



CORONA QUALMS: A STUDY TO ASSESS THE PSYCHOLOGICAL IMPACT OF NATIONWIDE LOCKDOWN IMPOSED DURING COVID-19 PANDEMIC IN INDIA.

Psychiatry

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ABSTRACT

Introduction: CoViD-19 is a worldwide emergency that has taken a toll not just on health services and economies globally but has also had a detrimental effect on people's social, psychological and mental health. The psychosocial impact of the Corona Virus Disease 2019 has been studied among the Indian population, but the particular psychological effects of the national lockdown in India haven't been delved into yet.

In this background, we evaluate the relevant impact on mental health in consequence of the lockdown imposed during *CoViD-19* pandemic in India. **Material & Methods:** This was a descriptive, cross sectional study conducted in the month of May 2020. A Web- based survey comprising of 44 multiple choice and short answer questions was to be completed by the participants. Questions explored included the 1) demographic data 2) relevant personal & family history 3) general symptoms of anxiety and depression (rated by Kessler K10 Scale) and 4) symptoms of post-traumatic stress (rated by Weiss & Marmar Impact of event scale revised)

Results: 503 people responded to the Web based Survey form. General Data was analysed for Gender, Age, Marital Status, Job profile, Family set-up and with whom they practised self-quarantine under the nationwide lockdown. 57.6% people were optimistic for the future. On Mental Health Outcome Scales analysis, it was found that according to Kessler Scale, 35% of the respondents showed symptoms of distress and anxiety and according to Impact of Event scale (revised), 32.21% of the respondents showed symptoms that could lead to a probable diagnosis of PTSD.

Conclusion: The Nationwide Lockdown imposed during *CoViD-19* has had an adverse psychological impact on the mental health of the individuals. The prevalence of anxiety and distress and PTSD was on the higher scale, in comparison to the data of other countries. Early interventional steps were taken by the government and various psychological portals to reduce the anxiety and distress amongst the people. Further studies with more population coverage are needed to establish the findings of this study.

KEYWORDS

Kessler scale, Impact of event scale, distress during COVID-19 pandemic

INTRODUCTION

"World War II was the defining moment of our parents' generation. In a similar way, the COVID-19 pandemic—the first modern pandemic—will define this era. No one who lives through Pandemic I will ever forget it. And it is impossible to overstate the pain that people are feeling now and will continue to feel for years to come."

- Bill Gates (1)

Coronaviruses are a large family of viruses known to cause illness in animals and humans. In humans, the diseases can range from a typical common cold to more severe pneumonia-like illnesses for instance MERS (Middle-East Respiratory Syndrome) and SARS (Severe acute respiratory syndrome) in the past. (2) Within this spectrum lies the most recently discovered (2019-20) novel coronavirus (SARS CoV-2) which causes the CoronaVirus Disease 2019 (CoViD-19) originating from the seafood markets of Hubei province in Wuhan, China on 1 December 2019. (3)

The clinical presentation of *CoViD-19* ranges from an asymptomatic state to severe acute respiratory distress syndrome and multiorgan dysfunction. Transmission takes place via droplet infection in humans. (4) With cases being detected in most countries *CoViD-19* was declared a pandemic by the WHO on 30 January 2020. (5)

CoViD-19 is a worldwide emergency that has taken a toll not just on health services and economies globally, but has also had a detrimental effect on people's social, psychological and mental health. Research studies in the past have shown global pandemics to dangerously affect mental well-being. (6) There has been an accelerated spread of mass hysteria and panic regarding *CoViD-19* which is bound to give rise to psychological problems in all public domains. This could have adverse impacts in the future, more serious than that of the viral illness itself. (7) Therefore, the need to determine various ways in which *CoViD-19* pandemic will be impacting the world's mental health becomes notably more crucial. (8, 9, 10)

On 1 January 2020, India reported its first case of *CoViD-19* in Kerala. (11) With no known effective treatment and surging caseloads, the government of India announced a countrywide lockdown for three weeks starting at midnight on 24 March to slow the spread of *CoViD-19* as the number of positive cases in the country reached 563. Stringent measures of a lockdown and social distancing were taken to curb the spread of disease. (12) Nationwide lockdown programs that apply imposed mass quarantine (13) can produce mass hysteria, anxiety and distress, due to factors like sense of getting cornered and loss of control; intensified by family separation, insufficient supply of essentials, uncertain disease progression, financial losses, increased risk perception, which are further magnified by raging infodemics on social media (vague information and improper communications through media in the early phases of a pandemic) (14, 15) Consequentially, there have been positive associations reported between posttraumatic stress disorder (PTSD) and the duration of lockdown. (15, 16, 17)

Moreover, the Indian society is collectivistic and promotes social cohesion and interdependence. The high population density coupled with an innately gregarious nature and a critical inadequacy in the equal distribution of resources makes India especially susceptible to a greater psychological impact that is known to occur during disease outbreaks. (18)

The psychosocial impact of the Corona Virus Disease 2019 (CoViD-19) has been studied among the Indian population (19) but the particular psychological effects of the nationwide lockdown in India haven't been delved into yet.

In this background, we evaluate the relevant impact on mental health in consequence of the nationwide lockdown imposed during *CoViD-19* pandemic in India.

OBJECTIVES

The study aims to fulfil the following objectives:

1. To assess the outcomes of the nationwide lockdown during COVID-19 pandemic in India.
2. To correlate the association of low mood/depressive/PTSD symptoms with specific demographic variables.

MATERIAL & METHODS

Study Design

This was a descriptive, cross sectional study and was conducted in the month of May 2020. A total of 503 respondents were included in the study. It was conducted in collaboration by the Departments of Pharmacology and Psychiatry at JNUIMSRC (Jaipur National University Institute for Medical Sciences and Research Centre), Jaipur. The study was conducted at the end of 60 days of Lock down.

The inclusion criteria included all those persons who were not occupationally bound to step out (Healthcare workers, Media personnel and Essential service providers) and were supposed to practice home isolation. (12) The exclusion criteria were age (less than 18 year and more than 65 years) and any history of previous psychiatric illness or presently on medication for any psychiatric illness.

A Web- based survey comprising of 44 multiple choice and short answer questions was to be completed by the participants. It took approximately 10 minutes to complete.

Questions explored included the following:

- 1) Demographic data
- 2) Relevant personal & family history
- 3) Symptoms suggestive of anxiety and depression (rated by Kessler K10 Scale) (20) and
- 4) Symptoms suggestive of post-traumatic stress (rated by Weiss & Marmar Impact of event scale revised) (21)

Ethical Considerations

Written informed consent was taken from the respondents before their participation in the study and strict protocol was followed to maintain the confidentiality of their responses. Ethical approval was obtained from the JNUIMSRC's Research & Ethics Committee.

Statistical Analysis

All data was entered in MS Excel Spreadsheet. Analysis was done by using Epi Info 7.2.1.0 version. Categorical Variables were expressed as frequency and percentage.

RESULTS

Total 503 responses were studied. Table 1 shows the demographic characteristics of the participants.

Table 1: The Demographic Characteristics of the Respondents

Measure	No of participants N=503
Gender	
Male	306
Female	197
Age Group (years)	
<25 years	201
25-35 years	98
35-45 years	108
>45 years	96
Marital Status	
Married	239
Unmarried	260
Divorced	04
Family Set up	
Joint Family	318
Nuclear family	121
Nuclear Extended	64
Job profile	
Professionals	238
Students	199
Homemakers	16
Self Employed	42
Retired	8
With Whom did they live during Lockdown	
Family	429
Friends	32
Alone	42

Future outlook

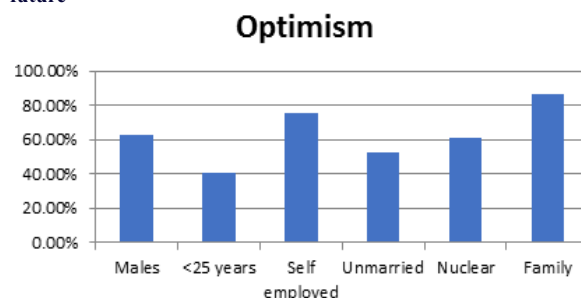
The respondents were questioned on what they thought their future would entail post *CoViD-19* lockdown. Of all the respondents, 57.6% responded with optimism, while 42.35% responded with either uncertainty or pessimism. (Table 2)

Table 2: Respondents view about the future post corona lockdown

How they felt for the future	
Optimistic	290 (57.6%)
Pessimistic	116 (23%)
Uncertain	97 (19.28%)

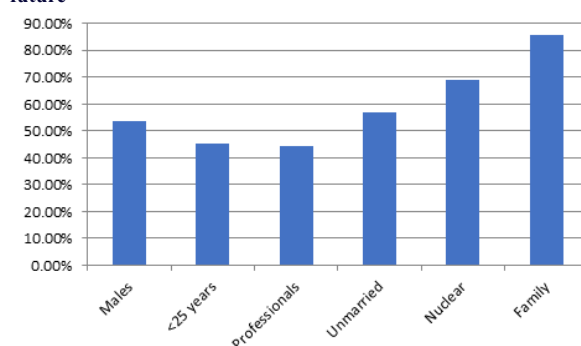
Of the 57.6% who responded with optimism, 63.1% were males, 41% were above 25 years of age, 47.9% were professionals, 52.4% were unmarried, 43.7% were neutral in their behavior, 60.6% were part of a nuclear family set-up and 86.2% spent the lockdown period with their families. (Fig 3)

Figure 3: Data of Respondents who answered Optimism for the future



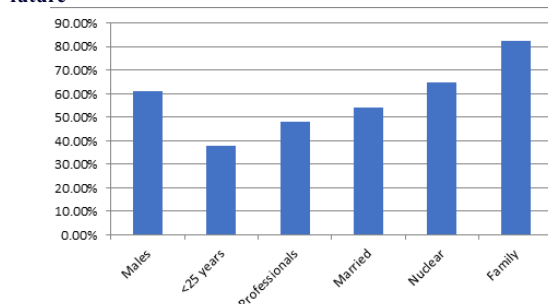
Of the 19.28% who were uncertain, 53.6% were males, 45.3% were below 25 years of age, 44.3% were professionals, 56.7% were unmarried, 51.5% were neutral in their behavior, 69% were part of a nuclear family set-up and 85.5% spent the lockdown period with their families. (Fig 4)

Figure 4: Data of Respondents who answered Uncertain for the future



Of the 23.0% who were pessimistic, 61.2% were Males, 38% were below 25 years of age, 48.2% were professionals, 54.3% were married, 43.9% were neutral in their behaviour, 64.6% were part of a nuclear family set-up and 82.7% spent the lockdown period with their families. (Fig 5)

Figure 5: Data of Respondents who answered pessimistic for future



Mental health Outcomes

Kessler Psychological Distress Scale

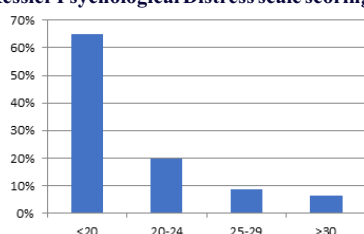
The second part of the questionnaire comprised of the 10 questions from the Kessler (K10) scale. The Kessler Psychological Distress Scale is five-level response scale designed to yield a global measure of distress. Each question pertains to an emotional state that indicate anxiety and depressive symptoms that a person has experienced in the most recent 4-week period. (20)

The numbers attached to the patients 10 responses are added up and the total score is the score on the Kessler Psychological Distress Scale (K10). Scores will range from 10 to 50. People seen in primary care who:

- score <20 are likely to be well
- score 20-24 are likely to have a mild mental disorder
- score 25-29 are likely to have moderate mental disorder
- score 30 and over are likely to have a severe mental disorder

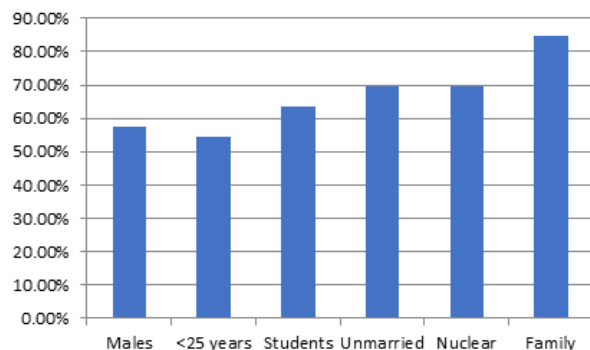
In our study, 65% respondents scored less than 20 and 35% respondents scored above 20. Out of them, 19.6 % scored between 20-24, 8.7% scored between 25-29 and only 6.5 % scored more than 30. (Fig 6)

(Figure 6: Kessler Psychological Distress scale scoring)



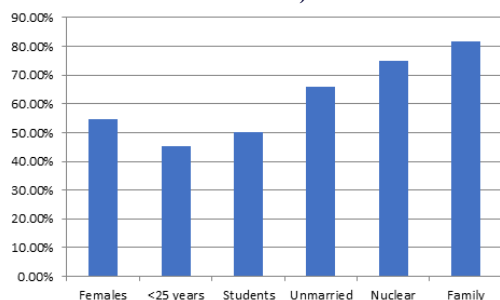
Those who scored more than 30, 57.5% were males, 54.54% were above 25 years of age, 63.6% were students, 69.6% were unmarried, 69.6% lived in a nuclear set up and 84.8% spent the lockdown with their families. (Fig 7)

(Figure 7: Kessler scale more than 30)



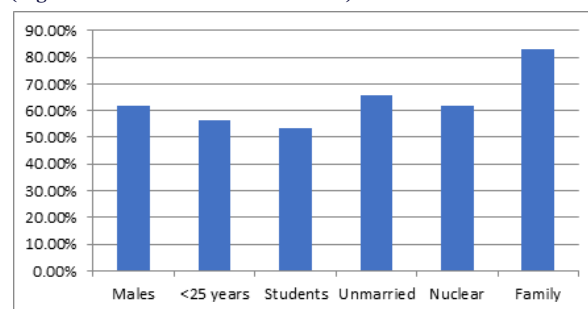
Those who scored between 25-29, 54.5% were females, 45.4% were above 25 years of age, 50% were Students, 65.9% were unmarried, 75% lived in a nuclear set up and 81.8% spent the lock down with their families. (Fig 8)

(Figure 8: Kessler scale between 25-29)



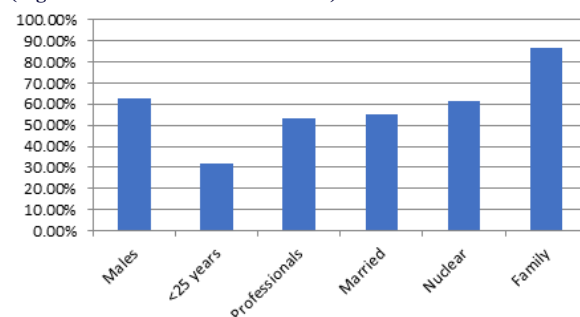
Those who scored between 20-24, 61.6% were males, 56.5% were above 25 years of age, 53.5% were students, 65.6% were unmarried, 61.6% lived in nuclear set up and 82.8% spent the lock down with their families. (Fig 9)

(Figure 9: Kessler scale between 20-24)



Those who scored below 20, 62.9 % were males, 32.1 % were above 25 years of age, 53.2 were professionals, 55% were married, 61.4 % were in nuclear families and 86.5% spent the lockdown with their families. (Fig 10)

(Figure 10: Kessler scale less than 20)



Impact of Event Scale revised

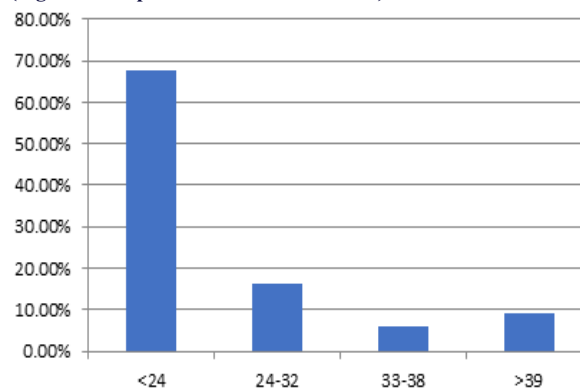
The third part of the questionnaire was the Impact of Event Scale (revised). This scale is a short, self report questionnaire with 22 questions and is an appropriate tool to measure the subjective response to a specific traumatic event in the response sets of intrusion, avoidance and hyper arousal. It is not a diagnostic tool.

The Score Interpretation scale (22) is:-

- **24-32:** PTSD is a clinical concern. Those with scores this high who do not have full PTSD will have partial PTSD or at least some of the symptoms
- **33-38:** This represents the best cutoff for a probable diagnosis of PTSD
- **39 and above:** This is high enough to suppress your immune system's functioning (even 10 years after an impact event)

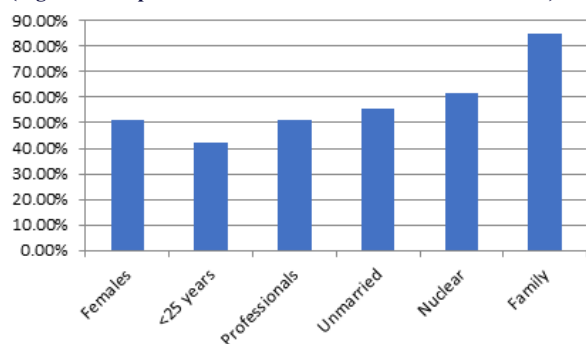
In our study, 67.79% respondents were less than 24 and 32.21% scored above 24. Out of which, 16.3% scored between 24-32, 5.96% scored between 33-38 and 9.34% scored above 39. (Fig 11)

(Figure 11: Impact of Event Scale Revised)



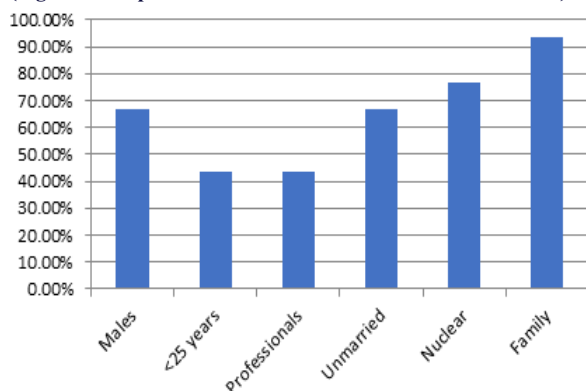
Those who scored more than 39, 51.0% were females, 42.5% were above 25 years of age, 51% were professionals, 55.3% were unmarried, 61.7% lived in nuclear family set-up and 85.1% lived with their families during lockdown. (Fig 12)

(Figure 12: Impact of Event Scale Revised score more than 39)



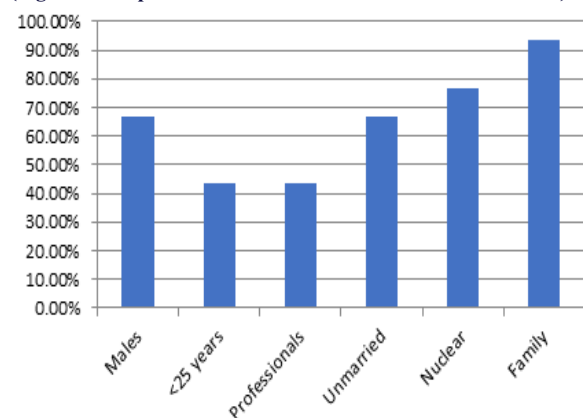
Those who scored between 33-38, 66.6 % were males, 43.3% were above 25 years of age, 43.3% were professionals, 66.6% were unmarried, 76.6% lived in a nuclear family set-up and 93.3% lived with their families during lockdown. (Fig 13)

(Figure 13: Impact of Event Scale Revised score between 33-38)



Those who scored between 24-32, 62.19% were males, 36.5 % were above 25 years of age, 50% were professionals, 53.65% were married, 54.8% lived in nuclear family set-up and 87.8% lived with their families during the lockdown. (Fig 14)

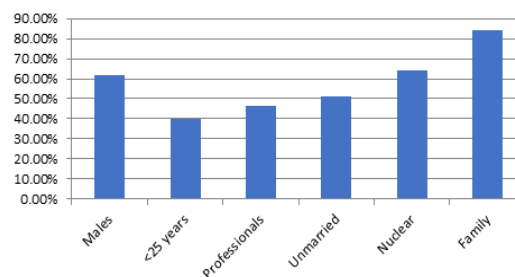
(Figure 14: Impact of Event Scale Revised score between 24-32)



Those who scored below 24, 61.9% were males, 40.1% were above 25 years of age, 46.6 % were professionals, 51.3 % were unmarried, 64.2% lived in nuclear family set-up and 84% lived with their families during the lockdown. (Fig 15)

(Figure 15: Impact of Event Scale Revised score below 24)

IES(R) Score below 24



DISCUSSION

The psychological experiences of people practising self-quarantine under nationwide lockdown in India during the *CoViD-19* outbreak have been largely overlooked, exempted from systematic study and hence, remain under-reported. Our study attempts to address this aspect with the current background of the *CoViD-19* pandemic. Moreover, we have tried to find relations between the psychological symptoms under scrutiny and specific demographic variables, a perspective, which most studies have not considered.

The primary purpose of quarantine and isolation observed under lockdown strategies is to restrict freedom in order to curtail disease transmission. Lockdowns implemented in countries like China and France proved to be beneficial by preventing rise in caseloads and successfully assuaged the epidemic wave.(23) However, these extreme measures have also proven to be non-conducive to the emotional and mental health of populations.

503 respondents (306 Males & 197 Females) between the ages of 18 and 65 years volunteered to share their experiences with us through a web-based survey. This was comparable with studies conducted among Chinese citizens practising lockdown isolation measures which reported worrying trends of general distress, anxiety, depression and symptoms indicative of PTSD whose incidence range from 17 % to 35% in the surveyed populations. (24, 25) Studies from Canada that were both cross sectional in design, conducted among sample populations of 501 and 129 respectively during the SARS outbreak also reported similar findings. (15, 26)

Our results show that a large percentage of the population under lockdown in India was experiencing symptoms of distress and anxiety, and symptoms suggestive of PTSD and depression; measured by Kessler and IES revised scales. 35% of the respondents showed symptoms of distress and anxiety while 32.21% of showed symptoms that could lead to a diagnosis of PTSD.

Additionally, the qualitative part of the study reveals that resilience and healthy coping strategies helped even high-risk individuals to stay positive, view the lockdown as an opportunity to ruminate on their individual and social identity, and take this time to improve their relationships with their families. Monitoring populations' mental health is critical during a pandemic, as generalized fear and fear induced over-reactive behaviour among the public could impede infection control. (27)

Epidemiological monitoring and targeted intervention therefore, needs to be timely implemented to prevent further mental health problems. Indeed, once the outbreak will be over, its negative socio-economic consequences may have a detrimental effect on the population's mental health, as suggested by our finding of a heightened risk of mental health issues due to *CoViD-19* related working difficulties and by earlier studies related to the last economic crisis. (28)

Other studies showing varied prevalence in their populations as shown in Table 15.

(Table 14: various studies worldwide comparing depression, distress, anxiety & PTSD)

Researcher	Country	Design	Sample size	Measures	Result
Liu et al (29)	USA	Cross sectional (Online survey)	98 (18-30 years of age)	Patient Health Questionnaire (PHQ-8) [30] Generalized Anxiety Disorder Scale (GAD-7) [31]	43.3% Depressed 31.8% PTSD
Forte et al [32]	Italy	Cross sectional (Online survey)	2,232 (18-74 years of age)	Impact of Event Scale—Revised (IES—R) [21]	29.5% PTSD

				PCL-5 (33)	
Wang et al (24)	China	Cross sectional (Online survey)	1,738	Impact of Event Scale-Revised (IES-R) (21) Depression, Anxiety and Stress Scale (DASS-21) (34)	28.8% Anxiety 16.5% Depressed 30.76% Stress
Qiu et al (25)	China	Cross sectional (Online survey)	52,730	COVID-19 Peritraumatic Distress Index (CPDI) (25)	35% Distress
Ozamiz et al (35)	Spain	Cross sectional (Online survey)	1,933	Depression, Anxiety and Stress Scale (DASS-21) (34)	27.5% Depressed 26.9% Anxiety 26.5% Stress
Moghanibashi et al (36)	Iran	Cross sectional (Online survey)	10,754	Depression, Anxiety and Stress Scale (DASS-21) (34)	51.9% Anxiety

The present study, though concisely coherent, is not without its many limitations. The sample size is much smaller than what can be considered adequate to represent the actual population of India that was practising lockdown. Reasons like lack of funding, overworked healthcare systems and general lack of accessibility due to stringent lockdown policies, have contributed to the limited sampling of this study. Furthermore, the completion of the study's questionnaire necessitates the need for an English speaking/comprehending population which further inhibited its pervasiveness into the masses.

If this study were to be reconducted in the future, a more accommodative and representative study design would be the precursor that would make certain a better sampling size whose data analysis would call for a combined approach of qualitative and quantitative methods to overcome selection biases.

Lastly, as previous epidemics have shown a preponderance of anxiety, PTSD and depressive symptoms we have chosen to determine only the prevalence of the aforementioned; when in reality the psychological responses gathered from such outbreaks cast a far wider spectrum than the purview of this study. To address this concern in future efforts, various psychiatric and psychologic aspects would need to be included like loneliness, guilt, fear, anger, stigmatization, resilience, social support, risk and protective factors. (27)

Conclusion

Despite said limitations, the results of this study establish that quarantine and isolation methods imposed during the nationwide lockdown in India caused significant distress and psychological trauma to a large number of people. This finding alone is reason enough to further exploration into research for more accurate assessment tools and effective remedial measures. Our public health sector needs to be made aware of this as they are the frontier workers in any health crisis. CoViD-19 is a call for all epidemiologists, psychiatrists, psychologists and infectious diseases physicians to come together to study and devise better support strategies to tide over mental health adversities of this current and even future pandemics.

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