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# Awareness, Anxiety and Mental Health of COVID-19 Patients of North-East India

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**Abstract**

This research study aimed to investigate the awareness, anxiety, and mental health of COVID-19 patients of northeast India. The second wave of novel coronavirus disease (COVID-19) has rapidly crossed borders and infecting people throughout India in general and northeast in particular. This pandemic leads to heightened levels of stress and anxiety in COVID-19 patients. An online survey was conducted using a structured questionnaire using a non-probability snowball sampling technique. A total of 342 responses were received online. The results of the study revealed that respondents had a moderate level of knowledge about the COVID-19 infection and adequate knowledge about its preventive aspects. The mental health of the COVID-19 patients was not found satisfactory. There is a need to intensify the awareness and address patients' mental health issues during the COVID-19 pandemic.

**Keywords:** COVID-19 patient, awareness, anxiety, mental health, COVID-19 pandemic

## Introduction

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) outbreak declared a global pandemic by World Health Organization (WHO) on March 11, 2020, describes its substantial fierceness and fatalistic coverage. Alarmingly it evolved after the sequential emergence of SARS-CoV in 2002, H5N1 in 2005, and H1N1 in 2009 (Correia, 2020) that required immense discussion concomitantly to explore the probable causes and subsequent solutions. As of June 7, 2021, around 17 crore cases were confirmed with the COVID-19 infection worldwide, and 2.88 crores in India reported (WHO, 2021). Due to this pandemic, government-imposed plentiful restrictions such as travel ban, shutting down the transit system, closing down public places to break the transmission chain of COVID-19 infection, and maintaining adequate physical distancing.

The pandemic has negatively impacted the mental health of COVID-19 patients because of quarantine experience and uncertain frequent lockdowns across the world. A poll showed that nearly 45% of American adults' mental health is adversely affected by the COVID-19 induced stress (Kirzinger et al., 2020). The COVID-19 outbreak needs massive public awareness that can provide relief and preparedness to handle this kind of pandemic

situations (Alahdal, 2020; Javed et al., 2020; Kaushik et al., 2020; Tripathi et al., 2020; Wolka et al., 2020) which is mentioned by the AL-Rasheedi et al. (2020) in their findings that general public showed adequate awareness over COVID-19 outbreak. It is a well-established fact that epidemic and pandemic cause mental health threats (Mak et al., 2010; Lung et al., 2009). In the present scenario of the COVID-19 pandemic, during a lockdown period of isolation, a person's mental health became the issue of growing concerns (Cao et al., 2020; Chaturvedi et al., 2021; Chiappini, 2020; Horigian, 2020; Meda, 2021; Pan et al., 2021; Schäfer et al., 2020; Webb, 2020; WHO, 2020) along with the other prevalent factors of anxiety, depression and stress (Islam et al., 2020; Machado, 2020; Porter et al., 2021; Serafini et al., 2020; Sifat, 2000; Verma & Mishra, 2020).

| S.N. | Northeast State | Total Confirmed Cases | Cured/Discharged/Migrated | Death |
|---|---|---|---|---|
| 1. | Arunachal Pradesh | 33916 | 31189 | 160 |
| 2. | Assam | 490907 | 454726 | 4310 |
| 3. | Manipur | 65622 | 55257 | 1074 |
| 4. | Meghalaya | 46458 | 41349 | 797 |
| 5. | Mizoram | 18624 | 14096 | 86 |
| 6. | Nagaland | 24541 | 22486 | 477 |
| 7. | Sikkim | 19589 | 16903 | 296 |
| 8. | Tripura | 63499 | 58978 | 660 |

**Source: Government of India**

**Table 1: COVID-19 State wise data as on 24/06/2021**

Quarantine is a mechanism used for the more considerable interest of the community by curtailing the right of the individual. The quarantine can lead to physical, psychological, emotional and financial stress due to fear of contracting the illness, boredom, loneliness, loss of personal freedom, a new set of daily routine and lack of social togetherness (Yao et al., 2020). The mental health issues following the hospital quarantine period can be new-onset mental health problems and worsening of pre-existing mental health problems. Some studies conducted concerning the mental health risks of COVID-19 in vulnerable populations include older adults (Rajkumar, 2020; Yang et al. 2020), the homeless destitute (Tsai & Wilson, 2020), migrant workers (Liem et al., 2020), the intellectually ill (Yao et al., 2020; Zhu et al., 2020), pregnant ladies (Rashidi & Simbar, 2020) and Chinese students studying abroad (Zhai & Du, 2020). An investigation conducted in China (Liang et al., 2020) on the impact of COVID-19 on youth psychological well-being, mental health and in India (Banerjee, 2020) discussed the significance of therapists during the COVID-19 pandemic is featured on teaching critical

thinking, problem-solving strategies to adapt to the current emergency. Pan (2020) conducted an investigation on look at university students' family life amid the COVID-19 and found that an alternate learning experience in this situation from the time with this circumstance from when they were on campus previously. There are various ways a student can use this time profitably and gain something out of it. However, technology and innovation have made our life simpler and more leisurely as well as entertaining. Finally, Lima et al. (2020) highlighted the role of anxiety as the dominant emotional response to an outbreak and the need for adequate training of healthcare personnel and the optimal use of technological advances to deliver mental health care.

## Methodology

This study was carried out on the COVID-19 patients of northeast India. The cross-sectional method employed in this study. A Snowball sampling technique was used to collect the data. An online structured questionnaire was developed using a google form, disseminated to the participants through WhatsApp, emails, Facebook and Twitter. The participants were encouraged to roll out the survey to as many people as possible. The study was conducted in an online mode. Participants with access to an internet connection could participate in the study. Participants with age more than 18 years and ability to understand English, and willingness to give informed consent were included as the criteria for the respondents. The researcher collected data from the eight States of northeast India. The socio-demographic variables included age, gender, occupation, education, domicile, area of residence and religion. The process of collecting data held during April-May 2021.

The online self-reported questionnaire developed by the investigators contained the following three sections related to awareness, anxiety and mental health of COVID-19 patients. There were five multiple-choice questions in the awareness section, 12 items related to anxiety in the 5-point Likert scale format ranging from Strongly Agree (SA), Agree (A), Undecided (UD), Strongly Disagree (SD) and Disagree (D). The mental health was assessed by ten items on a 5-point Likert scale. Descriptive statistics have been used in the study to analyze the data. Mean, standard deviation, and proportions have been used to estimate the results of the study.

## Results and Discussion

The study included only those participants who were COVID-19 patients and able to understand English along with internet connectivity. Most of the participants (73%) are

qualified as graduation and above. The lowest educational level in this study was observed is matriculation (10th standard). Fifty-four percent of the respondents were service holders, and 46% are non-service holders. Among the participants, 58.4% were female, 41.6% were male, and 85% were from urban areas. Fifty-three percent of respondents were in the age group of 18-45 years, and 47% are above 45 years of age.

Most of the respondents were aware of the essential elements of the disease. Out of the total participants, 71.4 % answered that the virus spreads through multiple modes like touching, kissing, sneezing, and food. Eighty-six percent of respondents stated that COVID-19 is a highly contagious disease. Most participants (92%) acknowledged that washing hands and using sanitizers frequently could stop the spread of infection. Only 43.2% of respondents said that fever and cough a symptom of COVID-19, which is known to be a significant symptom. The findings are in line with the results of the study conducted by Roy et al. (2020). The participants had a high level of awareness regarding the mode of spread, symptoms, and adequate awareness about the preventive measures, which is in accord with a previous study of Singh et al. (2020) that demonstrated the proper awareness and preventive measures for the COVID-19 outbreak.

Regarding the respondents' anxiety, 76% reported that they have thought of contracting the virus infection over the past week. Most of the participants worried for their close ones during the quarantine period. Thirty-Four percentage had sleeping difficulty due to anxiety. Among the participants, 98% had worried about their health. A total of 24% of participants worried about the food supplied at the quarantine centre. Sixty-eight percent of respondents repeatedly discussed the pandemic with their friends during this period which is similar to the findings of Roy et al. (2020). Patients with the age range 18-45 showed higher depression and sleep disturbances levels, which agrees with a previous study conducted by Wang et al. (2020). Most of the participants are worried about their oxygen level. They frequently check their oxygen level.

Similarly, 38% are worried about their health because they are diabetic and other diseases. The reason for the anxiety may be related to fear of a difficult recovery from the disease, misperceptions in society and uncertainty about the quarantine period. This finding is very similar to the findings of the study conducted by Dai et al. (2020). Another finding of the present study was reported that female patients were more likely to have anxiety symptoms. This corroborates Salk et al.'s (2017) finding that the gender differences in depression pose a

 

considerate health disparity. Depressive and anxiety symptoms were found to be a common factor among COVID-19 patients of northeast India. Shigemura et al. (2020) emphasized the economic impact of COVID-19 and its effects on well-being and the likely high levels of fear and panic behaviour, such as hoarding and stockpiling of resources for the general population.

To find out the mental health of the COVID-19 patients, a 5-point likert scale was used. The data are analysed through inferential statics.

| Variable | N | Mean | SD | p-value |
|---|---|---|---|---|
| Mental Health | 342 | 113.063 | 17.6845 | .000 |

**Table 2: Mental Health Scores of COVID-19 patients from Indexed Mental Health Scores**

Table 2 indicates that the obtained *p*-value is ($p$< .05) less than the .05 level of significance. Hence, there is a significant difference in mean scores of mental health of COVID-19 patients (M = 113.06) and the Indexed Mental health scores (M =171) at .05 level of significance, p = .000. Thus, it could be concluded that respondents have a significantly lower mean on Mental Health scores than the indexed scores. Therefore, the COVID-19 patients found to be less mentally healthy in northeast India.

| Gender | N | Mean | SD | t-Value | p-value |
|---|---|---|---|---|---|
| Male | 142 | 169.76 | 18.64 | -2.363 | .019 |
| Female | 200 | 174.56 | 16.29 | | |

**Table 3: Gender-wise comparison of Mental Health of COVID-19 patients**

Table 3 indicates that the obtained *p*-value for comparison male and female COVID-19 patients is ($p$< .05) less than the .05 level of significance. Hence, there is a significant difference between the mental health of male ($M$ = 169.76, $SD$ = 18.64) and female ($M$ = 174.56, $SD$ = 16.29) patients at .05 level of significance, $t$ (298) = -2.363, $p$ = .019. Thus, the female patients found to be more mentally healthy compared to the male COVID-19 patients of northeastern states of India.

| Age in years | N | Mean | SD | t-Value | p-value |
|---|---|---|---|---|---|
| 18-45 years | 182 | 170.93 | 17.06 | -1.107 | .269 |
| Above 45 years | 160 | 173.19 | 18.28 | | |

**Table 4: Age-wise comparison of Mental Health Scores of COVID-19 patients**

The table 4 indicates that, the obtained *p* value for 18-45 years and above 45 years age group is (*p*> .05) higher than the .05 level of significance. Hence, there is no significant difference between the mental health of 18-45 years age group (*M* = 170.93, *SD* = 17.06) and above 45 years age group (*M* = 173.19, *SD* = 18.28) patients of northeast states of India at .05 level of significance, *t* (198) = -1.107, *p* = .269.

| Covid-19 Patients | N | Mean | SD | t-Value | p-value |
|---|---|---|---|---|---|
| Service holders | 184 | 174.59 | 10.44 | -1.531 | .132 |
| Non-Service holders | 158 | 180.79 | 16.55 | | |

**Table 5: Occupation-wise comparison of Mental Health of COVID-19 patients**

The obtained *p* value for Mental Health scores of service holders is (*p*> .05) greater than the .05 level of significance that means there is no significant difference between the mental health of service (*M* = 174.59, *SD* = 10.44) and Non-Service holders (*M* = 180.79, *SD* = 16.55) at .05 level of significance, *t* (48) = -1. 531, p = .132.

| Locale | N | Mean | SD | t-Value | p-value |
|---|---|---|---|---|---|
| Urban | 290 | 163.82 | 17.50 | -3.090 | .003 |
| Rural | 52 | 75.00 | 7.74 | | |

**Table 6: Mental Health Scores of COVID-19 patients with respect to locale**

The obtained *p*-value for mean scores of Mental Health of urban and rural patients is (*p*< .05) less than the .05 level of significance. Hence, the null hypothesis is rejected, and the alternative hypothesis is accepted. It indicates that there is a significant difference between the mental health of urban (*M* = 163.82, *SD* = 17.50) and rural (*M* = 75.00, *SD* = 7.74) patients at .05 level of significance, *t* (98) = -3.090, *p* = .033. The mean gain scores favor urban patients. Thus, the urban patients found to be more mentally healthy compare to the rural patients of northeast India. This finding is very similar to the findings of the study conducted by Dong and Bouey (2020). They pointed out that the wide scope and spread of COVID-19 could lead to a true mental health crisis, especially in rural populations.

| Respondents | N | Mean | SD | t-Value | p-value |
|---|---|---|---|---|---|
| Graduation and above | 250 | 170.90 | 17.03 | -.072 | .942 |
| Below graduation | 192 | 71.11 | 18.74 | | |

**Table 7: Mental Health Scores of COVID-19 patients with respect to qualification**

The obtained *p*-value for mean scores of Mental Health below graduation qualification and above graduation is ($p$> .05) higher than the .05 level of significance, which means there is no significant difference between the mental health of below graduation qualification and above graduation. The result of the study is in agreement with the findings of Zandifar and Badrfam's (2020) research, who pointedly mentioned the role of uncertainty, the seriousness of the disease and social isolation in contributing to anxiety stress and mental unwholesome. The researchers unveiled the need for mental health services, especially for the targeted population.

**Limitations**

The study is confined to the COVID-19 patients of northeast India who had smartphones, email IDs and the ability to understand the English language.

**Conclusion**

India is suffering post-traumatic stress disorder at a large scale in continuation with increasing COVID-19 patients across the States. In spite of having some limitations, this piece of research contributes empirical evidence that COVID-19 patients of northeast India have stress and anxiety symptoms. The outbreak of COVID-19 has been adversely influencing the life of COVID-19 patients' mental health. During this second wave of coronavirus pandemic, most COVID-19 patients of northeast India were found well-aware of this infection. The possible preventive measures, the relevance of physical distancing and timely government initiatives were taken care of to limit the spread of disease. There is an urgent need to accentuate the awareness program and address the mental health issues of COVID-19 patients of northeast India during this pandemic. No such studies have been conducted to assess the mental health of COVID-19 patients of northeast India to date. It is substantially relevant to study the impact of COVID-19 on patients' mental health, healthcare workers and the general population for planning effective intervention strategies. This research would help government officials to understand better the mental health of COVID-19 patients of northeast India and accordingly ensure effective preventive measures and counselling services for the well-being of COVID-19 patients.

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• **Consent to participate (include appropriate statements)** Consent of participants has been taken through social media like whats app

• Consent for publication (include appropriate statements) Yes consent also taken from the participants

• **Availability of data and material (data transparency)** Yes available on request

• **Code availability (software application or custom code)** NA

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