Original Article

A study on the anxiety level and stress during Covid19 lockdown among the general population of West Bengal, India- A must know for primary care physicians

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Abstract

Background: Covid19 pandemic has resulted in drastic changes in human lives across the globe in the form of lockdown and an uncertain future. Information regarding the COVID-19-related anxiety and well-being among the public in India is very limited, especially from the state of West Bengal. We conducted this e-survey among the general population of West Bengal to assess the anxiety levels and the well-being status during lockdown. This information would be helpful to guide family physicians to screen patients for anxiety from the primary care level. **Aims:** The main aim of this questionnaire based study was to assess the levels of anxiety and well-being status among the public including the frontline workers in West Bengal, India. **Materials and Methods:** A prospective study was conducted with a validated e-questionnaire after Institutional Ethics committee approval, from 18th April, 2020 to 3rd May, 2020. The questionnaire had 12 questions which included the Generalized Anxiety disorder (GAD)-7 scale and the WHO-5 scale (5 question-items) to assess the well-being of the participants. The survey link was distributed through the social networking sites of WhatsApp, LinkedIn, Facebook and Twitter and e-mails within West Bengal. Microsoft Excel (version 2016) was used to analyse the data. **Results:** A total of 355 responses were received 15.49% responders were observed to have anxiety and 37.74% participants had low well-being scores. Majority of healthcare workers (89.47%) were seen to have anxiety and a significant (52.03%) had a low well-being status. **Conclusions:** We report the presence of anxiety and low well-being among the general population of West Bengal. It is important to understand the current psychological status of the public for the family physicians as many would visit them with vague symptoms. There is a dire need to screen all patients including front line workers visiting primary care physicians for mental health to ensure better clinical outcome.

Keywords: Anxiety, COVID-19, health care workers, India, Well-being, West Bengal

Introduction

On 30th January 2020, the World Health Organization (WHO) in Geneva declared Corona Virus Disease 2019 (COVID-19), first identified in the city of Wuhan in China, as a Public Health

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Emergency of International Concern (PHEIC).[1] According to the WHO, as of 5th June 2020, there have been 65, 15, 796 confirmed cases of COVID-19 worldwide, including 3, 87,298 deaths. Of this, in India, from January 30 to 5th June 2020, there have been 2,26,770 confirmed cases of COVID-19 with 6,348 deaths.[2]

Currently, there is no approved treatment for COVID-19, however, on 30th March 2020, United States Food and Drug Agency (USFDA) allowed Emergency Use Authorization (EUA) for Hydroxychloroquine sulphate for treatment of hospitalized COVID-19 patients.[3] In a similar stance, Indian Ministry of Health and Family Welfare has also authorized administration of Hydroxychloroquine for COVID-19 treatment as well.[4] With lockdown periods being repeatedly extended in India, the economy is likely to take a hit, in India, as well as in other countries affected by COVID-19.[5] This could very well start to affect the socioeconomic as well as psychological well-being of people everywhere over the globe during this pandemic.[6] It is know that any large scale disaster leads to an increase in the incidences of depression, anxiety, post-traumatic stress disorder (PTSD), substance abuse, a spectrum of psychological disorders, social violence and abuse.[7] An apt example would be to cite the increase in incidence of psychological disorders observed in patients and clinicians during the Severe Acute Respiratory Syndrome (SARS) epidemic of 2000s.[8] The same scenario is expected to be observed during the current COVID-19 pandemic as well.[9]

The main objective of this paper was to explore and analyse the presence and level of anxiety and wellbeing of the general public including some frontline workers with the help of a simple e-questionnaire designed and distributed online through Google forms. Prior informed consent was taken from the participants. For the questionnaire we utilized GAD-7 tool for Generalized Anxiety Disorder assessment.[10] GAD-7 is known to be a valid and precise assessment tool for the aforesaid disorder and widely used by clinicians. To assess wellbeing, we also utilized the WHO-5 Wellbeing Index (WHO-5).[11,12] Together, with the use of these two scales we could overview a more generalized scene of the anxiety and wellbeing in the Indian diaspora.

Primary care physicians, are the first contact-of-care for the general population, thus they are better equipped to screen patients for mental disorders. They should lead and participate in these services to improve access, quality, and outcomes. In resource-limited settings, such as rural India, people with mental health disorders are often under-served, due to stigma, lack of trained providers and adequate resources. Thus primary care physicians could actively fill this lacunae to ensure better mental health in these settings and also in our community as a whole.

Methodology

This study was conducted in a tertiary care teaching hospital in the metropolitan Kolkata. A structured questionnaire was designed using Google forms and disseminated across different social media networks by the research team and shared by the participants. The survey was, unlike others conducted, was constrained to one state of West Bengal, India. The study period of this study was 15 days, from 18th April 2020 to 3rd May 2020. We documented a total of 355 responses in this study. We also observed responses from significant proportion of essential workers which included Health care workers, NGO workers, House-keeping staff, Delivery personnel and Bankers. The items in this questionnaire were constructed such as to preserve the various constructs of the scales used based on WHO-5 and GAD-7.[10-12] Prior consent from the participants were obtained before filling the questionnaire. The self-administered survey consisted of several socio-demographic question-items followed by items from the GAD-7 scale which consisted of 7 question-items to assess the general anxiety of the participant. Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively. Participants scoring less than 5 were rejected from the analyses. Also included were the 5 question-items belonging to the WHO-5 scale to determine the wellbeing of the participants. The scores range from 0 to 25, 0 represents the worst possible and 25 represents the best possible quality of life. The cut-off score for WHO-5 scale was taken as 12. Suitable sampling method was utilized for the data collection and represented as percentages and frequencies. Participants were sub-grouped according to their age, sex, marital status, place of residence, education (diploma, illiterate, postgraduate, undergraduate, graduate, doctorate, high school, intermediate), work status, etc., We additionally conducted a cross-sectional analysis between essential workers and their ages, gender and people they are living with during the lockdown. Microsoft Excel was used to tabulate the data and descriptive statistics (pair-wise comparison) was used to further analyse the data collected. Appropriate permission to conduct the study was taken from Institutional Review Board. Requisite approval was taken from Ethics Committee. Date of approval: April 10, 2020.

Results

A total of 355 responses were captured and analysed in this study. Out of 355 responses, 77 (21.69%) belonged to those by essential workers working in areas such as hospitals, clinics, banks, anganwadi centres etc., [Table 1]. Majority of responders belonged to the age groups 18-30 (n = 350; 98.59%). Males responders were dominant (n = 182; 51.26%). A good proportion of the responses were from people with post-graduate degree (n = 156; 43.94%). This study was restricted to the state of West Bengal. Majority of responders resided in urban localities (n = 305; 85.91%) consisting of Kolkata (n = 140; 45.90%) followed by Howrah (n = 79; 25.90%) followed by Darjeeling (n = 63; 20.65%) followed by North 24 Parganas (n = 13; 4.26%) and Hooghly (n = 10; 3.27%). Whereas, just 50 (14.09%) reside in rural locality. This included South 24 Parganas (n = 12; 24%), Birbhum (n = 9; 18%) followed by Bankura (n = 6; 12%) followed by Malda (n = 6; 12%) followed by Purba Medinipur (n = 5; 10%) followed by Dakshin Dinajpur (n = 4; 8%) followed by Purulia (n = 2; 4%) followed by Murshidabad (n = 2; 4%)

followed by Paschim Medinipur (n = 2; 4%) followed by Purba Bardhaman (n = 1; 2%) and Alipurduar (n = 1; 2%). We received no responses from the following districts: Cooch Behar, Uttar Dinajpur, Jalpaiguri, Nadia, Kalimpong, and Paschim Bardhaman. We also observed that 317 (89.29%) responders were living with their family during the lockdown whereas 28 (7.88%) were observed to be living alone. [Table 1]

To assess the general well-being and anxiety of the study participants we utilized two well-known and largely used clinical tools, they were: the GAD-7 scale consisting of 7 question-items to assess the anxiety and the WHO-5 scale with 5 question-items to assess the well-being. Following were some astute observations noticed from the GAD-7 scale: Majority of responders (n = 178; 50.14%) felt "nervous, anxious, or on edge" over half the days. Most of responders (n = 216; 60.84%) felt "not being able to stop/control worrying" for several of the days. Good proportion of responders (n = 186; 52.39%) stated that they were not at all sure about feeling "worried too much about different things". The bulk of responders (n = 150; 41.25%) agreed to having some "trouble relaxing" over half the days. Majority of the responders (n = 246; 69.29%) felt not at all sure about "being so restless that it's hard to sit still". Several responders (n = 184; 51.83%) believed to "be easily annoyed or irritable" for several days. Most of the responders (n = 175; 49.29%) agreed to "feeling afraid as if something awful might happen" nearly every day. [Table 2]. We also utilised the WHO-5 scale to assess general well-being of the study participants. The WHO-5 scale includes 5 question-items for the assessment. We made the following few observations: Majority of responders (n = 86; 24.22%) "felt cheerful and in good spirits" almost all the time. Most of responders (n = 98; 27.60%) "felt calm and relaxed" only some of the time. The bulk of responders (n = 90; 25.35%) "felt active

Table 1: Total responses obtained

Total Responses	n=355	%
Responses from Essential Workers	73	20.56338028
Responses from Non-essential Workers	282	79.43661972
Age		
18-30	183	51.54929577
31-40	72	20.28169014
41-50	54	15.21126761
51-60	25	7.042253521
61-70	13	3.661971831
71-80	4	1.126760563
80 and above	3	0.845070423
Gender		
Males	182	51.26760563
Females	171	48.16901408
Others	2	0.563380282
Education		
Intermediate	27	7.605633803
Diploma	5	1.408450704
Graduate	139	39.15492958
Post-graduate	184	51.83098592
Responses from Urban Districts	305	85.91%
Kolkata	140	45.90%
Howrah	79	25.90%
Darjeeling	63	20.65%
North 24 Parganas	13	4.26%
Hoogly	10	3.27%
Responses from Rural Districts	50	14.09%
South 24 Parganas	12	24%
Birbhum	9	18%
Bankura	6	12%
Malda	6	12%
Purba Mednipur	5	10%
Dakshin Dinajpur	4	8%
Puruilia	2	4%
Murshidabad	2	4%
Paschim Mednipur	2	4%
Purba Bardhaman	1	2%
Alipurduar	1	2%
Responders living with:		
Family	317	89.29577465
Friends	10	2.816901408
Alone	28	7.887323944

Table 2: Responses as per GAD-7 scale

GAD-7 Scale	n=355	%
Feeling nervous, anxious, or on edge		
Nearly every day	38	10.7042
Not at all sure	197	55.493
Over half the day	25	7.04225
Several days	84	23.662
Not being able to stop or control worrying		
Nearly every day	36	10.1408
Not at all sure	189	53.2394
Over half the day	28	7.88732
Several days	91	25.6338
Worrying too much about different things		
Nearly every day	42	11.831
Not at all sure	175	49.2958
Over half the day	32	9.01408
Several days	95	26.7606
Trouble relaxing		
Nearly every day	29	8.16901
Not at all sure	212	59.7183
Over half the day	28	7.88732
Several days	75	21.1268
Being so restless that it's hard to sit still		
Nearly every day	28	7.88732
Not at all sure	235	66.1972
Over half the day	23	6.47887
Several days	59	16.6197
Feeling afraid as if something awful might happen		
Nearly every day	40	11.2676
Not at all sure	198	55.7746
Over half the day	30	8.4507
Several days	71	20
Feeling afraid as if something awful might happen		
Nearly every day	32	9.01408
Not at all sure	179	50.4225
Over half the day	27	7.60563
Several days	106	29.8592

Table 3: Responses as per WHO-5 scale

WHO-5 Scale	n	%
I have felt cheerful in good spirit		
All of the time	86	24.2253521
Less than half time	27	7.6056338
More than half the time	58	16.3380282
Most of the time	73	20.5633803
Never	17	4.78873239
Some of the time	83	23.3802817
I have felt calm and relaxed		
All of the time	76	21.4084507
Less than half time	28	7.88732394
More than half the time	58	16.3380282
Most of the time	73	20.5633803
Never	11	3.09859155
Some of the time	98	27.6056338
I have felt active and vigorous		
All of the time	83	23.3802817
Less than half time	29	8.16901408
More than half the time	58	16.3380282
Most of the time	66	18.5915493
Never	18	5.07042254
Some of the time	90	25.3521127
I have woke up feeling fresh and rested		
All of the time	105	29.5774648
Less than half time	34	9.57746479
More than half the time	43	12.1126761
Most of the time	76	21.4084507
Never	24	6.76056338
Some of the time	62	17.4647887
My daily life has been filled with things that interest me		
All of the time	83	23.3802817
Less than half time	46	12.9577465
More than half the time	50	14.084507
Most of the time	70	19.7183099
Never	16	4.50704225
Some of the time	80	22.5352113

and relaxed" only some of the time. Several responders (n = 105; 29.57%) "woke up feeling fresh and rested" all of the time. Most (n = 82; 23.09%) felt as if "life was filled with things that interested them" all of the time. [Table 3].

We conducted cross-sectional analyses on the participants' responses on basis of their age, gender and on the fact whether they lived with their family members, friends or alone. As per the GAD-7 scale, responders belonging to age group 18-30 years of age were observed to have mild anxiety (n = 65; 36.31%), moderate anxiety (n = 19; 10.61%) and severe anxiety (n = 12; 6.70%). As per the WHO-5 scale, participants belonging to the similar age group found stressed were 75 (21.12%) as opposed to 108 (30.42%) who were not stressed. This group of participants (18-30) were seen to belong to the one with highest incidence of anxiety in this study (n = 96; 53.63%). According to the GAD-7 gender-wise distribution analysis we observed females (n = 77; 52.38%) to be more affected with anxiety compared to males (n = 70; 47.61%). Of these 77 female participants, 6 (4.08%) had severe anxiety, 17 (11.56%) had moderate anxiety and 54 (36.73%) had moderate anxiety. Overall, 24 (6.76%) male participants as opposed to 31 (8.73%) females were seen to have significant anxiety levels (GAD-7 score >9) out of 355 participants. According to the WHO-5 scale, males (n = 98; 27.60%) were observed to be more stressed compared to females (n = 61; 17.18%). As per the GAD-7 scale participants residing with their family members (n = 134; 98.52%) reported to be more anxious than with those staying alone (n = 12; 8.82%) or with their friends (n = 5; 3.67%). As per the WHO-5 scale, a majority of those staying with their family members (n = 170; 47.88%) were found to be not stressed compared to 147 (41.40%) stressed participants who were staying with their family members.

Considering the entire study participant population, according to the GAD-7 scale, 55 (15.49%) responders out of 355 were observed to have anxiety with a mean score of 14.03 (66.80%) out of 21. Similarly, according to the WHO-5 scale, about 134 (37.74%) participants out of 355 were observed to have significantly decreased well-being scores averaging to around 7 (28%) out of 25.

We conducted a specific analysis for participants who were essential workers. According to the GAD-7 scale, health care workers (n = 34; 89.47%) were observed to have significant anxiety over participants of other occupation. According to WHO-5 scale, the health care workers were found to have worse well-being (n = 38; 52.05%) compared to participants of other profession.

Discussion

Through this study we have highlighted the necessity of taking into consideration the level of anxiety and general well-being of the public as well as the essential workers during this pandemic. One of the many key points of this study is that we have dwelled on the psychological condition of essential workers. Another was that we utilised two credible and clinically accepted tools to assess general anxiety disorder and the general well-being of the participants, which can be used by primary care physicians with ease. Finally, in this study, we specifically approached the population of West Bengal instead of disseminating the survey across other Indian states. In doing so, we gained specific knowledge into the *vox populi* of this Indian state.

To the best of the authors' knowledge, this study is the first of its kind in this state. Increased levels of anxiety and decrease in well-being can be essentially traced back to the lack of awareness and unpreparedness of the public towards the pandemic.[13] Moreover, increased lockdown periods coupled with fear, frustration and financial losses can easily stigmatise and change our behaviour leading to depression and increased stress.[14,15] Since this study was conducted during the second phase of lockdown we hoped to achieve credible result.

An estimation by National Mental Health Survey of years 2015-2016 indicated a prevalence of 3.6% which is miniscule when compared to this study's finding of 15.49%.[16] A study assessing the mental health status of South Korean participants during the MERS epidemic showed a GAD-7 score of 7.6% which is comparatively closer GAD-7 score in our study.[17] A cross-sectional conducted during the lockdown, found that depression, anxiety and stress were prevalent among Indian population.[18] We observed a lesser proportion of males to be affected with anxiety when compared to females in this study. This result is synonymous with other Indian studies.[19,20] The reason for this happening can be traced to the fact that in a common Indian household women are usually concerned with all the domestic duties such as everyday chores, tending to the needs of children and other members of the family, cooking and cleaning apart from other duties. This can lead to both psychological and physical exhaustion. However, in absence of data it remains a mere speculation. We observed a majority of responses showing a low well-being score in 134 (37.74%) responders in contrast to another country-wide Indian study which observed a poor well-being in 1208 (71.7%) of the participants.[21] Incidence of anxiety in Chinese population was seen in a range from 22.6% to 36.3% in essential workers such as health care workers.[22-24] Through this study we also observed a significant proportion (89.47%) of health care workers to be affected with anxiety and a majority (52.03%) also showed a decreased well-being score. This was significantly more than that seen in Chinese population. One of the reasons for this deviation could be the fact that this is the first time this generation is facing a pandemic of this magnitude coupled with the negative psychological effect of the lockdown phases. During a previous pandemic, namely swine flu outbreak, health care professionals had good knowledge, showed positive attitude and demonstrated lower anxiety levels.[25] However, anxiety levels have been higher during the current pandemic, possibly due to multiple factors, as discussed above. A cross-sectional study, involving 384 doctors in eastern India, found high stress levels, in both dermatologists and non-dermatologists, during this lockdown, thus confirming that a large number of healthcare workers and doctors have been affected and may need mental health support.[26] A recent meta-analysis which studied the prevalence of stress, anxiety and depression among multiple studies among the general population during the covid19 pandemic, revealed it to be 29.6% in case of stress, 31.9% in case of anxiety and 33.7% in case of depression worldwide prevalence.[27] 25%, 28% and 11.6% of the participants were moderate to extremely severely depressed, anxious and stressed, respectively in another Indian study, primarily having respondents from northern and western states of the country.[18] In a survey done in China, the rates of mental health symptoms were found to be 27.9% for depression, 31.6% for anxiety, 29.2% for insomnia, and 24.4% for acute stress.[28] Frontline healthcare workers also showed high levels of psychological problems in China during this pandemic.[29] People from India, Pakistan and Kingdom of Saudi Arabia were found to have severe depression in a worldwide study, in addition to severe anxiety in those from the subcontinent.[30] High levels of anxiety and psychological issues were prevalent in general public[31] as well as in healthcare workers[29,32-34] Psychological health of frontline workers should be considered a priority and timely intervention should be done.[34]

Screening for mental illnesses and early detection of mental health problems are important in promoting mental health in the community and for decreasing morbidity, as well as preventing adverse outcomes. Primary care providers are well positioned to identify, assess and manage mental health concerns as they are the first level of contact for the community.[35-37] This is the ideal setting where they can be diagnosed, and treated early. Increased mental health issues in this pandemic, among general public and healthcare workers alike, should be dealt with, by PCPs, from the primary care level only. Unfortunately, these patients may present with wide variety of physical and somatic symptoms, which can mislead even the most astute PCP. Also, those who visit PCPs have milder and less distinct forms of mental illness, with concomitant psychosocial stress.[38] Thus, use of proper accredited screening tools is needed for diagnosis. Some of the main challenges to improving care will be to ensure that patients obtain a regular follow up and also have sufficient access to evidence-based psychotherapy. Thus, a PCP should collaborate with psychiatrists and mental health counsellors, which will also help in lessening of the barriers in access to psychotherapy.[39]

We offer some recommendations, so that this problem can be better addressed and managed from the primary care level

- PCPs should be aware of the mental health burden in the community in this pandemic
- PCPs should keep themselves updated on screening recommendations for their patients and screen them for anxiety disorders from the initial visit
- Screening in a busy practice can be overwhelming, but they can use technology, empower staff & link workers like ASHA, and utilize wellness home visits
- PCPs should collaborate with mental health professionals, whenever possible to ensure the best care for their patients.
- PCPs should advocate for the elimination of the stigma that accompanies poor mental health
- PCPs should support policies that improve access to behavioural and mental health services.

There were some limitations to this study. This study being an e-survey, was available to only those with access to internet connection, an email account and an understanding of the English language. The distribution of the survey link was not properly spread. Majority of the responders were from urban areas whereas a minority were from rural areas. Despite the above-mentioned drawbacks, we consider this study to be a crucial first step in further studies and policy making. There is a growing need to understand the anxiety and the psychological needs of the public by collecting useful data and analysing it to some advantage.

Conclusion

The main of this study was to analyse the anxiety and well-being of the people of West Bengal. Looking at the results of this study it warrants immediate generation of awareness among the public regarding mental health, which is often neglected. Primary care physicians should be aware that anxiety is at an all-time high in their patient population including healthcare workers and should actively screen them. They should identify and also collaborate with mental health professionals to ensure better outcomes.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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