Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study

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ABSTRACT

Background: COVID-19 pandemic poses a unique medical challenge to the humanity in recent times. The psychological impact of the pandemic itself and the lockdown in particular is likely to be huge.

Aim: To assess the psychological impact of COVID-19 pandemic on general population in West Bengal.

Materials and Methods: It was an online survey which was conducted using Google Forms with link sent using WhatsApp. A 38-item self-designed questionnaire was used for the study. The survey questionnaire would take around 5–7 min to complete. Total 507 responses were received by the stipulated time.

Results: Near about five-seventh (71.8%) and one-fifth (24.7%) of the respondents felt more worried and depressed, respectively, in the past 2 weeks. Half of the respondents (52.1%) were preoccupied with the idea of contracting COVID-19 and one-fifth (21.1%) of the respondents were repeatedly thinking of getting themselves tested for the presence of COVID-19 despite having no symptoms. Majority (69.6%) of the respondents were worried about the financial loss they were incurring during the period of lockdown. One-fourth (25.6%) and one-third (30.8%) of the respondents found that COVID-19 pandemic had threatened their existence and they found it difficult to adjust to the new routine during 21-day lockdown period, respectively.

Conclusion: The index survey suggested that worry and sleep disturbances were common among the respondents in the past 2 weeks. The pandemic threatened the existence of the respondents to a great extent and affected their mental status negatively.

Key words: Corona virus disease, general population, mental health, psychological impact

INTRODUCTION

The corona virus infection or COVID-19 outbreak is one of the biggest medical challenges to humankind in recent times. The outbreak of COVID-19 infection started in China in December 2019, and since then, it has spread to almost all the countries of the world by January–February 2020.[1] The World Health Organization (WHO) declared COVID-19 to be a pandemic on March 11, 2020, and as on March 31, 2020, near about 7 lakhs cases have been confirmed and more than 33,000 deaths have been reported (WHO website dated 31.03.2020 at 11:00 am Indian standard time) across 204 countries, areas, or territories and the cases are likely to rise.[1]
In India, cases of COVID-19 started to rise by the 2nd week of March 2020, and by March 31, 2020, more than 1356 cases were reported with 46 deaths. Almost all the Indian confirmed COVID-19 cases have either a positive travel history or being in close contact with a confirmed COVID-19 patient (www.mohfw.in). If infected or suspected cases are not quarantined properly, in the near future, there is high risk of community spread to the extent that the number of people affected will outnumber the patient–hospital bed–doctor ratio in the country. Furthermore, a sense of panic has set in among the general population aided by the increasing number of positive cases with each passing day and the rumors and myths about COVID-19 being circulated in the social media platforms. Both the central government and state governments had been issuing advisory to the people to maintain social distancing to stop the community spread. However, despite several appeals, the social distancing strategy has not been taken seriously, although this is the only possible solution to stop the spread of COVID-19. In view of this, the Prime Minister of India declared “lockdown” in the whole country starting from midnight of March 25, 2020, for next 21 days. Other countries in the world have also taken similar or even stricter measures to stop community spread of COVID-19.

“Lockdown” is an emergency protocol, which basically means preventing public from moving from one area to the other. In this scenario, all educational institutions, shopping arcades, factories, offices, local markets, transport vehicles, airports, railways, metros, buses, etc., are completely shut down, except hospitals, police stations, emergency services such as fire station and petrol pumps, and groceries. Historically, lockdown had been very well documented during September 9/11 attacks in New York (3-day lockdown) and during riots in several countries.

While lockdown can be a significant and effective strategy of social distancing to tackle the increasing spread of the highly infectious COVID-19 virus, at the same time, it can have some degree of psychological impact on the public. It is well known that quarantine/isolation for any cause and in the context of a pandemic (severe acute respiratory distress syndrome/SARS, 2003) had been reported to be associated with significant mental health problems ranging from anxiety, fear, depressive symptoms, sense of loneliness, sleep disturbances, anger, etc., in the immediate few days of isolation and later had symptoms of posttraumatic stress disorder and depression even after 3–4 weeks of discharge. Lockdown can have different psychological impact in different age groups as well: children may feel restless as they may run out of the options to keep themselves engaged; elderly may feel that their movement has been restricted; and adults may feel burdened with household chores in the absence of housemaids/servants.

COVID-19 pandemic provides a unique opportunity to study the psychological impact of a condition, which, on the one hand, poses serious threat of a contagious illness, threat to physical and psychological integrity of a person, and in the long run a huge socioeconomic impact. It also provides an opportunity to assess the psychological impact of an administrative decision as rare as “lockdown” on general population. This study is the first of its kind to look into the psychological impact of COVID-19 pandemic on general population after 2 weeks the disease has made an impact in the Indian subcontinent and is still at its peak.

**Aim of the study**

To evaluate the psychological impact of COVID-19 pandemic on the general public.

**MATERIALS AND METHODS**

It was an online survey, which was conducted using Google Forms with link sent using WhatsApp. Google Forms offers the advantage of submitting the response when maintaining anonymity. The person who devised the questionnaire can only see the responses but not the name who sent it (provided the option of name is not included in the form itself). The link was first circulated at 11:00 IST on March 29, 2020, and kept open for responses till 11:00 IST on March 31, 2020. Daily reminder was sent. The survey invitation clearly stated that the participants will have the right not to participate in the survey and participation in the survey will imply providing informed consent. The survey questionnaire would take around 5–7 min to complete. Total 507 responses were received by the stipulated time. Institutional Ethical Committee clearance was obtained on a fast-track basis.

**Inclusion criteria**

- Any gender
- Able to read English
- Had internet connection and WhatsApp installed on their phone
- Age more than 18 years.

**Exclusion criteria**

- Unwilling and not providing informed consent for the study.

**Instrument used**

1. Self-designed questionnaire: A 38-item self-designed questionnaire was used for the purpose of the study. The questionnaire included questions about 3 domains: (a) sociodemographic profile of the respondents, e.g., subject’s age, gender, marital status, educational qualifications, profession, and residence; (b) knowledge and attitudes of the respondents towards COVID-19 pandemic; and (c) psychological impact of COVID-19 pandemic on the respondents.
Ethical considerations
1. The recipients had the full liberty not to respond to the survey
2. The personal information was kept confidential, and anonymity was maintained
3. In case someone expressed the desire for psychiatric help, they would be guided to seek help.

Statistical analysis
Descriptive analysis was computed in terms of mean and standard deviation with range for continuous variables and frequency with percentage for ordinal and nominal variables. All analyses were done with the help of SPSS (Version 21, IBM Corp., Armonk, NY, USA).

RESULTS
A typical respondent was male (75.3%), graduate (56.2%), in private job (42%), belonged to Hindu religion (96.8%), and hailed from urban locality (40.6%) [Table 1].

Majority of the respondents heard about COVID-19 pandemic (97.8%) and knew what COVID-19 exactly was (98.7%). Majority (95.9%) of the respondents recognized the symptoms of COVID-19, e.g., fever, cough, shortness of breath, and sneezing; however, none recognized myalgia or body aches and pains as one of the symptoms. Near about three-fifth (77.7%) of the respondents enumerated the options to stop COVID-19, e.g., social distancing, hand washing, cough etiquette, and wearing mask. Majority of the respondents were supportive of government’s decision of 21-day lockdown (96.3%) and were satisfied by the steps taken by central and state government to contain COVID-19 pandemic (61.9%) [Table 2].

Majority (99.6%) of the respondents did not come in direct contact with COVID-19 patients, and only a miniscule (4.5%) percentage of respondents had confirmed COVID-19 patients in their locality. Near about 7% of the respondents were associated with care of suspected or confirmed COVID-19 patients [Table 3].

Near about five-seventh (71.8%) and one-fifth (24.7%) of the respondents felt more worried and depressed, respectively, in the past 2 weeks. Near about one-third (37.1%) of the respondents became more irritable in the past 2 weeks. Half of the respondents (52.1%) were preoccupied with the idea of contracting COVID-19 and one-fifth (21.1%) of the respondents were repeatedly thinking of getting themselves tested for the presence of COVID-19 despite having no symptoms. Minority of the respondents kept checking their fever with thermometer repeatedly (9.7%) and visited doctor (1.6%) on multiple occasions to rule out the symptom of COVID-19 and did routine blood tests (3.4%) to be sure that their health was normal in the past 2 weeks. Near about one-third (33.1%) of the respondents reported of having disturbed sleep-wake cycle in the past 2 weeks. One-fifth (19.9%) of the respondents were taking hydroxychloroquine as a prophylaxis for COVID-19 as advised by the ICMR. A worrying fact was one-tenth (10.8%) of the respondents were taking the drug without any doctor’s advice. Majority of the respondents were worried more than usual about their own future as well as future of their family members (57.8%) and worried about the financial loss they were incurring during the period of lockdown (69.6%). One-fourth (25.6%) and one-fifth (34.7%) of the respondents got more depressed and worried, respectively, after reading COVID-19-related news on WhatsApp or Facebook. Majority of the respondents were spending time during lockdown either by doing household chores (62.9%) or working from home (54.8%). Only a minority of the respondents took help of psychiatry helpline (2.2%), started on antidepressant or anti-anxiety drugs in the past 2 weeks (2%), and was taking sleeping pills (4.5%) for the past 2 weeks. Near about one-tenth (9.1%) of the respondents had thyroid disorders. Majority (64.9%) of the respondents found that COVID-19 pandemic had affected their mental status to some extent. One-fourth (25.6%) and one-third (30.8%) of the respondents found that COVID-19 pandemic had

Table 1: Sociodemographic profile of the respondents (n=507)

| Variables                                      | n (%)/mean±SD |
|------------------------------------------------|---------------|
| Age                                            | 33.9 (8.27) (range 18-67) |
| Gender                                         |               |
| Male                                           | 382 (75.3)    |
| Female                                         | 125 (24.7)    |
| Others                                         | Nil           |
| Profession                                     |               |
| Health-care provider                           | 57 (11.2)     |
| Other emergency service provider (e.g., electrical, administrative, police, and armed forces) | 11 (2.2) |
| Homemaker                                      | 17 (3.4)      |
| Banking sector                                 | 18 (3.6)      |
| Teacher                                        | 28 (5.5)      |
| Professor                                      | 9 (1.8)       |
| Businessman                                    | 10 (2)        |
| Student                                        | 45 (8.9)      |
| Private jobs                                   | 213 (42)      |
| Others (engineer, lawyer, and self-employed)   | 99 (19.5)     |
| Level of education                             |               |
| 10th pass                                      | 6 (1.2)       |
| 12th pass                                      | 17 (3.4)      |
| Graduate                                       | 285 (56.2)    |
| Postgraduate                                   | 180 (35.5)    |
| Postdoctoral                                   | 19 (3.7)      |
| Religion                                       |               |
| Hindu                                          | 491 (96.8)    |
| Muslim                                         | 6 (1.2)       |
| Christian                                      | 1 (0.2)       |
| Others                                         | 9 (1.8)       |
| Residence                                      |               |
| Rural                                          | 42 (8.3)      |
| Urban                                          | 206 (40.6)    |
| Semi-urban                                     | 84 (16.6)     |
| Metro city                                     | 175 (34.5)    |

SD – Standard deviation
threatened their existence and they found it difficult to adjust to the new routine during 21-day lockdown period, respectively [Table 3].

**DISCUSSION**

Index survey is unique in the sense that it assessed the psychological impact of COVID-19 on general population in West Bengal 2 weeks after the cases started to rise in India from the 2nd week of March 2020 and the central government came up with the first travel advisory mandating any passenger coming from abroad should undergo 14 days of self-quarantine. As this report is being written, we are on the 6th day of lockdown period. The total number of COVID-19 cases is 1356 and 22 for India and West Bengal, respectively. It has already claimed 46 lives all over India and 3 in West Bengal. This study is the first of its kind to look into the psychological impact of this exceptional situation on general population.

The sociodemographic profile suggests that majority of the respondents were male, well educated, living in urban areas, and were in private jobs. This survey consciously made an attempt to keep the health-care professional out of the ambit, but still near about one-tenth (11.2%) were health-care providers.

Majority of the respondents were aware of the symptoms of COVID-19 and were also aware of the precautionary steps to follow to prevent the spread of the disease. This gave the impression that public health awareness measures were percolating down to the general population. Majority of the respondents supported government’s decision of 21-day lockdown and were satisfied by the steps taken by central and state government to contain COVID-19 pandemic. This showed that general people were ready to sacrifice their personal agenda for greater good.

Near about five-seventh and one-fifth of the respondents felt more worried and depressed, respectively, in the past 2 weeks. This prevalence of excessive worrying and feeling depressed is far more than what we ordinarily get in community sample. Near about one-third of the respondents became more irritable in the past 2 weeks. Half of the respondents were preoccupied with the idea of contracting COVID-19 and one-fifth of the respondents were repeatedly thinking of getting themselves tested for the presence of COVID-19 despite having no symptoms. Considering the highly infectious nature of the disease, this particular finding was of little surprise.

Near about one-third of the respondents reported of having disturbed sleep in the past 2 weeks. This was also in excess of the reported prevalence of nonorganic insomnia in community sample. One-fifth of the respondents were taking hydroxychloroquine as a prophylaxis for COVID-19 as advised by the ICMR. A worrying fact was one-tenth of the respondents were taking the drug without any doctor’s advice. Hydroxychloroquine has many dreaded adverse effects, one of them being QTc prolongation, which in predisposed individuals may give rise to torsades de pointes and death. Majority of the respondents were worried more than usual about their own future as well as future of their family members and worried about the financial loss they were incurring during the period of lockdown. This comes as no surprise considering that this situation was hitherto unseen and there was every possibility that the lockdown period would be extended with the infection showing no signs of dying down. Because majority of the respondents were in private jobs, the prospect of financial loss heavily weighed on their mind. One-fourth and one-fifth of the respondents got more depressed and worried, respectively, after reading COVID-19-related news on WhatsApp or Facebook. Since the last 2 weeks, social media is being bombarded with lots of negative news related to COVID-19 (new cases, deaths, stigmatization of the cases, lack of personal protective equipment for the health-care providers, and fake news of new cases in the locality). This gave rise to negative emotion among the respondents.

| Variables                                                                 | n (%)                     |
|---------------------------------------------------------------------------|---------------------------|
| Have you heard about COVID-19 pandemic?                                   | 496 (97.8)                |
| Yes                                                                       | 6 (1.2)                   |
| No                                                                        | 5 (1)                     |
| What is COVID-19?                                                        | 6 (1.2)                   |
| Bacterial disease                                                         | 500 (98.7)                |
| Severe flu-like illness caused by (nCoV/SARS)                             | 1 (0.2)                   |
| Disease caused by protozoa                                                | Nil                       |
| What are the symptoms of COVID-19?                                        | 1 (0.2)                   |
| Fever                                                                     | 7 (1.4)                   |
| Cough                                                                     | 2 (0.4)                   |
| Body aches and pains                                                      | 0 (0)                     |
| Shortness of breath                                                       | 11 (2.2)                  |
| Sneezing                                                                  | 1 (0.2)                   |
| All of the above                                                          | 486 (95.9)                |
| What are the options to stop COVID-19 pandemic?                           | 394 (77.7)                |
| Social distancing                                                        | 109 (21.5)                |
| Hand washing                                                              | 1 (0.2)                   |
| Cough etiquette                                                           | 1 (0.2)                   |
| Wearing mask                                                              | 2 (0.4)                   |
| All of the above                                                          | 342 (67.4)                |
| Do you support the government’s decision of 21-day lockdown?              | 488 (96.3)                |
| Yes                                                                       | 4 (0.8)                   |
| No                                                                        | 15 (3)                    |
| Are you satisfied with the steps taken by the central and state government to contain COVID-19 pandemic? | 314 (61.9)                |
| Yes                                                                       | 19 (3.7)                  |
| To some extent                                                            | 174 (34.3)                |

COVID – Coronavirus disease; SARS – Severe acute respiratory distress syndrome; nCoV – Novel corona virus
### Table 3: Psychological impact of coronavirus disease 19 pandemic on the respondents (n=507)

| Variables                                                                 | n (%)       |
|---------------------------------------------------------------------------|-------------|
| Have you come in direct contact with COVID-19 patient?                     |             |
| Yes                                                                       | 2 (0.4)     |
| No                                                                        | 505 (99.6)  |
| Are you associated with the care of suspected/confirmed COVID-19 patients? |             |
| Yes                                                                       | 36 (7.1)    |
| No                                                                        | 471 (92.9)  |
| Is there any confirmed COVID-19 patient in your locality?                  |             |
| Yes                                                                       | 23 (4.5)    |
| No                                                                        | 484 (95.5)  |
| Are you feeling worried more than usual in the last 2 weeks?               |             |
| Yes                                                                       | 364 (71.8)  |
| No                                                                        | 143 (28.2)  |
| Are you preoccupied with the idea of contracting COVID-19 during the past 2 weeks? |         |
| Yes                                                                       | 264 (52.1)  |
| No                                                                        | 243 (47.9)  |
| Are you repeatedly thinking of getting yourself tested for the presence of COVID-19 in your body (although you have no symptom)? |      |
| Yes                                                                       | 107 (21.1)  |
| No                                                                        | 400 (78.9)  |
| Have your sleep-cycle become disturbed in the past 2 weeks?                |             |
| Yes                                                                       | 168 (33.1)  |
| No                                                                        | 339 (66.9)  |
| Do you keep checking for fever with thermometer repeatedly in the past 2 weeks? |         |
| Yes                                                                       | 49 (9.7)    |
| No                                                                        | 458 (90.3)  |
| Have you visited doctor(s) on multiple occasions to rule out the symptoms of COVID-19 in the past 2 weeks? | |
| Yes                                                                       | 8 (1.6)     |
| No                                                                        | 499 (98.4)  |
| Are you taking the prophylactic dose of hydroxychloroquine (as advised by ICMR) to ward off COVID-19? | |
| Yes                                                                       | 101 (19.9)  |
| No                                                                        | 406 (80.1)  |
| If the answer to the above question is “yes,” are you taking it on the advice of a doctor? |       |
| Yes                                                                       | 46 (9.1)    |
| No, on my own                                                            | 55 (10.8)   |
| Not applicable                                                            | 406 (80.1)  |
| Are you feeling depressed for most of the time in the past 2 weeks?       |             |
| Yes                                                                       | 125 (24.7)  |
| No                                                                        | 382 (75.3)  |
| Are you worried more than usual about the future of yourself and family members in the past 2 weeks | |
| Yes                                                                       | 293 (57.8)  |
| No                                                                        | 214 (42.2)  |
| Have you become more irritable than usual in the past 2 weeks              |             |
| Yes                                                                       | 188 (37.1)  |
| No                                                                        | 319 (62.9)  |
| Are you worried about the financial loss that you are incurring during the period of lockdown? |       |
| Yes                                                                       | 353 (69.6)  |
| No                                                                        | 154 (30.4)  |
| Have you done routine blood tests in the past 2 weeks to be sure that your health is ok? |       |
| Yes                                                                       | 17 (3.4)    |
| No                                                                        | 490 (96.6)  |
| Do you get more depressed after reading the WhatsApp or Facebook messages related to COVID-19 in past 2 weeks? |       |
| Yes                                                                       | 130 (25.6)  |
| No                                                                        | 229 (45.2)  |
| May be                                                                   | 148 (29.2)  |
| Do you get more worried after reading the WhatsApp or Facebook messages related to COVID-19 in the past 2 weeks? |         |
| Yes                                                                       | 176 (34.7)  |
| No                                                                        | 186 (36.7)  |
| May be                                                                   | 145 (28.6)  |
| How are you spending time during the 21-day lockdown?                      |             |
| Reading books                                                             | 17 (3.3)    |
| Watching movies                                                           | 37 (7.3)    |
| Doing household chores                                                    | 319 (62.9)  |

*Contd...*
### Table 3: Contd...

| Variables                                                  | n (%)   |
|------------------------------------------------------------|---------|
| Laying/sleeping                                            | 20 (3.9)|
| Listening to music                                         | 65 (12.8)|
| Engaging in social media                                   | 193 (38.06)|
| Painting                                                   | 5 (0.9)|
| Work from home                                             | 278 (54.8)|
| Others                                                     | 33 (6.5)|
| Have you taken the help of psychiatry helpline to reduce your anxiety or depression during the past 2 weeks? |         |
| Yes                                                        | 11 (2.2)|
| No                                                         | 496 (97.8)|
| Are you on any antidepressant(s)/anti-anxiety medication which has been started in the past 2 weeks? |         |
| Yes                                                        | 10 (2)|
| No                                                         | 497 (98)|
| Are you taking any sleep medication for the past 2 weeks?  |         |
| Yes                                                        | 23 (4.5)|
| No                                                         | 484 (95.5)|
| How do you think COVID-19 pandemic has affected your mental status negatively? |         |
| Has affected me to some extent                             | 329 (64.9)|
| Has affected me to a great extent                          | 32 (6.3)|
| Has not affected me at all                                 | 146 (28.8)|
| Do you find that COVID-19 pandemic has posed a threat to your existence? |         |
| Yes                                                        | 130 (25.6)|
| No                                                         | 172 (33.9)|
| May be                                                    | 205 (40.4)|
| Have you found it difficult to adjust to the new routine during the 21-day lockdown period? |         |
| Yes                                                        | 156 (30.8)|
| No                                                         | 198 (39.1)|
| May be                                                    | 153 (30.2)|

COVID – Coronavirus disease

Although there have been initiatives by the National Institute of Mental Health and Neurosciences, Bengaluru, Indian Psychiatric Society (IPS), the parent body of Indian Psychiatrists, and IPS, West Bengal State Branch, to help people in emotional distress at the time of COVID-19 pandemic through dedicated helpline, only a minority of the respondents (2.2%) took help through the helpline. Two-third of the respondents found that COVID-19 pandemic had affected their mental status to some extent. One-fourth and one-third of the respondents found that COVID-19 pandemic had threatened their existence and they found it difficult to adjust to the new routine during 21-day lockdown period, respectively. This is a testimony to the fact that the current situation has been quite disruptive in terms of emotional health of the respondents concerned and required adjustment on part of them to get acquainted to new routine during the period of lockdown.

**CONCLUSION**

COVID-19 pandemic poses an extraordinary medical challenge to the humankind. The measures to contain the spread of the disease have been hitherto unseen to many of us. The socioeconomic effect of this pandemic is expected to last very long. This survey was an attempt to peek into the psychological impact of the pandemic, while it was still at peak. Index survey suggested that worry and sleep disturbances were common among the respondents in the past 2 weeks. The pandemic threatened the existence of the respondents to a great extent and affected their mental status negatively.

**Future direction**

Future studies should look into the psychological impact of COVID-19 pandemic in a larger population which should be representative of whole of India. Furthermore, future studies can look into separately the psychological impact of “lockdown” as a social distancing strategy. Structured instruments can be used to assess the psychological impact of COVID-19 pandemic among the frontline health-care workers, COVID-19 survivors, and caregivers.

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**Conflicts of interest**

There are no conflicts of interest.

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