

PERCEPTION AND THE ASSOCIATED APPREHENSION STEMMING FROM NOVEL COVID-19 AMONG PAKISTANI STUDENTS

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ABSTRACT

Objective: To highlight Pakistani Students anxieties and their attitude towards the circumstances created by the COVID-19 pandemic and to bring forth this data for better policy revisions in the country.

Study Design: Cross-sectional descriptive study conducted using snowball sampling technique.

Place and Duration of Study: Armed Forces Institute of Dentistry, Rawalpindi, Pakistan, from 14th May to 16th May 2020.

Methodology: A structured self-administered questionnaire was prepared, based on other surveys conducted in the past. Questionnaire was made available online and shared across social media sites with students.

Results: We found that around 44% of students felt anxious daily due to COVID-19 while 60% of them were not content with the current measures to stop the spread of the virus. 87% of the students feared for the health of their family members while 80% felt anxious for their academic future due to the unprecedented circumstances created by the disease. 53% had decided not to go to hospitals in case of any illness other than covid-19. Approximately 55% believed that the situation was worse than actually being portrayed. Females generally were found to be more anxious than males regarding their health and health of their family members.

Conclusion: There is a dire need of establishing mental health services in educational institutions. Despite the students' generally correct approach towards curbing the spread of COVID-19, they are still much apprehensive regarding the situation surrounding the pandemic due to the disturbance of their academic and everyday life.

Keywords: Attitude, COVID-19, Mental Health services, Pandemic, Survey.

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INTRODUCTION

Corona virus belongs to a sizeable group of viruses with some strains causing minor diseases, for example the common cold and others more severe like SARS (2002) and MERS (2012). Some transmit faster from person to person while others simply don't¹. Around December 2019, an outbreak of unusual pneumonia was reported in the city of Wuhan, situated in the province of Hubei in China. In few weeks Chinese scientists managed to isolate a novel coronavirus named COVID-19 from those patients². Commonly the symptoms include fever, dry cough and tiredness. Some infected people might only show very mild symptoms in response to the COVID-19 however 1 out of every 5 people contracting the virus develop serious illness characterized by

difficulty breathing. The incubation period which is the time from exposure to the pathogen till the patient starts to develop signs and symptoms of the disease is around 5 to 6 days but can extend up to 14 days³.

Due to the required emergency lockdown measures established by governments across the globe in this time of crisis, anxiety and stress levels have drastically increased and ultimately taken a toll on our mental health, for which WHO has highlighted certain measures like limiting the use of social media and seeking information only from authentic sources like itself⁴. Healthcare workers fighting at the forefront just like in previous epidemics are under pressure due to long hours of work under high risk environments⁵. With many businesses shutting down subsequent to borders being closed, economic anxiety due to the current economic fallout has substantially increased as well⁶.

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As COVID-19 continues to spread and its repercussions felt on a global scale, it's quite common for people to experience a broad range of emotions including feeling overwhelmed, helpless, upset, anxious and stressed⁷. The present research aims to identify the perception and the associated apprehension stemming from Novel COVID-19 among Pakistani students and to bring forth this data for better policy revisions in the country. To our knowledge no such study has been conducted specifically to cater the anxieties among students in Pakistan.

METHODOLOGY

This descriptive cross-sectional study was approved from Ethical review committee of Armed Forces Institute of Dentistry, Rawalpindi, Pakistan. The study was conducted on students from all over the country from May 14 to May 16, 2020. Sample size was calculated using Raosoft calculator and it was found to be 377 assuming the margin of error was 5%, confidence level at 95%, response distribution being 50% and population size 20000. The forms were kept open for 3 days; however, the number of participants were not limited to 377 so as to increase the statistical power of the study. Subsequently the number was increased to a sample size of 731 as these were the total number of responses received.

Snowball sampling technique was used to include the participants which mainly consisted of students of Cambridge A-Level, Intermediate FSC Pre-medical and Undergraduate Medical and Dental students. Inclusion criteria were students of different cities of Pakistan with access to smart phones and internet of the age between 18 to 40 years. Anonymity was retained as no names or addresses were inquired and the survey contained a consent portion that stated study objectives, volunteer participation, declaration of confidentiality and anonymity.

A structured self-administered questionnaire was created through google forms and an online link generated was shared on social media. The questionnaire was slightly modified and customized from the two online questionnaires

(Cronbach alpha = 0.77) which were available for free and related to student perception and apprehension regarding COVID-19^{8,9}. The questionnaire consisted of two parts and 16 items primarily focusing on the extent to which students were cognizant of COVID-19 and their attributed anxieties related to the pandemic. In the first part individual characteristics of the students were sought. In second part, the first 5 survey items focused on the perception while the latter 11 items were involved in investigation of apprehension concerning the pandemic. Questions were related to the anxiety and delved into the fear of students contracting the virus and the fear of their parents getting contracted as well whenever they leave the household. The survey also inquired about the changing attitudes and following protocols like wearing a mask and washing hands, adopted by the students. Five-point Likert scale with 1 = Strongly disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree was used to record the responses. The questionnaire was first sent to a group of 10 participants as a pilot study in order to check feasibility of questions before distributing it online on a large scale and conducting inferential analysis. Reliability coefficient was calculated and the value of Cronbach's alpha was found to be 0.73.

Data was analyzed using SPSS version 26.0. Frequencies and percentages were calculated for categorical variables. Chi-Square test was used to compare the collected samples based on age, gender and level of qualification to test for any relationship between categories and their total. The p -value ≤ 0.05 was considered as statistically significant.

RESULTS

A total of 731 responses were recorded out of which majority were females 527 (72.1%). Age range was 18-40 years with mean age of 20.93 ± 3.03 years however the number of participants under 20 years and over 20 years were almost equal. Majority of them were university students. The demographics are listed in table-I.

A large number of students believed that they could protect themselves against Corona Virus 433 (59%). Similarly, majority were also confident that they could protect themselves better than others 400 (55%). More than 85% of

rous people had genuine fears upon leaving their houses because of COVID-19 outbreak 491 (67%). Simultaneously most of students were not satisfied with the current infection control measures 439 (60%) and a large majority had taken certain precautions like wearing masks and washing hands more frequently. Regarding the statement that the situation was not as bad as it was being portrayed, 32% of students disagreed while 24% strongly disagreed. Students strongly agreed in majority to showing fear for the health of their family members. Nevertheless, a large majority (80%) of the students were anxious about their academic future due to the situation created by the pandemic.

Chi Square tests was carried out between

Table-I: Descriptive statistics of study participants.

Total	N=731	Percentage
Gender		
Male	202	27.6
Female	527	72.1
Other	2	0.3
Age		
<20	316	43.2
>20	415	56.8
Qualification Level		
College	265	36.1
University	466	63.8

Table-II: Statistical Significance of total responses with Gender, Age and Qualification

S. No.	Questions	Gender $p \leq 0.05$	Age $p \leq 0.05$	Qualification $p \leq 0.05$
1.	I believe I can protect myself against the novel coronavirus.	0.156	0.181	0.084
2.	I believe I can protect myself against the novel coronavirus better than others.	0.047*	0.037*	0.070
3.	My health will be severely damaged if I contract novel coronavirus.	0.061	0.271	0.220
4.	I have limited my physical contact with people	0.261	0.049*	0.011*
5.	I have recently avoided/ reduced going to prayer places.	0.165	0.000*	0.000*
6.	I fear leaving my house because of covid-19.	0.002*	0.751	0.098
7.	I have recently started to avoid watching, reading or listening to news because it made me anxious.	0.000*	0.001*	0.001*
8.	I wash my hands more frequently.	0.000*	0.077	0.135
9.	I have started wearing a mask because of COVID-19.	0.335	0.712	0.454
10.	I feel anxious when a family member goes outside the house	0.001*	0.236	0.035*
11.	I feel anxious on a daily basis because of COVID-19.	0.003*	0.173	0.007*
12.	I feel under-confident with the current infection control measures.	0.378	0.490	0.780
13.	I feel the situation is not as bad as it is being portrayed.	0.138	0.019*	0.011*
14.	I fear for the health of my family members	0.000*	0.322	0.157
15.	Even if I fall ill with another disease, I will not go to hospital because of risk of getting novel coronavirus in the hospital.	0.020*	0.990	0.491
16.	I feel anxious about my academic future due to the unprecedented circumstances created by COVID-19	0.001*	0.413	0.301

*Statistically significant

the students limited physical contact with other people. Likewise, great number had avoided or reduced going to prayer places 607 (83%). Nume-

responses and different groups like gender (male /female/other), age groups (less than 20 and more than 20) and level of education (College/

University) shown in table-II. A *p*-values ≤ 0.05 were considered statistically significant. Percentages of responses of students about perception and apprehension is shown in figure.

students in this crisis while acknowledging their fears and distresses so that they could be dealt with accordingly. As Pakistan has a median age of 22.8 years¹⁰ therefore, this research aims to give

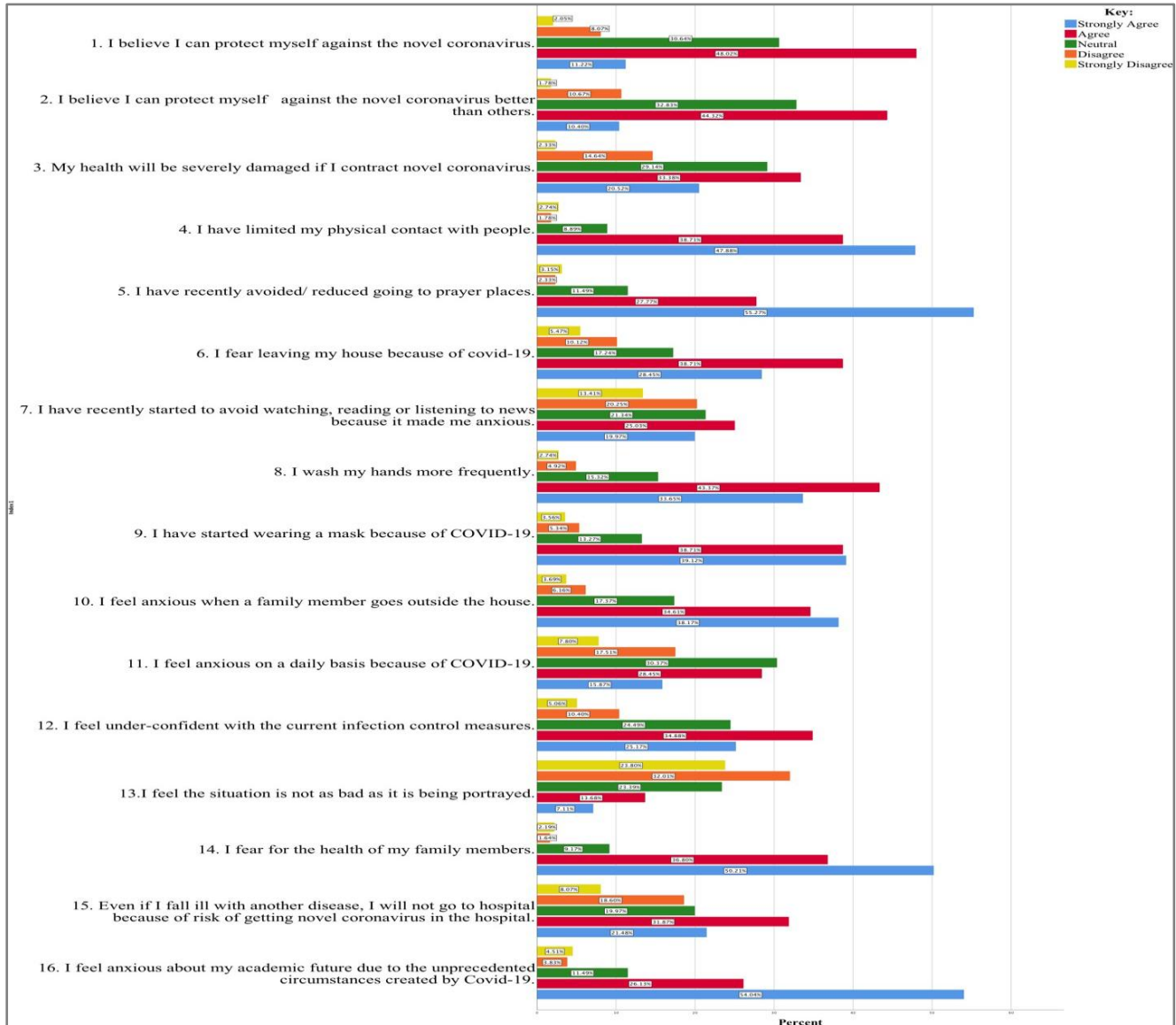


Figure: Responses regarding perceptions and apprehension among Pakistani students.

DISCUSSION

COVID-19 brings a plethora of problems associated with it. As a greater number of researches continue to delve into these with regards to the general population, we aim to specify it further into the category of students who have to face their academic burdens alongside the pandemic. It is significant to highlight the attitude of

importance to the psychological and behavioral consequences in the student division so that in the future any important decisions could be made without putting such a large population in significant distress.

Generally majority of the students believed they could safeguard themselves against corona virus (59%) which is likely due to ease of access

of internet and education level, however around 30% still remained neutral/undecided which is concerning as despite the advancements in some technologies they still seemed underconfident with themselves. Interestingly the graph showed similar results upon asking if they could protect themselves better than other people. It could also be noted that students here are generally middle class with access to better facilities hence it would be a fair estimate that they could do better than the majority of lower-class population of Pakistan.

There were a decent number (53.9%) of students agreeing that their health could severely be affected due to COVID-19 which shows that the students are aware of the risks surrounding the pandemic, which is why many students have limited their own physical contact with other people and adopted social distancing as advised (87%) which is slightly higher than a study conducted in Karachi and China¹¹. This result could be due to increased awareness associated with the time passed during the pandemic. A definitive majority had started wearing masks as well (78%). Cumulatively around 83% of them reduced or avoided going to prayer places which shows that efforts in encouraging praying at home by the government are starting to bear fruit, however 11.5% were still undecided which shows that the problem must be addressed at grass root level and support should be garnered by the spiritual leaders in local communities as they could influence the population further if there is any distrust with the government.

Moving forward towards the apprehension side, around two thirds of the students feared leaving their houses because of COVID-19 which is especially because preventive measures are not being fully implemented in their environment. Since most of the population is lower class who are either making their ends meet out of their meagre monthly salaries or their day to day lives depend on working outside, this is why the lockdown is not fully effective, which consequently increases the anxieties of all other people. This data (67%) was slightly higher than a study

conducted earlier on the residents of Karachi (64.3%). There were equally varied responses on if people avoided news because it made them anxious with only a slight majority agreeing, this could be because most students of this generation are aware of some media sensationalizing the news so they might be accustomed to the daily ruckus brewed by these news agencies. The strongly agreed response increased from 16% to 38% students when questioned from their own fear to leave the house to their fear of any family member leaving the house, which considering the statement of WHO regarding old people being at higher risk of infection seems plausible¹². It can also be looked at the unfortunate case of Italy (Second highest oldest population) as their number of cases soured exponentially due to their higher older population demographics¹³.

Around 44% of the student population felt anxious on a day to day basis because of COVID-19 which is distressing as this could highly impact their academic as well as their day to day lives. Sudden lifestyle disturbances and changes in social interaction could further increase levels of anxiety especially due to the sheer uncertainty of the circumstances created by the pandemic. The absence of any medical treatment also exacerbates anxiety especially among those that are infected. Regarding infection control measures, 60% felt underconfident while 25% of them strongly agreed with this statement. This could be due to already increased levels of anxiety further creating mistrust and distrust between the government as supported by Jin *et al*¹⁴. It could also be due to the government trying to balance lockdown with cutting losses for the economy. Similarly, more than half (56%) believed that the situation is worse off than actually being portrayed which was correct since currently, the lockdown measures are ineffective and the country does not have enough testing kits to make an accurate prediction of infected people. Again, more than half also believed that they would not go to the hospital if they had any other illness to prevent risking corona virus infection as was pointed out by Bernstein L, Sellers FS in

Washington post¹⁵. This clearly show how true the fear is that even in any debilitating condition students ironically fear going to the place which can treat them. An overwhelming majority of students (80.7%) were anxious about their academic future as most exams had to be cancelled and several other ambiguous methods have to be implemented now for creating a final grade. Due to this uncertainty, anxiety levels are easily elevated.

In light of this research certain precautionary measures can be taken to tackle this outbreak in a more effective manner. Firstly, this pandemic highlights the absolute urgency of strengthening medical health services. A serious restructuring of the education system is also required. Since young students are generally more proficient in using cell phones and the internet, they should be provided with online courses and lectures for more independent studying and certain measures should be considered for unprecedented circumstances like these where an exam might not be able to be conducted¹⁶.

Government future endeavours should be clearly laid out and their response time be accelerated for a faster and coordinated effort. There should be an effective method to curb the spread of false information to prevent widespread panic and fear. Medical reserve forces should be deployed when hospitals become severely understaffed. Medical teams should also coordinate with the military personnel for effective logistics across the country. At an interpersonal level helping friends and relatives is an effective method in coping with the pandemic¹⁷. Certain actions could be carried out at a community level by adopting a process known as behaviour modification which involves adapting to the existing lifestyle in such a way that it alleviates any adverse effects brought forth by COVID-19. Practicing mindfulness, striving for personal growth, incorporating coping strategies and cultivating a healthy environment through positive emotions all come under the process of behaviour modification. Government of Pakistan should allow psychological interventions to be an integral part

of the healthcare system, especially among students¹⁸.

A generalization of the results discussed may be limited in diversity as it mostly garnered responses from the urban population and the responses in rural areas might have differed considerably. Any pre-existing psychiatric conditions were not considered among the responses recorded. The results could also be easily influenced by the time the study was conducted as much further into the pandemic the people might become adapted to the new lifestyle changes and eventually show lesser signs of stress.

CONCLUSION

The results have given significant insight towards the need to provide mental health consultancy in educational institutions as a high number of students are anxious and prolonged anxiety can lead to detrimental effects to their mental and physical health. Similarly, our study highlights that despite the students' generally correct approach towards curbing the spread of COVID-19, they are still overly apprehensive regarding the situation surrounding the pandemic. This is also attributed to the fact that they believe that current infection control measures are insufficient in the country and plenty more must be done to deescalate the severity of this situation.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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