IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

SURVEY-BASED STUDY ON ANXIETY DISORDER AMONG INDIANS DUE TO THE COVID-19 GLOBAL PANDEMIC.

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Abstract:

INTRODUCTION: - The first case of Coronavirus in India appeared on 30th January 2020 in Kerala. After the outbreak of Coronavirus in India, the Indian government announced a one-day 'Janta curfew' on 21st March and then 21-day nationwide lockdown on 23rd March. The lockdown changed people's living conditions and filled them with anxiety and fear. This study aims to find the level of anxiety of the people.

METHODOLOGY: - A personalized questionnaire was designed in the Google forms and distributed among the participants. The questionnaires contain four parts which are constant letter, socio-demographic details, PHQ-9, GAD-7, and CAS, respectively. 758 valid responses were recorded. Data analysis was done in SPSS software.

RESULTS: - A total of 758 participants has participated in this online survey. Out of the total valid response, 486 (67.1%) were found mild to moderate anxiety level, and males have higher anxiety level than females. Out of these, 50.3% felt breathing difficulty, and 62.9% felt difficulty in concentrating and losing interest in doing work, and 66.8 % felt the change in sleeping patterns.

CONCLUSION: - In India, We are going through the phase of unlock-5 where everything is getting normal. In this study, we found that the anxiety level of those people who watch lots of news and think about the Coronavirus is higher than the others. The main reason for people's anxiety is getting infected by Coronavirus, and Worrying about Future.

Index Terms **- COVID-19, Anxiety, Depression, Mental health, Pandemic,**

INTRODUCTION

After the outbreak of a virus named COVID-19, the World Health Organization (WHO) declared it a global pandemic on 11th March 2020 [1,2]. This virus causes respiratory infections as Middle East Respiratory Syndrome (MERS) [3,4] and Severe Acute Respiratory Syndrome (SARS)[3,5]. The main target of this virus is the Respiratory System of the Human body. The size of this newly founded Coronavirus is 80 - 220nm, which is too small to be captured by an ordinary mask. Furthermore, because of its crown-shaped spikes, it gets attached easily on any surface. Its symptoms appear within 2 to 14 days of getting infected [6]. The symptoms are like regular flu, which is harder to detect. On the date 11th October 2020, there are 37,541,483 cases [7] of COVID-19 and 1,078,602 deaths reported [7] all over the world.

Its first case appeared in December 2019 in Wuhan, Hubei, China [8]. In India, the first case was detected on 30th January 2020 in Kerala [9]. The Indian Government announced 'Janta Curfew'[10] for one day on 21st March, in which people stayed at home for the day by their own will. After that, on 23rd March, the Indian Government announced a 21 days lockdown [11]. After 4 phases of Lockdown and 4 phases of Unlock, on the date of 4th October, India is in the 5th phase of Unlock, which will end on 30th October.
The case of Novel Coronavirus is rapidly increasing day-by-day all over the world. The United States of America (USA) has the highest number of Coronavirus which 7,949,351 cases. The country has reported 219,300 deaths [7] while India is in second place globally and the first place in Asia. In India, the total number of cases is 7,053,806 and 108,371 deaths until 11th October [7].

Due to the COVID-19 and sudden Lockdown, people were forced to living indoor. No vacations and trips were allowed. All of the people were not mentally ready for it. The fear of getting infected by Coronavirus disease also filled them with anxiety. They started tempering on minor problems, getting too much worried about little works, people afraid of going out, and afraid to interact with others that they spread to them. Because of this fear and issues, people started taking too much anxiety and resulting in an anxiety disorder. During the whole period, people were locked inside their houses, and they are doing their whole from home. They cannot interact with others; neither can go

anywhere out from his house to enjoy themselves. Because of these things, the level of anxiety was rapidly increasing. Lockdown was heavily influencing Anxiety Disorder among peoples.

This survey-based study was conducted to measure the levels of anxiety [12] among Indians in the period of unlock-4. Almost everything is getting normal, people started traveling, and almost everything was unlocking, and Coronavirus's case is increasing rapidly day by day. Moreover, we tried to find the reason for the anxiety most of the people felt.

DESIGN AND METHODOLOGY

This descriptive cross-sectional survey was conducted in the second and fourth week of September between 2020-09-13 to 2020-09-27. A personalized e-questionnaire was designed in Google form and circulated among the population by using social media groups. This e-questionnaire mainly contains four parts. The first part includes a consent form for respondents. The second part consists of the respondents' socio-demographic details (name, age groups, gender, country, state, and workplace). The third part contains the patient's health questionnaire (PHQ-9) [12]. The last part of this form includes a questionnaire about generalized anxiety disorder (GAD-7) [13] and Coronavirus anxiety scale (CAS) [14] to find the anxiety level of respondents.

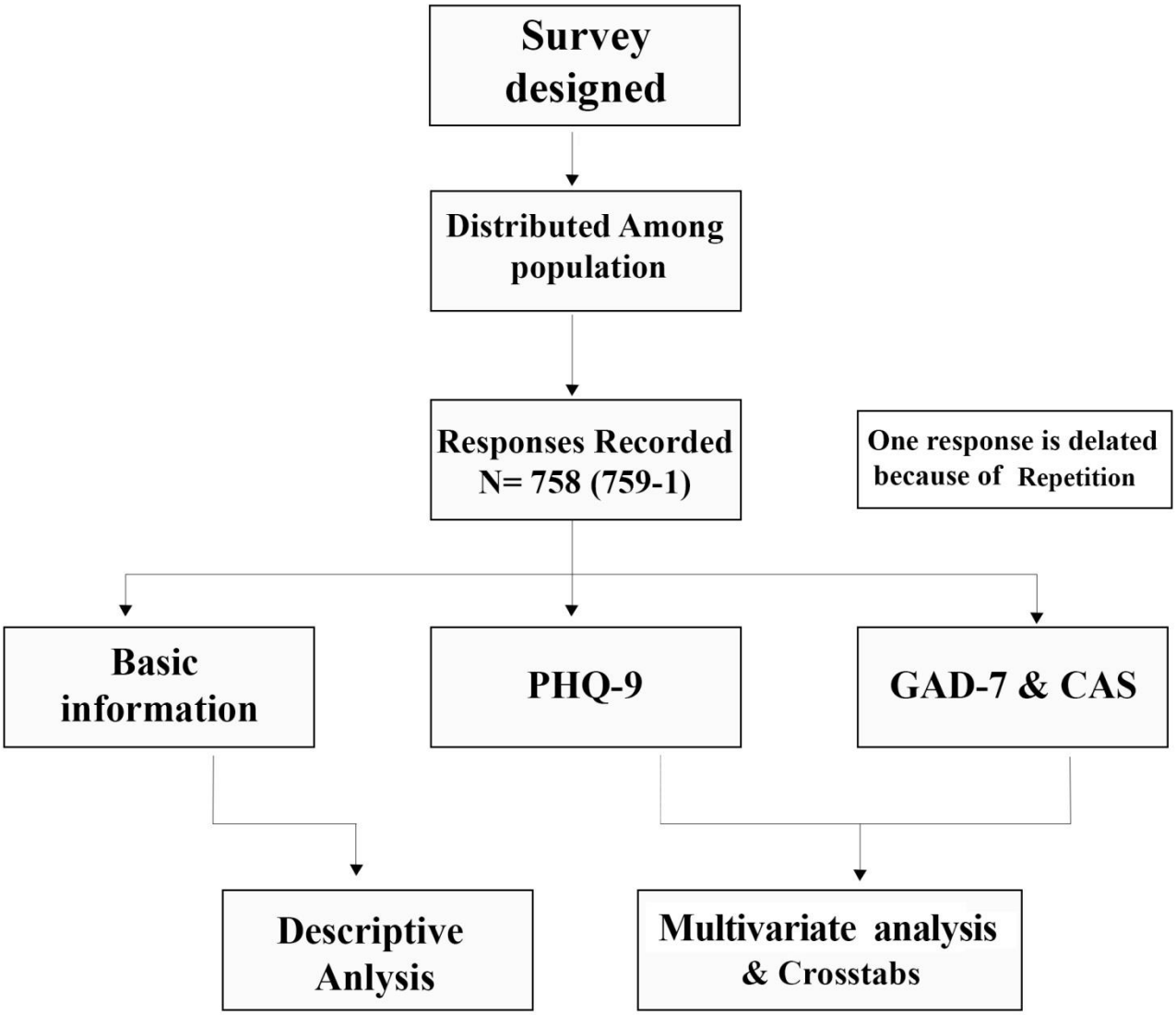

Figure 1: Flowchart of study methodology

SAMPLING TECHNIQUES

Snowball sampling techniques were used in this survey to collect information from the population. The questionnaire was sent to participants and asked to share this questionnaire with their relatives and friends.

ETHICAL ISSUES

The participant's participation was voluntary in this survey by filling a consent letter, which was in the first section of the questionnaire by yes.
In consent form, all participants were promised to keep their personal information like (name, workplace, and email) secure and limited to research guides.
All participants have also given the right to withdraw their data without any explanation.

MEASURES

BASIC INFORMATION

Basic information contains personal information of participants like name, age group (below 18, 18-24, 25-35, 35-45, and above 45), gender (male, female and other), workplace and email-id, country and state (participants gave free text response in state, workplace, mobile no and email-id).

ANXIETY AND DEPRESSION

Patient health questionnaire, generalized anxiety disorder, and Coronavirus anxiety scale were used to screen anxiety level due to Coronavirus.

PATIENT HEALTH QUESTIONNAIRE (PHQ-9) [13, 14]

It is a screening instrument used to measure the level of depression of an individual.
The score of a question is 0 to 3, which means,
0= not at all, 1= several days, 2= more than half the days, and 3= nearly every day [14]
After calculating by assigning scores of 0, 1, 2, and 3, to the response categories of not at all, several days, more than half the days, and nearly every day, respectively.
Scores represent 0-5 = mild, 6-10 = moderate, 11-15 = moderately severe and 16-20 = severe depression.

GENERALIZED ANXIETY DISORDER (GAD-7) [15]

This screening questionnaire was used to measure the severity of the generalized anxiety disorder of an individual.
It is calculated by assigning scores of 0,1,2,3, to responses categorized as not at all, several days, more than half the days, and nearly every day, respectively [15,16].
GAD-7 has a 0-21 cut-off to measure the level of anxiety. It is categorized as 0-5 mild, 6-10 moderate, 11-15 moderately severe anxiety, and 16-21 severe anxiety.

CORONAVIRUS ANXIETY SCALE (CAS) [17]

This screening device is used to measure the level of anxiety associated with Coronavirus.
It is calculated by assigning 0,1,2,3,4 to responses category not at all, less than a day, Several days, more than seven days, nearly every day over the last two weeks, respectively.
Each item of the CAS is rated on a 5-point scale. From 0 (not at all) to 4 (nearly every day), based on experiences over the past two weeks. This scaling format is consistent with the DSM-5's cross-cutting symptom measure [17].

STATICAL ANALYSIS

The statical analysis is done with the Statical Package for Social Science (IBM® SPSS® Statistics v27.0) [18, 19] software. Descriptive data analysis was performed as frequency and crosstab to summarize socio-demographic details. Multivariate logistic regression analysis was performed to find the relationship between depression and anxiety due to Coronavirus.

RESULTS

The total numbers of responses to this questionnaire were 759, in which one response was deleted because of duplication. The total of the remaining responses were n = 758. In total responses, 62% of the respondent were male, and 37% were female, 78.1% of respondents are from the 18-24 age group, 14.1% are from the 25-35, 2.8% were from 36 – 45, 0.9% were above 45, and 4.1% were below 18.

Table 1. Socio-demographic Response of participants (n = 758)

		Frequency	Percentage	Cumulative Percent
Gender	Male	473	62.4	100%
	Female	285	37.6	
Age Group	Below 18	31	4.1	100%
	Between 18 - 24	592	78.1	
	Between 25 - 35	107	14.1	
	Between 36 - 45	21	2.8	
	Above 45	7	0.9	
Country	India	734	96.8	100%
	Philippines	10	1.3	
	Nepal	4	0.6	
	Pakistan	4	0.6	
	Nigeria	2	0.4	
	Serbia	1	0.1	
	Ghana	1	0.1	
	Bhutan	1	0.1	
	Romania	1	0.1	
Relatives Or Friends Tested Positive For Corona virus	Yes	258	34	100%
	No	500	66	

Table 1 shows the respondent's socio-demographic responses like (gender, age group, country, and any relative tested positive for Coronavirus)

Table 2. Level of Anxiety Due Corona Virus

Variable		None		Mild		Moderate		Severe	
		F	%	F	%	F	%	F	%
Gender	Male	185	24.4	150	19.8	63	8.3	75	9.9
	Female	105	13.9	87	11.5	48	6.3	45	5.9
Age Group	Below 18	24	3.2	1	0.4	4	3.6	2	0.3
	Between 18 - 24	215	28.4	187	24.7	93	12.3	97	12.8
	Between 25 - 35	39	5.1	40	5.3	11	1.5	17	2.2
	Between 36 - 45	7	0.9	8	1.1	2	0.3	4	0.5
	Above 45	5	0.7	1	0.1	1	0.1	0	0
Worried About Getting Infected	Never	199	15.7	25	3.3	21	2.8	4	0.5
	Sometimes	106	14	144	19	56	7.4	78	10.3
	Fairly Often	41	5.4	38	5.0	14	1.8	14	1.8
	Often	24	3.2	30	4.0	20	2.6	24	3.2
Worried About Getting Proper Treatment	Never	136	17.9	25	3.3	25	3.3	1	0.1
	Sometimes	104	13.7	154	20.3	58	7.7	91	12
	Fairly Often	34	4.5	35	4.6	9	1.2	18	2.4
	Often	16	2.1	23	3	19	2.5	10	1.3
Positive Covid-19 cases in Friends And Relative	Yes	82	10.8	90	11.9	35	4.6	51	6.7
	No	208	27.4	147	19.4	76	10	69	9.1
Watching, Reading, Talking About Corona Virus	Never	82	10.8	22	2.9	12	1.6	10	1.3
	Sometimes	77	10.2	98	12.9	35	4.6	28	3.7
	Fairly Often	71	9.4	48	6.3	30	4	27	3.6
	Often	60	7.9	69	9.1	34	4.5	55	7.3
Searched On Internet For Treatment	Never	156	20.6	57	7.5	26	3.4	17	2.2
	Sometimes	70	9.2	113	14.9	29	3.8	29	3.8
	Fairly Often	39	5.1	36	4.7	36	4.7	22	2.9
	Often	25	3.3	31	4.1	20	2.6	52	6.9

Table 2. Level of Anxiety due Corona Virus with

Table 2 shows the level of anxiety of respondents. Out of the total valid responses 758, 486 (67.1%) were found in mild to moderate anxiety level and males found a higher level of anxiety than females. Also, the anxiety level of age group 18 to 24 was higher than the other age groups. Moreover, the anxiety level of the participants who watched much news about the Coronavirus and searched for treatment on the internet was found higher than other.

Table 3.: Distribution of Symptoms of Anxiety Due To Coronavirus extracted from the survey questions

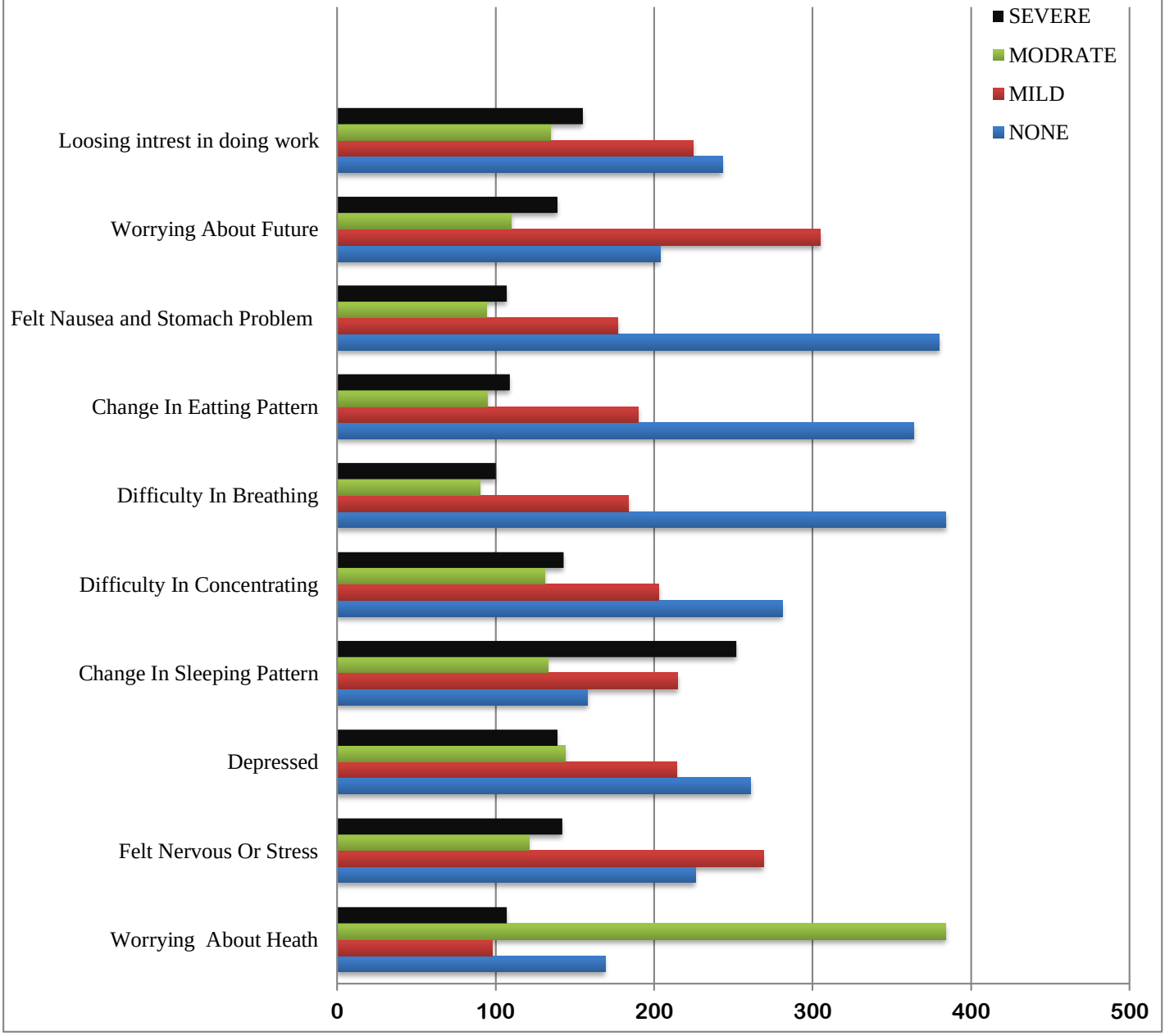

Table 3 distribution of symptoms of anxiety among respondents

Table 3 shows the distribution of symptoms of anxiety among respondents. About 50.3% of respondents felt breathing difficulty after searching, listening, or watching the Coronavirus news. Moreover, about 50% of respondents felt stomach problems and nausea after thinking about the Coronavirus. Furthermore, about 62.9% of respondents felt difficulty in concentrating and loss interest in doing work, and 66.8 % felt changes in sleeping patterns.

DISCUSSION

Pandemics are an unpredictable periodic phenomenon. People face different types of challenges and difficulties during this time period. Due to lack of awareness, people lead to an incurious attitude, which may affect the government's preparedness to face those challenges. The impacts of these pandemics are intense, which affects the mental health of the population. The pandemic also influences fear, anxiety, and depression [20].

This cross-sectional study aimed to find the anxiety level of people from different regions in India due to Coronavirus. This survey was conducted online with the help of Google form between second to fourth week of September and during India's fourth phase of Unlock. The total numbers of participants in this survey were 758. In this survey, respondents reported lots of worries about their future, getting infected by Coronavirus, and losing loved ones.

After multivariate logistic regression analysis, we found that anxiety symptoms in person who thinks a lot about Coronavirus outbreak, and watch updates about Coronavirus on television and internet was more than others. The younger participants, between the age group 18-24, were have more anxiety symptoms than other age group participants. Besides that, participants who worry about getting infected by the Coronavirus and used many protective measures were seen at a severe anxiety level.

Our results were similar to a previous study which was done during the SARS outbreak in Taiwan "Prevalence of psychiatric morbidity and psychological adaptation of the nurses in a structured SARS caring unit during outbreak: A prospective and periodic assessment study in Taiwan." [21] Also, we found that people who spent too much time thinking about the outbreak were developed more anxiety symptoms than others.

This article is also similar to a study was conducted during outbreak of the swine flu in the United Kingdom in 2009,"Public perceptions, anxiety, and behavior change in relation to the swine flu outbreak: cross sectional telephone survey." [22] They conducted four days survey on the telephone over the population who knew about "swine flu" and speak English. Total 377 people have participated in that survey. Swine flu and COVID-19 are most like the same diseases. Both are viral, involve the respiratory system, spread through a droplet, and the same precautions are recommended for both. Some rumors and fake news in social media also influences anxiety and affect mental health of peoples adversely. [23]

In our study we found that, approximately 61.7% of participants show mild to severe level of anxiety. And About 50.3% of respondents felt breathing difficulty after searching, listening, or watching the Coronavirus news. Furthermore, about 50% of respondents felt stomach problems and nausea after thinking about the Coronavirus. Moreover, about 62.9% of respondents felt difficulty in concentrating and loss of interest in doing work, and 66.8 % felt changes in sleeping patterns. Those individual, who's relatives, friends or any member was infected with COVID-19 shows the severe level of anxiety.

Conclusion

During this Coronavirus pandemic, the major decision was taken by Indian government to limit the spread of infection, social-distancing, quarantine of infected person and nationwide lockdown are among of them. Due to this, the anxiety level of people was increasing day by day. In this survey, we identified severe anxiety-related symptoms in younger people and those people who spend too much time thinking about the Coronavirus. The main reason for people's anxiety was fear getting infected by a Coronavirus and worry about future.

Limitations

The study is limited to the people who had smartphones and e-mail id and having an understanding of English, so it should not be generalized to the whole population of India. We used web-based survey method to avoid spreading Coronavirus infection. And due to sudden lockdown, we are unable to measure the anxiety level of people before lockdown.

Financial support

None

Acknowledgements

We are very thankful to all the participants who voluntarily participated in this survey.

Authors' Contribution

Conceptualization and Design- Ravi Kumar, Divyam Sharma

Data Acquisition- Supriya Kumari, Puja Bharti, km. Bhawna, Divyam Sharma, Ravi Kumar

Analysis and Interpretation- Ravi Kumar, Puja Bharti, Supriya kumari

Drafting Manuscript- Puja Bharti, km. Bhawna, Divyam Sharma

Revision- Ravi Kumar, Supriya kumari

Finalization- Divyam Sharma, Ravi Kumar

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