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Original Research Article

Fear of COVID-19 pandemic (coronaphobia) amongst young adults in India

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ABSTRACT

Background: The Novel Coronavirus disease has inherently brought a fear of uncertainty and continuity resulting in broad psychological effects on the mental health of the present generation. Although, few studies have tried to evaluate the degree of fear of COVID-19 but none has been done on young adults especially dental undergraduate healthcare providers so far. Hence, the present study aims to assess the fear of COVID-19 among young adults in India.
Methods: A web based study was conducted on a sample of 309 dental undergraduate students of age group 18-25 years (young adults). The participants were asked for responding to a standardized online questionnaire prepared on google form that included the recently developed 7-item Fear of COVID-19 Scale (FCV-19S) to assess emotional fear reactions.
Results: Overall mean fear score for the study population was 18.09+6.79. A significantly higher number of the study population reported low fear (56.6%). Age, place of residence, academic year, steady source of income and the students whose relative/friend got covid-19 depicted a significant difference based on the level of fear ($p<0.05$). Females and the students staying alone displayed higher levels of fear compared to their respective counterparts.
Conclusions: Fear is a common psychological outcome during pandemics especially amongst healthcare providers as COVID-19 pandemic is a continuously evolving disease outbreak related to stress, disease contraction and dying. Thus, managing this fear in the young minds is imperative in order to reduce the psychological implications affecting their mental health due to the current COVID crisis.

Keywords: Fear, COVID-19, Coronaphobia, Dental undergraduates, India

INTRODUCTION

Fear is an adaptive emotion that serves to mobilize energy to deal with potential threat. However, when fear is not well calibrated to the actual threat, it can be maladaptive.[1] COVID-19 is a novel coronavirus that usually causes mild symptoms. However, this disease has brought an inherent element of fear and panic as many people are dying without any co-morbidity.[2]

India is a developing nation has to face a serious challenge in providing an appropriate level of health care services of to its nationals. The first case was reported in India in January 2020 while even after 11 months cases in India are rising. Although, the recovery rate has improved drastically over this period, but the mortality rate is reached at 1,57,248 COVID deaths till date (who.COVID-19 Dashboard). This fear and panic about COVID-19 has led to stigma and social exclusion of confirmed patients, survivors, their families, and others which are at an increased risk of developing mental health problems. Moreover, uninfected people are afraid of contacting with COVID-19-infected individuals. High levels of fear of COVID-19 may also cause irrational and unclear thoughts.[3] In some cases, uncertainty about infection and

death or about infecting family and friends can potentiate dysphoric mental states and can even lead to suicidal tendencies.[4]

Thus, considering an individual's fear is a vital aspect of their psychological wellbeing and may also largely influence the manner in which an individual may adhere to the preventive measures of the disease and thereby determine the clinical outcome of a COVID-19 pandemic. Hence, the present study was conducted with an aim to assess fear of covid-19 pandemic amongst young adults in India with the objectives: a. Evaluate the level of fear among young adults during this pandemic period. b. Evaluate the relationship between the demographic variables and fear.

METHODS

A cross-sectional web-based study was conducted on a sample of 309 dental undergraduate students of age group 18-24 years (young adults) belonging to Maharashtra Institute of Dental Sciences and Research (MIDSR) dental college and Hospital, Maharashtra, Lathur, India. The snow-ball sampling method was utilized to achieve desired study sample. The minimal sample size of this study was based on an a priori power calculation. The study period was decided to be for 1 month (1st August 2020 to 31st August 2020).

Particularly, we decided to recruit at least 218 respondents, as this would provide sufficient statistical power (0.80) to detect small sized correlation coefficients (0.20). We allowed a larger sample size, because this would increase the statistical power for detecting smaller effects and strengthen the robustness of the findings.

Ethical issues and consent

Ethical clearance was obtained from the MIDSR Dental College and Hospital Institutional Review Board prior to the commencement of the study. The research was conducted in concordance with the provisions of the Declaration of Helsinki regarding research on Human participants. The informed consent was obtained from the study participants prior to the commencement of study after being informed about the study purpose.

Eligibility criteria

Students aged less than 25 years were eligible for participation in this study. Students on medications for any psychiatric disorder or anxiety issues or were unwilling to provide informed consent were excluded from the study.

Data collection

A structured online questionnaire was prepared in the Google form with a consent form appended to it. The link of the questionnaire was sent through emails and WhatsApp to the university students 4 months post-lockdown. The data collection was initiated on 20 August 2020 at 9 AM IST and closed on 23 August 2020 at 9 AM IST. The students who are willing to participate voluntarily in this study were invited to fill the questionnaire after taking their due informed consent. The participants were encouraged to roll out the survey to as many students as possible. Thus, the link was forwarded to students apart from the first point of contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study and informed consent. Participants with access to the internet could participate in the study.

After inquiring about the general demographic information such as age, gender, place of residence and their availability of social support, the participants were asked for responding to a recently developed 7-item Fear of COVID-19 Scale (FCV-19S) developed by Ahorsu et al[5] to assess two factors: Factor 1: Emotional fear reactions and Factor 2: Symptomatic expressions of fear amongst the young adults. The participants indicate their level of agreement with the statements using a five- item Likert type scale. The answers included "strongly disagree," "disagree," "neutral" "agree" and "strongly agree". The minimum score possible for each question is 1, and the maximum is 5. A total score was calculated by adding up each item score (ranged from 7 to 35). The items were chosen because they correspond to different fear components, such as subjective experiences (worrying), intentional biases, and avoidance behaviors. The internal consistency of the FCQ was acceptable (Cronbach's alpha =0.77).[1]

Statistical analysis

Data was analyzed using Statistical package for social sciences (SPSS) software version 22.0. Descriptive statistics in the form of number and percentage were calculated. Item mean score and overall mean score for the responses were calculated and compared based on demographic variables using analysis of variance (ANOVA). Scores were categorized as low and high levels of fear based on the mean, which was taken as a cut-off. The scores less than or equal to the mean were considered as low fear and scores above the mean as high fear.

RESULTS

A total of 309 study participants was included in the present study comprising of 52 (16%) males and 257 (83%) females with approximately 63% belonging to age-group 22 to 25 years. Mean age of the study participants was 22.15±1.93 years. Table 1 and 2 displays the item wise distribution of responses to the questionnaire and the demographic distribution of the study population respectively.

Table 1: Item wise distribution analysis of FCoV-19S of students fear.

Question Number	Question	N					Item mean score (mean±SD)
		Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	
Factor 1: Emotional fear reactions							
1	I am most afraid of coronavirus disease-19	29	103	79	68	30	2.89±1.14
2	It makes me uncomfortable to think about coronavirus disease-19	41	102	61	85	20	2.80±1.16
4	I am afraid of losing my life because of coronavirus disease-19	62	90	56	70	31	2.73±1.28
5	When watching news and stories about coronavirus disease-19 on social media, I become nervous or anxious	43	93	60	78	35	2.89±1.24
Factor 2: Symptomatic expressions of fear							
3	My hands become clammy when I think about coronavirus disease-19	66	145	49	38	11	2.29±1.04
6	I cannot sleep because I am worrying about getting coronavirus disease-19	82	143	49	27	8	2.14±0.99
7	My heart races or palpitates when I think about coronavirus disease-19	74	132	53	33	17	2.31±1.11

Table 2: Univariate analysis of descriptive variables and students fear.

Variables	Total (n=309)	FCOV-19S (n=309)	P value
	Frequency (%)	Mean±SD	
Age (year)			
18-21	113 (36.6)	20.80±6.84	0.014
22-25	196 (63.4)	16.52±6.79	
Gender			
Male	52 (16.8)	19.85±6.83	0.846
Female	257 (83.2)	21.01±6.84	
Place of residence			
Urban	187 (60.5)	19.69±6.78	0.019
Rural	41 (13.3)	24.3±6.76	
Urban-rural	81 (26.2)	20.59±6.75	
Academic year			
1st year BDS	53 (17.2)	22.07±6.79	0.000
2nd year BDS	39 912.6)	20.79±6.71	
3rd year BDS	45 (14.6)	20.73±6.88	
Final year BDS	49 (15.9)	17.30±6.80	
Internship	123 (39.5)	14.86 ± 6.69	
Steady family income			
Yes	253 (81.9)	17.33 ± 6.79	0.012

Continued.

Variables	Total (n=309)	FCOV-19S (n=309)	P value
No	56 (18.1)	21.51 ± 6.75	
Social support/ live with parents			
Yes	297 (96.1)	18.00 ± 6.79	0.167
No	12 (3.9)	20.25 ± 6.77	
Relative or friend got COVID-19			
Yes	83 (26.9)	20.74 ± 6.80	0.005
No	226 (73.1)	17.11 ± 6.70	

*One –Way ANOVA

The items were divided on the basis of the overall mean score for the questionnaire was found to be 18.09+6.79. The majority of the participants were living in Urban areas (60%); 96% (n=297) were staying with their parents and 81.9% have a steady source of income. More than ¾ (73.1%) of the participants reported that none of their relatives or friends are or were infected with COVID-19 while 26.9% (n=83) of the participants had relatives or acquaintances who were infected with COVID-19 (Table 2).

Table 3: Total number of students with different levels of fear (n=309).

Fear level (mean fear score)	Number	Ratio
low fear (≤18.09 + 6.79)	175	56.6
High fear (>18.09 + 6.79)	134	43.4

*Scores were categorized as low and high levels of fear based on the mean, which was taken as a cut-off

Univariate Analysis revealed age, place of residence, year of study, steady source of family income had a significant effect on the level of fear among the study participants, whereas gender and students having social support or staying with their parents had no significant effect on the fear levels. Moreover, students having a relative or friend infected with COVID-19 were more likely to have higher levels of fear (Table 2). Almost 43% of the study population reported higher levels of fear (Table 3) and variables such as females, 18–21 year age-group, staying in rural areas, first year students, students staying alone or without parents and not having a steady source of family income reported higher mean score (Table 2).

DISCUSSION

In this study, we aimed to assess the psychometric properties of the FCV-19S, a newly developed scale designed to evaluate different aspects of fear of the COVID-19 pandemic in the present generation of young adults in India. Various alarming video clippings featuring COVID 2019 are in circulation on social media and being accessed by all the Indian population through their smartphones/ computers, creating panic and making adolescence and young adults more vulnerable group.[6] The psychological determinant of health has always been underplayed, but in situations such as COVID-19, it emerges as a significant factor.[7]

Our study highlights the psychological responses in the form of fear towards the COVID-19 pandemic 4-month post-lockdown. This includes the period of lockdown and unlock in India and has witnessed the surfacing of real-time difficulties which may be due to restricted mobility, economic consequences and panic and fear towards the disease.[7]

To the author's knowledge, this is the first study to evaluate the level of fear of COVID-19 amongst young adults particularly dental undergraduates in India. More than half of our study population reported low levels of fear (56.6%) which is in line with the earlier study done on general populations.[3,8] The probable reason of low fear could be as authors conducted the present study after 4 months post-lockdown. Although India is still grappling with the COVID-19 pandemic, but Government of India is trying hard to lessen the level of fear and panic amongst the population by launching various educational social media campaigns and providing easy access to these materials online (regional languages), diagrammatic representations at public places in the form of posters and regular circulation of audio messages through mass media.[7]

Exploring the association between fear of COVID-19 and different demographic and pandemic-related factors, our analyses indicated that the fear of COVID-19 was significantly higher in females compared to males. These findings correspond with recent studies which found the same trend of differential emotional distress reactions among male and female participants.[7,9] The high rates of fear among females, can be associated with gender differences in sensitivity to stress, as women display a higher vulnerability to stress, as well as an increased risk for developing mental disorders following stressful life events.[8]

High fear was also observed in students staying in rural areas and without having any steady source of family income or social support. This is consistent with the previous study.[8] The potential explanation to account for these findings is that rural areas have poor access to healthcare in India and weaker socio-economic status or weaker social support increases the level of fear of getting infected and affordability of hospital expenses after getting infected.[10]

Academic year and age were another related to the levels of fear. The students studying in first year reported higher levels of fear than in final year/ internship. This finding may be the younger age groups are more easily influenced by heightened insecurities resulted due COVID crisis.[4] The presence of any relative or friend infected with corona virus was also associated with higher fear of the pandemic. These findings indicate that personal relevance of the pandemic facilitates a fear reaction among the study participants. This is in line with the previous study done by Mertens et al.[1] It may be suggested that when the personal risk is perceived to be high, coping ability may be undermined, thus affecting the overall levels of fear.[8]

Some strengths and limitations of this study can be noted. The use of the robust methodology and the standardized measurement instruments having good psychometric properties for detecting small correlations is the major strength of this study. Whilst the limitations of this study include the self-report nature of the questionnaire may exhibit social desirability bias and may limit the generalizability of our results.

CONCLUSION

In a pandemic, fear increases anxiety and stress levels in all the healthy individuals. Coronaphobia is a specific kind of corona virus fear disturbing the overall day-to-day functioning of the individuals. This fear-related behaviour not only having an epidemiological impact but has also increased the suffering and psychiatric problems at the population level, contributing to the increases in indirect mortality from causes other as well.

The present study revealed that still 43% of the study population is suffering from high levels of fear of coronavirus-19 and there is an urgent need for setting up of a psychological and psychiatric help in our dental institutions. Thus, our findings provide support for the utility of the FCV-19S, as well as highlight its potential in clinical and research settings.

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