Original Research Article

Psychological response and perception to lockdown among keralites during the COVID-19 pandemic: a cross-sectional study

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ABSTRACT

Background: Kerala, which has a population density of 860 people per square kilometre, has been able to significantly curb the spread of COVID-19. This was a result of people in the State, politics, and social settings. Previous outbreaks showed that psychological symptoms could be severe and last longer than physical illness. This study examines the sources of information as well as the peritraumatic distress, attitude towards lockdown.

Methods: 2335 individuals under lockdown were given a 32-item questionnaire over the internet from March to August 2020. This covers demographic data, days spent in quarantine, attitude, and awareness, adherence to lockdown procedures, and PDI for measuring psychological distress. Overall score was calculated and associations found using the Chi-square test in SPSS 20.

Results: The average quarantine period lasted 10.12 days. 77.9% of individuals reported high stress, with a mean PDI score of 47.73. The psychological distress was more severe for those who were female and were placed in quarantine. The PDI score has associations with gender, education, health care access, loneliness, and the propensity to not adhere to lockdown measures. 89% of the responders expressed concern for their safety. We discovered that being in quarantine had a significant association with loneliness, concern about getting medical care, and resource accessibility.

Conclusions: The population had high levels of perceived stress during the pandemic. The detrimental effects of COVID-19 do not just fit into morbidity and mortality but have wider implications for mental health issues that require proper attention.

Key words: PDI, COVID-19, Mental health, Kerala

INTRODUCTION

The World Health Organization (WHO) issued a public health emergency of international concern regarding a beta-type coronavirus (COVID-19) outbreak on January 30, 2020.[1] The COVID-19 situation was referred to as a pandemic by WHO on March 11 2020.[2] The illness caused by the Corona virus has impacted society in every way and brought up concerns with fear, anxiety, melancholy, agony, and grief.[3] Nations have since adopted isolation, quarantine, and even complete lockdown as preventative measures.[4] On the other hand, isolating someone from their friends, family, and the larger community can have a detrimental effect on their mental health.[5] Constant psychological stress among patients, healthcare professionals, and the general public will result in psychological problems. Some of the challenges include stress brought on by the loss of loved ones, the constant fear of acquiring disease, job loss, agricultural losses, difficulty continuing their education, an increased workload for medical personnel, altered social settings, and many more. India is especially vulnerable to COVID-19 since it is a developing nation and one of the most populous nations. Kerala, a state in South India with a population density of 860 people per square kilometer, more than twice the national average, was able to halt the

spread of the epidemic even after initially reporting greatest number of cases. The state's sociocultural milieu, political system, media, and level of population literacy all helped to contain the virus, and the Kerala model of disease management has even been adopted by nations around the world. Examples of epidemics where the psychological effects are more severe and last longer than the physical ones include the 2003 SARS outbreak and the outbreak in West Africa.[6] In this background, we decided to investigate the peri-traumatic distress of the population from Kerala, as well as their attitudes toward the lockdown, their problems and concerns, and their sources of information and knowledge about prevailing safety procedures and adherence to laws. Strong government policies, stringent safety regulations, and control measures that gives a high emphasis on lockdown and quarantine must be put into place in cases like the COVID-19 pandemic, in addition to an individual evaluation of the requirements of society. The cessation of the spread of viruses is equally important as finding a cure or vaccine. The media should be tightly monitored because the propagation of false information and misbeliefs will contribute to society's refusal to follow the lockdown procedure and will promote self-medication or reliance on quacks. This effort should be made in addition to the effort to recognize and manage stress and related mental health problems like suicidal ideation, anxiety, sleeplessness, emotional breakdown, obesity, and addictions to smoking and alcohol. A high degree of dedication to satisfying society's demands in these tough conditions by promoting awareness, supplying sanitizers and medicine, and offering the right health advice and treatment may go a long way toward alleviating the burden of the pandemic.

METHODS

Study design, setting and population

Current cross-sectional study was a Web based study performed on People living in the state of Kerala, India.

Sampling technique and data collection

Snowball sampling technique was used. A web-based cross-sectional survey of 2335 people in the Indian state of Kerala who were under lockdown was done (March to August 2020.). Those under the age of 18, residing outside Kerala, or refusing to provide consent were excluded. A self-administered, semi-structured 32-item online questionnaire was utilized to gather data via emails, WhatsApp, and other social media sites. There were no questions about the individual's identity. Twenty minutes were allotted for answering the questionnaire, which included 13 items Peritraumatic distress index (PDI), demographic information (Age, gender, education, and employment), days spent in quarantine, attitude and perspective toward quarantine, availability of personal protective equipment, and hand washing awareness.

Data analysis

The peritraumatic distress index (PDI), which measures somatic symptoms, loss of social functioning, anxiety, sadness, particular phobias, cognitive changes, avoidance, and compulsive behavior.[7] The PDI contains many entries that may be taken to mean the same thing; questions 5 and 6 inquire about feelings of guilt and shame. Similarly, questions 12 and 13 seek information about sensations or ideas of passing out and dying, which may not be mutually exclusive in the case of someone who has recently been severely injured.[7] The overall score was computed, and individual items were compared in SPSS using the Chi square test.

RESULTS

The study received a total of 1988 valid responses. The mean age of the respondents was 25.29 years, with varying educational backgrounds (Table 1).

Table 1: Distribution of education status among participants (n=1988).

Education status of participants	N (%)
Up to School	208 (10.4)
Higher Secondary	327 (16.4)
Degree and above	1453 (73.08)

Table 2: Distribution of PDI among gender.

PDI	Mean	SD
Female	48.33	12.43
Male	46.682	14.025
Total	47.506	13.227

An average of 10.128 days have been spent in quarantine. 77.9 % of respondents were in the high stress category, with a mean PDI (SD) score of 47.5 (±13.2). The gender distribution of the respondents was 1231 females (61.93%) and 757 males (38.07%). Among the total population, 10% were health workers.
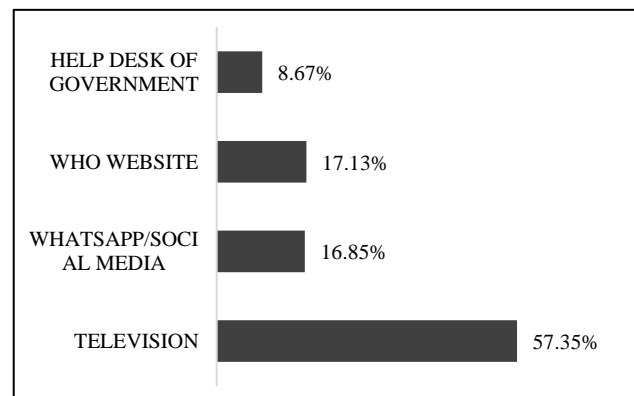

Figuire 1: Source of health information during COVID-19.

**Table 3: Associations of different study variables with PDI.**

Associations with PDI			Chi square	P value
Gender	Male	757	13.052	0.001
	Female	1231		
Education	Up to school education	208	31.25	0.001
	Pre degree	327		
	Degree or above	1453		
Willingness to be in quarantine	Yes	1817	16.21	0.001
	No	171		
Limitation of public gathering	Yes	1934	14.54	0.001
	No	54		
Awareness regarding COVID-19	Yes	1829	13.205	0.010
	No	159		
Hand washing	Yes	1645	76.54	0.0001
	No	343		
Feeling lonely	Yes	1510	3.801	0.001
	No	478		
Tendency to move out	Yes	350	21.53	0.001
	No	1638		
Worry about accessibility to health system	Yes	1252	4.90	0.027
	No	736		

Table 4: Self-reported somatic symptoms.

Symptoms	%
I felt helpless	51
I felt sadness and grief	48.2
I felt frustrated or angry	47.5
I felt afraid of own safety	27.1
I felt guilty	42.8
I felt ashamed of emotional reactions	43.7
I felt worried about safety of others	62.88
I had feeling about loose of control of emotions	50.5
I had difficulty controlling bowel and bladder	45.4
I was horrified by what I saw	48.2
I had physical reactions like sweating, shaking, and my heart pounding	42.8
I felt I might pass out	32
I thought I might die	24.67

The participants who were in quarantine displayed behavioral changes such as fear of death (p=0.011), loss of control over emotions (p=0.006), loneliness (p=0.001), fear of not being able to access health care services (p=0.001), and botheration regarding typically unbothered things (p=0.001) more than those who were just in lockdown. The PDI score has associations with gender (p=0.001), education (p=0.0001), health care access (p=0.027), loneliness (p=0.001), propensity to move away (p=0.001), and willingness to be in quarantine (p=0.001) (Table 3). The distribution of PDI among genders is shown in (Table 2).
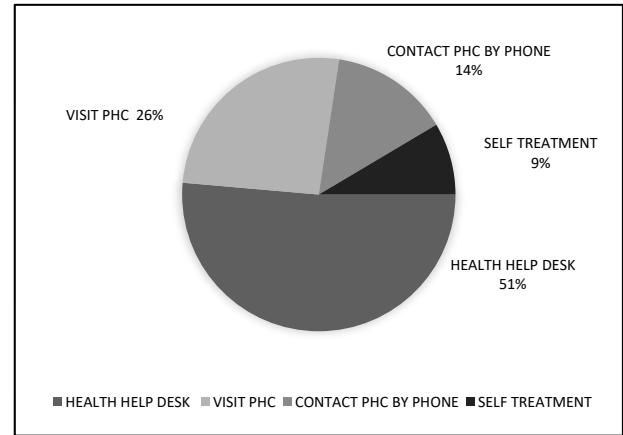
Figure 2: First choice of health service during COVID-19.

The degree of loneliness, guilt, frequent rage, and irregular bowel and bladder movements was higher in individuals who were not willing to remain in quarantine than in those who were willing. We found a strong association between people who reported increased botheration to usually unbothered things and those who reported being shocked by COVID-19 news (p value 0.0013).
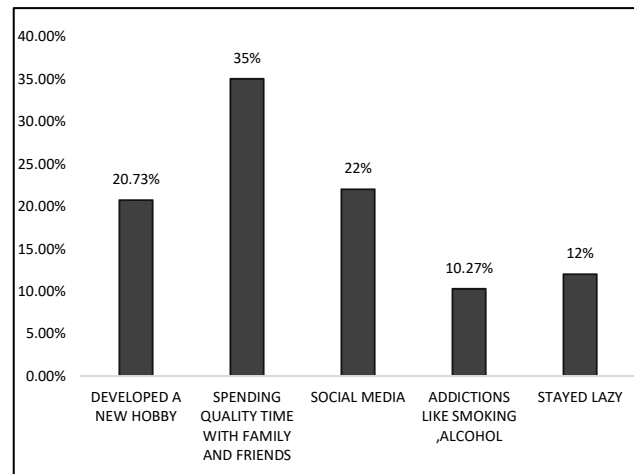
Figure 3: Choice of usage of time during COVID-19.

Concerns about access to safe food and water security were expressed by 45.48% of respondents. Self-reported somatic symptoms of the participants were 51% felt helplessness, 48.2% sadness and grief, 47% frustrated and anger, and 42% guilt. 76% reported that they felt lonely, etc (Table 4). Sources of health information during COVID-19 were mostly from television (57.3%), social

media (16.8%), and only 17.13% relied on who website for information (Figure 1).

In our study, we found that the combined efforts of the government and the people themselves resulted in the control of the pandemic. 96.8% had an adequate supply of hand sanitizers, 97.34% limited their public gatherings and stayed in home, only 17.61% had a tendency to go out and 63.97% were confident that they would be able to get health services on time if needed. 92% of participants were aware of the symptoms of COVID-19 and the difference with other flu and 82.75% followed proper WHO hand washing (Table 3). We also found that knowledge regarding COVID-19 showed an association with willingness to limit public gathering (p=0.001) and the tendency to move out during the lockdown (p=0.005). 91.35% were willing to be in quarantine, which showed a significant association with the PDI score (p=0.001). The tendency to not adhere to lockdown regulations was more likely for those who were not able to access healthcare (p=0.003). 51% of the participants made the government-provided health desk their first choice of medical support, 40 % rely on the Primary Healthcare Center, whereas only 9% depend on self-medication (Figure 2). The choice of usage of time by participants during COVID-19 is given in Figure 3, in which an alarming 10.7% percentage of the individuals spent time on alcohol and/or smoking addictions during this lockdown period.

DISCUSSION

77.9% of respondents fell into the high PDI category, which is in accordance with previous studies.[8] Most relied on the government health desk for their medical needs, and almost 92% were prepared to be in quarantine. This attitude is especially commendable at this time because they considered the entire scenario and chose to stay at home rather than go out in public. We discovered that the majority of them had an acceptable supply of masks and sanitizers in their neighborhood, which may be related to government policies, good public health, high literacy rates, and spatial distribution. Most of the participants adhered to the recommended WHO hand washing protocol. And we discovered that awareness about COVID-19 increased willingness to adhere to being in quarantine; this implies that providing information to the general public regarding the disease will significantly reduce anxiety and locally spreading myths, thereby increasing the containment effort, which has been well reported in previous studies.[9,10]

According to previous studies, those who had been quarantined had more psychological symptoms than non-quarantined individuals, including emotional disturbance, tension, mood fluctuations, irritation, and wrath.[5,11] In our study, we discovered that those in quarantine felt loneliness and anxiety, as well as fear of dying, loss of emotional control, anxiety about being unable to access health care, and worry about the availability of food and water. Travel restrictions, as well as the rescheduling and

cancellation of religious, sports, cultural, and entertainment events, may have contributed to these emotions, similar to previous study.[11] Constraints and lockdown processes cause social isolation, which is linked to abnormally high levels of anxiety and emotions of uncertainty about the future, as already covered in previous research.[5] Enabling users to communicate information regarding COVID-19 and their own personal experiences with friends and loved ones on social media platforms helped people cope with the stress and anxiety. We found that television functioned as an essential informative conduit for COVID-19 and let users rapidly access the most recent worldwide events as well as local government regulations regarding lockdown. According to our research, more than half of the population learned about COVID-19 via television, and about one-third of the population reported Whatsapp as their information source. This can also cause unnecessary misconceptions and the spread of false news. Similarly, previous studies showed that alarming media coverage could unintentionally increase fear responses.[12] All these would elevate the situation and adversely affect the fight against COVID-19. About half of the participants made the government-provided health desk their first choice of medical support, while only 9% depended on self-medication, which is contradictory to Previous studies by Nasir et al. 88.3% in Bangladesh and 80% by Elayeh et al (80%) in Jordan.[13,14] this demonstrates how Kerala society had adapted to its challenging environment and how acceptance of telemedicine and modern technology had grown tremendously throughout the COVID eras. 35% of the participants spent their time effectively with the family, which is an admirable quality of society and reflects the social setting of the geological area where joint families are still prevalent. An alarmingly high percentage of the individuals developed alcohol and/or smoking addictions, which might further exacerbate the negative effects on mental health, which was in accordance with the result found by Yang et al where the number of smokers increased from 8.47% to 11.02 % during the lockdown period in China.[15] The government had initiated mental health campaigns and helpline numbers for this sole purpose. The Kerala model demonstrated to the world that the right course of action, preparedness, and willingness to contribute to the welfare of society by supporting their physical and mental needs and closely monitoring them, along with the collaborative effect of the public, would drastically reduce the impact of any disaster.

CONCLUSION

The COVID-19 pandemic had a significant adverse impact on Kerala's mental health, as did the whole world. 77.9% of respondents, according to the survey, had high stress PDI scores. The study also discovered that those who were in quarantine had higher levels of psychological symptoms, such as emotional disturbance, stress, mood swings, and anxiety, than those who were not. Spreading health information using television and social media channels like Whats App is highly effective and should be

monitored for false information. The Kerala model shows how to respond appropriately to pandemics, but it's also critical to address mental health issues and their long-term impacts on society.

REFERENCES

1. WHO Director-General's statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV). Available at: https://www.who.int/director-general/ speeches/detail/who-director-general-s-statement-on-ihr-emergency-committee-on-novel-coronavirus. Accessed on 20 February 2023.
2. WHO Director-General's opening remarks at the media briefing on COVID-19. Available at: https://www. who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19. Accessed on 20 February 2023.
3. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. Int J Environ Res Public Health. 2020;17(5):1729.
4. Hossain MM, Sultana A, Purohit N. Mental health outcomes of quarantine and isolation for infection prevention: A systematic umbrella review of the global evidence. Epidemiol Health. 2020.
5. Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. Gen Psychiatr. 2020;33 (2):1-3.
6. Wu P, Fang Y, Guan Z, Fan B, Kong J, Yao Z, et al. The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk. Can J Psychiatry. 2009;54(5):302-11.
7. Nagarajappa R, Mahapatra I, Satyarup D, Mohanty S. Validation and assessment of COVID-19 Peritraumatic Distress Index among Indian dental professionals. Pesqui Bras Odontopediatria Clín Integr. 2021;21: e0009.
8. Lima CKT, Carvalho PMM, Lima IAAS, Nunes JVAO, Saraiva JS, de Souza RI, et al. The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). Psychiatry Res. 2020;287:112915.
9. Brailovskaia J, Miragall M, Margraf J, Herrero R, Baños RM. The relationship between social media use, anxiety and burden caused by coronavirus (COVID-19) in Spain. Curr Psychol. 2022;41(10):7441-7.
10. Vranken I, Brimmel N, Vandenbosch L, Trekels J. Television, news media, social media and adolescents' and young adults' violations of the COVID-19 lockdown measures: A prototype willingness model. Telemat Inform. 2022;70:101817.
11. DiGiovanni C, Conley J, Chiu D, Zaborski J. Factors influencing compliance with quarantine in Toronto during the 2003 SARS outbreak. Biosecur Bioterror. 2004;2(4):265-72.
12. Garfin DR, Silver RC, Holman EA. The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. Health Psychol. 2020;39 (5):355-7.
13. Nasir M, Chowdhury AS, Zahan T. Self-medication during COVID-19 outbreak: a cross sectional online survey in Dhaka city. Int J Basic Clin Pharmacol. 2020; 9(9):1325-30.
14. Elayeh E, Akour A, Haddadin RN. Prevalence and predictors of self-medication drugs to prevent or treat COVID-19: Experience from a Middle Eastern country. Int J Clin Pract. 2021;75 (11):e14860.
15. Yang H, Ma J. How the COVID-19 pandemic impacts tobacco addiction: Changes in smoking behavior and associations with well-being. Addict Behav. 2021;119: 106917.