134 (33.7) | 18.69 ± 4.43 | |
| **Age group** | 18−30 years | 147 (36.9) | 17.18 ± 4.29 | 0.040 |
| | 31−40 years | 97 (24.4) | 18.47 ± 4.26 | |
| | 41−50 years | 74 (18.6) | 18.73 ± 5.29 | |
| | >50 years | 80 (20.1) | 17.60 ± 4.11 | |
| **Educational qualification** | Illiterate | 23 (5.8) | 16.91 ± 3.99 | 0.004 |
| | Primary school | 12 (3.0) | 19.00 ± 5.35 | |
| | Middle school | 49 (12.3) | 17.80 ± 3.61 | |
| | High school | 73 (18.3) | 19.63 ± 4.60 | |
| | Intermediate | 99 (24.9) | 17.72 ± 3.93 | |
| | Graduate | 117 (29.4) | 16.91 ± 4.83 | |
| | Postgraduate | 25 (6.3) | 18.28 ± 4.93 | |
| **Occupation** | Not working | 31 (7.8) | 17.29 ± 4.32 | 0.395 |
| | Housewife | 86 (21.6) | 18.85 ± 4.61 | |
| | Manual worker | 82 (20.6) | 17.34 ± 4.16 | |
| | Agriculture worker | 25 (6.3) | 18.04 ± 4.35 | |
| | Shop keeper | 22 (5.5) | 18.27 ± 3.78 | |
| | Student | 24 (6.0) | 17.54 ± 5.03 | |
| | Officer worker | 87 (21.9) | 17.38 ± 4.63 | |
| | Professional | 41 (10.3) | 18.20 ± 4.70 | |
| **Presence of any symptom** | Yes | 119 (29.9) | 19.13 ± 4.05 | <0.001 |
| | No | 279 (70.1) | 17.33 ± 4.56 | |
| **Symptoms (n = 119)** | Cough | 67 (56.3) | | |
| | Fever | 70 (58.8) | | |
| | Runny nose | 21 (17.6) | | |
| | Shortness of breath | 15 (12.6) | | |
| | Sore throat | 42 (35.3) | | |
| | Diarrhoea | 2 (1.7) | | |
| | Generalized weakness | 3 (2.5) | | |
| | Headache | 6 (5.0) | | |
| | Pain (muscular/joint/ abdomen) | 5 (4.2) | | |
| | Others | 7 (5.9) | | |
| **Any underlying medical condition (n = 398)** | Yes | 160 (40.2) | 17.93 ± 4.26 | 0.832 |
| | No | 238 (59.8) | 17.83 ± 4.63 | |
| **Type of underlying medical condition (n = 160)*** | Chronic Kidney disease | 5 (3.1) | | |
| | Chronic respiratory disease | 3 (1.8) | | |
| | Diabetes | 25 (15.6) | | |
| | Hypertension | 23 (14.8) | | |
| | Immunocompromised conditions | 27 (16.8) | | |
| | Liver disease | 2 (1.3) | | |
| | Malignancy | 99 (61.8) | | |
| | Others | 8 (5.0) | | |
| | Pregnancy | 7 (4.4) | | |
| **History of travel to other state or country** | Yes | 36 (9.0) | 17.56 ± 4.04 | 0.663 |
| | No | 362 (91.0) | 17.90 ± 4.53 | |
| **History of contact with any confirmed COVID positive case** | Yes | 119 (29.9) | 17.86 ± 4.98 | 0.027 |
| | No | 232 (58.3) | 17.55 ± 4.23 | |
| | Don't know | 47 (11.8) | 19.47 ± 4.06 | |
| **In quarantine during the visit** | Yes | 54 (13.6) | 17.00 ± 4.89 | 0.127 |
| | No | 344 (86.4) | 18.00 ± 4.41 | |
| **Reason for attending COVID-19 screening OPD*** | Suggested by doctors | 146 (36.7) | | |
| | I have symptoms | 99 (24. 8) | | |
| | I recently came in contact with a COVID case | 91 (22.8) | | |
| | I came from other states | 35 (8.8) | | |
| | I want to check my status | 25 (6.3) | | |
| | As I am afraid | 25 (6.3) | | |
| | My family members and society asked me to get checked | 11 (2.7) | | |
| | I came from an area of Odisha having many COVID cases | 5 (1.3) | | |
| | I belong to containment zone | 2 (0.5) | | |
| | Others | 43 (10.8) | | |
| **Corona anxiety scale** | <9 | 317 (79.6) | 16.74 ± 3.9 | <0.001 |
| | ≥9 | 81 (20.4) | 22.26 ± 3.50 | |

* multiple responses from one participant possible.

## 4. Discussion

Fear and anxiety related to COVID-19 among the general population have been reported. Hazarika et al. have reported depression, anxiety and suicidal thoughts among callers availing helpline services (Hazarika et al., 2021). Also, some studies have reported psychological distress among health care providers (Das et al., 2020). The present study assessed the COVID-19 related fear and anxiety among the patients coming to COVID screening clinic. The present study has demonstrated the presence of fear and anxiety among these people.

The mean fear score in our study was 17.87 ± 4.48. It was 18.00 ± 5.68 in a study conducted by Doshi et al. among Indian population (Doshi et al., 2020). The study was conducted in April 2020 when the disease was in its initial phase in India, whereas, our study was conducted in August and September 2020 when the lockdown was eased. This may be the reason for the lower mean fear score. The mean fear score in among general population of Turkey was 19.44 ± 6.07 (Bakioğlu et al., 2020). Fear was observed among 18.06 % of the general population of Bosnia (Šljivo et al., 2020). The fear was mostly due to the

**Table 2**
Association of Anxiety and demographic variables.

| | | Corona Anxiety score <9 | Corona anxiety score ≥9 | P value | Mean CAS score | P value |
|---|---|---|---|---|---|---|
| **Gender** | Male | 222 (84.1) | 42 (15.9) | 0.002 | 3.42 ± 3.84 | 0.001 |
| | Female | 95 (70.9) | 39 (29.1) | | 4.87 ± 4.54 | |
| **Age group** | 18–30 years | 117 (79.6) | 30 (20.4) | 0.995 | 3.68 ± 4.20 | 0.476 |
| | 31–40 years | 78 (80.4) | 19 (19.6) | | 4.20 ± 3.93 | |
| | 41–50 years | 59 (79.7) | 15 (20.3) | | 4.38 ± 4.25 | |
| | >50 years | 63 (78.8) | 81 (20.4) | | 3.54 ± 4.18 | |
| **Education** | Illiterate | 20 (87.0) | 3 (13.0) | <0.001 | 2.78 ± 3.37 | 0.001 |
| | Primary school | 11 (91.7) | 1 (8.3) | | 3.75 ± 3.27 | |
| | Middle school | 37 (75.5) | 12 (24.5) | | 4.04 ± 4.24 | |
| | High school | 44 (60.3) | 29 (39.7) | | 5.73 ± 4.93 | |
| | Intermediate | 81 (81.8) | 18 (18.2) | | 3.91 ± 3.85 | |
| | Graduate | 101 (86.3) | 16 (13.7) | | 3.03 ± 3.78 | |
| | Post graduate | 23 (92.0) | 2 (8.0) | | 3.56 ± 3.82 | |
| **Occupation** | Agriculture | 18 (72.0) | 7 (28.0) | 0.029 | 5.16 ± 3.95 | 0.008 |
| | Housewife | 58 (67.4) | 28 (32.6) | | 5.14 ± 4.48 | |
| | Manual worker | 68 (82.9) | 14 (17.1) | | 3.70 ± 3.88 | |
| | Not working | 25 (80.6) | 6 (19.4) | | 2.77 ± 4.08 | |
| | Office worker | 74 (85.1) | 13 (14.9) | | 3.11 ± 3.95 | |
| | Professional | 38 (92.7) | 3 (7.3) | | 3.05 ± 3.76 | |
| | Shopkeeper | 18 (81.8) | 4 (18.2) | | 3.68 ± 3.64 | |
| | Student | 18 (75.0) | 6 (25.0) | | 4.92 ± 4.65 | |
| **History of contact with any confirmed COVID positive case** | Yes | 94 (79.0) | 25 (21.0) | <0.001 | 4.05 ± 4.13 | <0.001 |
| | No | 204 (87.9) | 28 (12.1) | | 2.92 ± 3.53 | |
| | Don't know | 19 (40.4) | 28 (59.6) | | 8.43 ± 3.99 | |
| **In quarantine during the visit** | Yes | 47 (87.0) | 7 (13.0) | 0.147 | 3.44 ± 3.64 | 0.378 |
| | No | 270 (78.5) | 74 (21.5) | | 3.98 ± 4.21 | |
| **History of travel to other state or country** | Yes | 32 (88.9) | 4 (11.1) | 0.149 | 3.03 ± 3.59 | 0.182 |
| | No | 285 (78.7) | 77 (21.3) | | 3.99 ± 4.19 | |
| **Presence of any symptoms** | Yes | 32 (26.9) | 87 (73.1) | 0.041 | 4.29 ± 4.18 | 0.234 |
| | No | 49 (17.6) | 230 (82.4) | | 3.75 ± 4.12 | |
| **Presence of any underlying conditions** | Yes | 38 (23.8) | 122 (76.2) | 0.204 | 4.23 ± 4.41 | 0.210 |
| | No | 43 (18.1) | 195 (81.9) | | 3.69 ± 3.94 | |

novelty and uncertainties associated with the disease (Asmundson and Taylor, 2020). A study based on newspaper reports also reported COVID-19 related fear leading to increased incidence of suicide (Dsouza et al., 2020).

In our study, 20.4 % of the participants were having COVID-19 related anxiety. A multi-national study by Chew et al. reported 15.7 % prevalence of anxiety among health care workers(Chew et al., 2020). A population-based online survey conducted in China reported 31.6 % prevalence of anxiety among the general population(Shi et al., 2020). China had an earlier peak and higher mortality hence the prevalence of anxiety was higher in the aforementioned period. In our study, COVID-19 related fear was associated with age, educational qualification, symptom status, history of contact and type of quarantine. COVID-19 related anxiety was found to be associated with age in other similar studies (Ahmed et al., 2020; Shi et al., 2020). Another study conducted in India showed an association of gender and age with fear of COVID-19 (Doshi et al., 2020). Females and middle-aged participants reported having more fear than males and the elderly. The result is similar to our findings.

In our study, an individual who was under institutional quarantine faced more fear than that of home quarantine. But no difference was seen for the individuals under quarantine to that who were not under quarantine. A similar result was observed by Lee et al. where no difference was observed for anxiety among individual under quarantine and without quarantine (Lee et al., 2020). Social isolation and being away from family could be the major reasons for the same (Upadhyay et al., 2020). Our study also reported a significant difference in Corona Anxiety Score when tested against gender, level of education, occupation, history of contact with COVID-19 patients, and symptom status. We could not find any study that evaluated anxiety among the symptomatic and asymptomatic general population, However, one multi-national study conducted among healthcare workers reported similar results (Chew et al., 2020). The higher prevalence of anxiety among the symptomatic individuals could be due to the chance of transmission to their family members. Housewives were facing more anxiety and fear for COVID than any other groups. This could be due to the infodemics generated by the mass media and social media. No difference in anxiety and fear was observed for those having any underlying medical conditions to that of having no underlying medical condition. This could be because the fear of COVID-19 in itself is very high and is experienced similarly by those having or not having an underlying medical condition. COVID-19 fear seems to have affected everyone equally across the world.

### *4.1. Strength and limitations*

This is the first study from India which has reported on the psychological experience of anxiety and fear among people who are seeking testing of COVID-19. We could achieve the sample size and used validated instruments to measure anxiety and fear due to coronavirus. However, there are a few limitations to the study. The study population were selected in a non-random manner, which may hamper the generalizability of the study. However, the proportion of the participants in each age group was similar to the screening attendees of the eligible age group. The study was conducted among the screening clinic beneficiaries. A comparator group in the general population could have provided a better comparison of the results obtained.

## 5. Conclusion

The present study revealed the anxiety and fear related to COVID-19 among the screening clinic beneficiaries. Age, educational status, type of quarantine, history of contact with COVID-19 positive cases were the major determinants for the COVID-19 related fear and anxiety. These are the people who are at high risk of developing clinical psychiatric disorders and hence should be targeted for regular follow up for psychiatric evaluation and management.

## Authors' contribution

DPS1: Contributed in conception and designing, analysis and interpretation of data and design of the study and drafting of article.

SKP: Contributed in data acquisition, revising the manuscript for important intellectual content.

DPS2: Contributed in data acquisition, revising the manuscript for important intellectual content.

SP: Contributed in conception and designing, analysis and interpretation of data and design of the study and revising the manuscript for important intellectual content.

AKS: Contributed in conception and designing of the study, analysis and interpretation of data and revising the manuscript for important intellectual content.

BKP: Contributed in conception and designing of the study, analysis and interpretation of data and revising the manuscript for important intellectual content.

All the authors gave final approval of submitted version.

## Financial disclosure

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Declaration of Competing Interest

Authors declare that they have no conflicts of interest to disclose.

## Acknowledgements

We sincerely thank all the participants for their participation. We are thankful to all the staffs of COVID screening clinic of All India Institute of Medical Sciences, Bhubaneswar for their co-operation to conduct the study.

## References

Ahmed, M.Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., Ahmad, A., 2020. Epidemic of COVID-19 in China and associated psychological problems. Asian J. Psychiatr. 51 (April), 1–7. https://doi.org/10.1016/j.ajp.2020.102092.

Ahorsu, D.K., Lin, C.Y., Imani, V., Saffari, M., Griffiths, M.D., Pakpour, A.H., 2020. The fear of COVID-19 scale: development and initial validation. Int. J. Ment. Health Addict. 1–9.

American Psychiatric Association, 2013. Diagnostic and Statistical Manual of Mental Disorders, 5th ed.

Asmundson, G.J.G., Taylor, S., 2020. Coronaphobia: fear and the 2019-nCoV outbreak. J. Anxiety Disord. 70 (January), 1–2.

Bakioğlu, F., Korkmaz, O., Ercan, H., 2020. Fear of COVID-19 and positivity: mediating role of intolerance of uncertainty, depression, anxiety, and stress. Int. J. Ment. Health Addict. (May), 1–14. https://doi.org/10.1007/s11469-020-00331-y.

Chandu, V.C., Pachava, S., Vadapalli, V., Marella, Y., 2020. Development and initial validation of the COVID-19 anxiety scale. Indian J. Public Health 64, 201–204.

Chew, N.W.S., Lee, G.K.H., Tan, B.Y.Q., Jing, M., Goh, Y., Ngiam, N.J.H., Yeo, L.L.L., Ahmad, A., Ahmed Khan, F., Napolean Shanmugam, G., Sharma, A.K., Komalkumar, R.N., Meenakshi, P.V., Shah, K., Patel, B., Chan, B.P.L., Sunny, S., Chandra, B., Ong, J.J.Y., et al., 2020. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. Brain Behav. Immun. 88 (April), 559–565. https://doi.org/10.1016/j.bbi.2020.04.049.

Das, A., Sil, A., Jaiswal, S., Rajeev, R., Thole, A., Jafferany, M., Ali, S.N., 2020. A study to evaluate depression and perceived stress among frontline indian doctors combating the COVID-19 pandemic. Prim. Care Companion CNS Disord. 22 (5).

Doshi, D., Karunakar, P., Sukhabogi, J.R., Prasanna, J.S., Mahajan, S.V., 2020. Assessing coronavirus fear in indian population using the fear of COVID-19 scale. Int. J. Ment. Health Addict. (May 28(January)), 1–9. https://doi.org/10.1007/s11469-020-00332-x.

Dsouza, D.D., Quadros, S., Hyderabadwala, Z.J., Mamun, M.A., 2020. Aggregated COVID-19 suicide incidences in India: fear of COVID-19 infection is the prominent causative factor. Psychiatry Res. 290 (May), 17–20. https://doi.org/10.1016/j.psychres.2020.113145.

Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M.J., Chatterjee, S., Lahari, D., Lavie, C.J., 2020. Psychological impact of COVID-19. Diabetes Metab. Syndr. Clin. Res. Rev. 14, 7779–7788.

Hazarika, M., Das, B., Das, S., Baruah, A., Sharma, N., Barua, C., Das, J., Choudhury, S., Hazarika, D., Sarma, P., Bhandari, S.S., 2021. Profile of distress callers and service utilisation of tele-counselling among the population of Assam, India: an exploratory study during COVID-19. Open J. Psychiatry Allied Sci. 12 (1), 7. https://doi.org/10.5958/2394-2061.2021.00001.x.

Islam, M.S., Ferdous, M.Z., Potenza, M.N., 2020. Panic and generalized anxiety during the COVID-19 pandemic among Bangladeshi people: an online pilot survey early in the outbreak. J. Affect. Disord. 276 (April), 30–37. https://doi.org/10.1016/j.jad.2020.06.049.

Lee, S.A., Jobe, M.C., Mathis, A.A., Gibbons, J.A., 2020. Incremental validity of coronaphobia: coronavirus anxiety explains depression, generalized anxiety, and death anxiety. J. Anxiety Disord. 74 (May), 6–9. https://doi.org/10.1016/j.janxdis.2020.102268.

Ministry of Health and Family Welfare Government of India, 2020. COVID-19 India. https://www.mohfw.gov.in/.

Sahoo, S.S., Sahu, D.P., Kankaria, A., 2020. Mis-infodemic: the Achilles' heel in combating the COVID-19 pandemic in an Indian perspective. Monaldi Arch. Chest Dis. 90 (2).

Shi, L., Lu, Z.A., Que, J.Y., Huang, X.L., Liu, L., Ran, M.S., Gong, Y.M., Yuan, K., Yan, W., Sun, Y.K., Shi, J., Bao, Y.P., Lu, L., 2020. Prevalence of and risk factors associated with mental health symptoms among the general population in China during the coronavirus disease 2019 pandemic. JAMA Network Open 3 (7), e2014053. https://doi.org/10.1001/jamanetworkopen.2020.14053.

Šljivo, A., Kaamakovi, M., Quraishi, I., Kulenovi, A.D., 2020. Fear and depression among residents of Bosnia and Herzegovina during covid-19 outbreak-internet survey. Psychiatr. Danub. 32 (2), 266–272. https://doi.org/10.24869/PSYD.2020.266.

Taylor, S., 2019. The Psychology of Pandemics: Preparing for the Next Global Outbreak of Infectious Disease. Cambridge Scholars Publishing, Newcastle upon Tyne.

Upadhyay, R., Sweta, Singh, B., Singh, U., 2020. Psychological impact of quarantine period on asymptomatic individuals with COVID-19. Soc. Sci. Humanities Open 2 (1), 100061. https://doi.org/10.1016/j.ssaho.2020.100061.

Varshney, M., Parel, J.T., Raizada, N., Sarin, S.K., 2020. Initial psychological impact of COVID-19 and its correlates in Indian Community: an online (FEEL-COVID) survey. PLoS One 15 (5), 1–10. https://doi.org/10.1371/journal.pone.0233874.

World Health Organization, 2020b. Coronavirus Disease 2019 (COVID-19). World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen.

World Health Organization, 2020a. Coronavirus Disease (COVID-19). World Health Organization. https://covid19.who.int/.

Xiang, Y.T., Yang, Y., Li, W., Zhang, Q., Cheung, T., Hg, C.H., 2020. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet Psychiatry 7 (3), 228–229. https://doi.org/10.1016/S2215-0366(20)30046-8.

Zhang, Y., Ma, Z.F., 2020. Impact of the COVID-19 pandemic on mental health and quality of life among local residents in Liaoning Province, China: a cross-sectional study. Int. J. Environ. Res. Public Health 17 (7), 2381.