

## Research Article



# Exploratory Study on the Psychological Impact of COVID-19 on Students

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**Abstract** | The aim of this study was to analyse the strike of severe novel coronavirus outbreak (COVID-19) on domestic students who were at high risk of exposure. A cross sectional study was conducted through a semi structured questionnaire. Recruitment of participants was done from different universities of Pakistan. The results showed that the students are more concerned about their family members (p=0.00). Under this influence they have increased the frequency of handwashing and use masks when they have to go outside. More than half of the students (53.09%) were afraid of the COVID-19 and similar pattern was noted about depression (54.86%). About 57.5% students were willing to take part in online classes, and only 23% found to have some sort of online learning experience. Students were willing to join the volunteer force (82.3%) if they were asked in case of emergency. During COVID-19 outbreak, students should be provided individual social support and urge to obey the precautionary measures to avoid pandemic.

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## Introduction

Disease outbreaks naturally causes the profound fear and panic in society (Lee et al., 2006). Corona virus disease has got attention of all the world affecting 1.8 million people and 7,426 deaths in 170 countries (Organization and Others, 2020) starting from the Wuhan, China which is epidemiologically linked to the wholesale fish market (Hui et al., 2020). World Health Organization declared the disease as pandemic and called the disease as COVID-19.

Pakistan has now been affected from this virus mainly from the religious travellers coming from the Iran and some other affected countries such as United Kingdom, Australia, USA etc. The epidemic has revived the memory of Severe Acute Respiratory Syndrome (SARS), which occurred in 2002 and affected 8098 people in 37 countries (Cohen and Normile, 2020). The COVID-19 outbreak currently poses a serious threat to all countries around globe because there is no special treatment (Perlman, 2020). Authorities have partially locked down the cities,

that are affecting more than 200 million people of the country. This marks the first time in Pakistan that such response has to be made as a control measure.

According to the policy of Higher Education Commission of Pakistan on COVID-19, Universities of Pakistan ordered to develop an online learning system for students to inhibit transmission of COVID-19 to students and society. Some recommendations were directed to the students e.g. announcements about personal protection, requests for students to stay at home, taking the online classes and special medical centres for the screening of those who have been close contact with patients. Due to less literature on COVID-19, no researcher has studied its social impact on domestic students yet. Therefore, current study was planned to identify the impact of COVID-19 on domestic students living in Pakistan. Study investigated how domestic students perceived different aspects of COVID-19 and how people would react in this epidemic condition in terms of their stay at home also identification of factors that influence its impact and decision of online learning by the Pakistan's government.

## Materials and Methods

### Data collection

The current study was basically cross-sectional with a semi-structured questionnaire. The questions were designed in light of literature review and were asked informally through phone or skype interviews to 15 domestic students of different universities. Depending upon this informal interview, a questionnaire was developed. Before the use of questionnaire for the final study it was pre-tested and modified accordingly. These pre-tested students with informal interviews were not included in final study. The questionnaire was developed locally according to the domestic conditions and the participants were selected at different cities of Pakistan. Students were approached through social media platform of Whats App class groups developed by the universities teacher to deliver notes and interaction after online lectures. The questionnaire was introduced by a set of online instructions which were scripted, with a statement that neither right nor wrong answer among the given questions, and the purpose of the questionnaire was to determine about the feelings and experience of the participants regarding outbreak. The students were assured about the confidential, voluntaries, and anonymous status

of the study. Following variables were assessed by the questionnaires including: sociodemographic status of the participants taken as independent variables. In particular, some psychosocial experiences of participants regarding COVID-19 outbreak were also included in the current investigation.

### Data analysis

Statistical software SPSS 20.00 was used to analyse the data. Self-reported COVID-19 related variables were determined through Chi-square test. The significance ( $p$ -value) was kept 0.05 for all statistical analysis.

## Results and Discussion

Total 574 responses were collected from students in different universities, out of them 9 questionnaires were found incomplete. So incomplete responses were excluded from the study. Therefore, the total considered answers were 565.

Sociodemographic characteristics of the respondents revealed that the male and female respondents were 290 (51.3%) and 275 (48.7%) respectively. Out of which 94.7% respondents were single and only 5.4% were married. Moreover, majority of the students were at the of age 18-24 (81.4%) studying bachelor's degree (81.4%) followed by master's degree (17.7%) and PhD (0.9%) (Table 1).

Females were found more willing to take part in online lectures as compared to males. Master students were less willing to take the online classes than bachelors' students. Interestingly, male students were found to have no experience of online education at all, while 48% of the female students had some sort of experience of online education. All the respondents of Master and PhD students have the experience of online education (Table 2). A uniform level of concern (94.7%) about their family was recorded in all levels and age of students besides their site of living. About 82.3% students were willing to be the part of volunteer's force to help the community ( $p=0.00$ ) also the students were more curious about their families in concern with precautionary measures ( $p=0.00$ ) (Table 3).

Students were highly satisfied with the response measure taken up by the federal and provincial governments (Table 4). Majority of the students postponed their travelling plans and their frequency to wash hands was also increased. ( $p=0.00$ ).

**Table 1: Socio-demographic (n=565).**

| Characteristics |            | Site of living during study |                |             | Study level |        |          | Subject |      |
|-----------------|------------|-----------------------------|----------------|-------------|-------------|--------|----------|---------|------|
|                 |            | University hostel           | Private hostel | Day scholar | PhD         | Master | Bachelor | Science | Arts |
| Gender          | Male       | 0                           | 9              | 281         | 0           | 0      | 290      | 245     | 45   |
|                 | Female     | 190                         | 85             | 0           | 5           | 100    | 170      | 275     | 0    |
| Age             | 18-22 Year | 190                         | 94             | 176         | 5           | 100    | 355      | 460     | 0    |
|                 | 23-26 Year | 0                           | 0              | 100         | 0           | 0      | 100      | 60      | 40   |
|                 | >26 Year   | 0                           | 0              | 5           | 0           | 0      | 5        | 0       | 5    |
| Relationship    | Single     | 190                         | 94             | 251         | 5           | 100    | 430      | 520     | 15   |
|                 | Married    | 0                           | 0              | 30          | 0           | 0      | 30       | 0       | 30   |

**Table 2: Students who were willing for online classes and students who have previous experience of online classes.**

| Characteristics             |                   | Willing for online classes |       |     |       |         | Did you have experience of online classes |       |     |       |         |
|-----------------------------|-------------------|----------------------------|-------|-----|-------|---------|---|-------|-----|-------|---------|
|                             |                   | Yes                        | (%)   | No  | (%)   | p-value | Yes                                       | (%)   | No  | (%)   | p-value |
| Gender                      | Male              | 50                         | 17.24 | 240 | 82.76 | 0.000   | 0   | 0.00  | 290 | 100   | 0.000   |
|                             | Female            | 275                        | 100   | 0   | 0.00  |         | 130                                       | 47.27 | 145 | 52.73 |         |
| Age                         | 18-22 Year        | 325                        | 70.65 | 135 | 29.35 | 0.000   | 130                                       | 28.26 | 330 | 71.74 | 0.000   |
|                             | 23-26 Year        | 0                          | 0.00  | 100 | 100   |         | 0   | 0.00  | 100 | 100   |         |
|                             | 26+               | 0                          | 0.00  | 5   | 100   |         | 0   | 0.00  | 5   | 100   |         |
| Relationship                | Single            | 325                        | 60.75 | 210 | 39.25 | 0.000   | 130                                       | 24.30 | 405 | 75.70 | 0.000   |
|                             | Married           | 0                          | 0.00  | 30  | 100   |         | 0   | 0.00  | 30  | 100   |         |
| Site of living during study | University hostel | 190                        | 100   | 0   | 0.00  | 0.000   | 130                                       | 68.42 | 60  | 31.58 | 0.000   |
|                             | Private hostel    | 94                         | 100   | 0   | 0.00  |         | 0   | 0.00  | 94  | 100   |         |
|                             | Day scholar       | 41                         | 14.59 | 240 | 85.41 |         | 0   | 0.00  | 281 | 100   |         |
| Study Level                 | PhD               | 5                          | 100   | 0   | 0.00  | 0.000   | 5   | 100   | 0   | 0.00  | 0.000   |
|                             | Master            | 100                        | 100   | 0   | 0.00  |         | 100                                       | 100   | 0   | 0.00  |         |
|                             | Bachelor          | 220                        | 47.83 | 240 | 52.17 |         | 25  | 5.43  | 435 | 94.57 |         |
| Subject                     | Science           | 325                        | 62.50 | 195 | 37.50 | 0.000   | 130                                       | 25.0  | 390 | 75.0  | 0.000   |
|                             | Arts              | 0                          | 0.00  | 45  | 100   |         | 0   | 0.00  | 45  | 100   |         |

**Table 3: Students who are frequently aware their families about the precautionary measures and the students who are willing to join the volunteers force of the Government of Pakistan during to COVID-19 outbreak.**

| Characteristics             |                   | Did you aware your family, friends |       |    |       | p-value | If the Government requires, would you like to volunteer against COVID-19? |       |     |       | p-value |
|-----------------------------|-------------------|------------------------------------|-------|----|-------|---------|---|-------|-----|-------|---------|
|                             |                   | Yes                                | (%)   | No | (%)   |         | Yes   | No    | Yes | No    |         |
| Gender                      | Male              | 260                                | 89.66 | 30 | 10.34 | 0.000   | 190   | 65.52 | 100 | 34.48 | 0.000   |
|                             | Female            | 275                                | 100   | 0  | 0.00  |         | 275   | 100   | 0   | 0.00  |         |
| Age                         | 18-22 Year        | 460                                | 100   | 0  | 0.00  | 0.000   | 460   | 100   | 0   | 0.00  | 0.000   |
|                             | 23-26 Year        | 75                                 | 75.0  | 25 | 25.0  |         | 5   | 5.0   | 95  | 95.0  |         |
|                             | 26+ Year          | 0                                  | 0.00  | 5  | 100   |         | 0   | 0.00  | 5   | 100   |         |
| Relationship                | Single            | 535                                | 100   | 0  | 0.00  | 0.000   | 465   | 86.92 | 70  | 13.08 | 0.000   |
|                             | Married           | 0                                  | 0.00  | 30 | 100   |         | 0   | 0.00  | 30  | 100   |         |
| Site of living during study | University hostel | 190                                | 100   | 0  | 0.00  | 0.000   | 190   | 100   | 0   | 0.00  | 0.000   |
|                             | Private hostel    | 94                                 | 100   | 0  | 0.00  |         | 94  | 100   | 0   | 0.00  |         |
|                             | Day scholar       | 251                                | 89.32 | 30 | 10.68 |         | 181   | 64.41 | 100 | 35.59 |         |
| Study Level                 | PhD               | 5                                  | 100   | 0  | 0.00  | 0.000   | 5   | 100   | 0   | 0.00  | 0.000   |
|                             | Master            | 100                                | 100   | 0  | 0.00  |         | 100   | 100   | 0   | 0.00  |         |
|                             | Bachelor          | 430                                | 93.48 | 30 | 6.52  |         | 360   | 78.26 | 100 | 21.74 |         |
| Subject                     | Science           | 520                                | 100   | 0  | 0.00  | 0.000   | 465   | 89.42 | 55  | 10.58 | 0.000   |
|                             | Arts              | 15                                 | 33.33 | 30 | 66.66 |         | 0   | 0.00  | 45  | 100   |         |

**Table 4: Impact of COVID-19 in the student's life.**

| Question   |                | Gender |        |
|--|----------------|--------|--------|
|  |                | Male   | Female |
| Level of Concern about COVID-19 in Pakistan                                | Extremely high | 0      | 145    |
|  | High           | 86     | 130    |
|  | Moderate       | 158    | 0      |
|  | Low            | 40     | 0      |
|  | Nothing        | 6      | 0      |
| Frequency of Talk about COVID-19   | Extremely high | 10     | 275    |
|  | High           | 180    | 0      |
|  | Moderate       | 76     | 0      |
|  | Low            | 19     | 0      |
|  | Nothing        | 5      | 0      |
| Experiencing fear of COVID-19  | Extremely high | 0      | 130    |
|  | High           | 25     | 145    |
|  | Moderate       | 135    | 0      |
|  | Low            | 85     | 0      |
|  | Nothing        | 45     | 0      |
| Worry about family members   | Extremely high | 0      | 215    |
|  | High           | 150    | 60     |
|  | Moderate       | 95     | 0      |
|  | Low            | 25     | 0      |
|  | Nothing        | 20     | 0      |
| Depression about the Pandemic taking place in Pakistan                     | Extremely high | 0      | 130    |
|  | High           | 35     | 145    |
|  | Moderate       | 155    | 0      |
|  | Low            | 65     | 0      |
|  | Nothing        | 35     | 0      |
| Response of Provincial Government against COVID-19                         | Extremely high | 0      | 80     |
|  | High           | 50     | 195    |
|  | Moderate       | 165    | 0      |
|  | Low            | 65     | 0      |
|  | Nothing        | 10     | 0      |
| Response of Federal Government against COVID-19                            | Extremely high | 0      | 135    |
|  | High           | 90     | 140    |
|  | Moderate       | 140    | 0      |
|  | Low            | 50     | 0      |
|  | Nothing        | 10     | 0      |
| Are you satisfied with the quarantine measures taken up by the government  | Extremely high | 0      | 105    |
|  | High           | 0      | 165    |
|  | Moderate       | 170    | 5      |
|  | Low            | 85     | 0      |
|  | Nothing        | 35     | 0      |
| Decreased contact with other people in the fear of COVID-19 contamination? | Extremely high | 0      | 115    |
|  | High           | 10     | 160    |
|  | Moderate       | 195    | 0      |
|  | Low            | 65     | 0      |
|  | Nothing        | 20     | 0      |
| Do you have postponed the affected areas                                   | Extremely high | 0      | 255    |
|  | High           | 135    | 20     |
|  | Moderate       | 85     | 0      |
|  | Low            | 50     | 0      |
|  | Nothing        | 20     | 0      |

| Question   |                | Gender |        |
|--|----------------|--------|--------|
|  |                | Male   | Female |
| Decreased visits to public gathering                                     | Extremely high | 0      | 275    |
|  | High           | 160    | 0      |
|  | Moderate       | 85     | 0      |
|  | Low            | 25     | 0      |
|  | Nothing        | 20     | 0      |
| Increased care of washing hands?   | Extremely high | 55     | 275    |
|  | High           | 175    | 0      |
|  | Moderate       | 55     | 0      |
|  | Low            | 0      | 0      |
|  | Nothing        | 5      | 0      |
| Increased care of room ventilation                                       | Extremely high | 0      | 205    |
|  | High           | 145    | 70     |
|  | Moderate       | 110    | 0      |
|  | Low            | 20     | 0      |
|  | Nothing        | 15     | 0      |
| Increased care of wearing face mask?                                     | Extremely high | 0      | 135    |
|  | High           | 35     | 140    |
|  | Moderate       | 165    | 0      |
|  | Low            | 55     | 0      |
|  | Nothing        | 35     | 0      |
| Frequency of watching News Chanel for COVID-19 updates                   | Extremely high | 0      | 220    |
|  | High           | 170    | 55     |
|  | Moderate       | 75     | 0      |
|  | Low            | 35     | 0      |
|  | Nothing        | 10     | 0      |
| Are you satisfied with the behavior of people about quarantine measures? | Extremely high | 0      | 90     |
|  | High           | 0      | 135    |
|  | Moderate       | 135    | 50     |
|  | Low            | 80     | 0      |
|  | Nothing        | 75     | 0      |

In some open ended questions most students were worried about the outbreak and suggested government to improve the control measures on immediate bases (Box 1).

Our study also revealed that the outbreak had a great impact on their daily lives. They faced worriedness, helplessness and fear. Some other researchers also found similar responses. A wide range of penetrating psychological responses were prescriptive in present study as an immediate reverberation to a sudden disaster. Every year individuals and communities are being affected by disasters, which disrupts their mental health and well-being (Makwana, 2019). However, its diverse effects could be minimised by dealing it with in appropriate time and accurate manners (Stöhr, 2003). Some typical psychological responses of tested individuals against COVID-19 outbreak were

**Box 1:** *Selected suggestions of students in open ended questions.*

- Government officials should wisely deal with the measures specified by WHO. A corruption free and selfless action should be taken. Government officials including PM should monitor the facilities and measures that adopted at quarantine centers. Public should be educated more and more through social media about the risks.
- There should be more strictness and awareness. There must be awareness on media that only one person from every home should go outside for buying goods for living, children or old ones should not go outside.
- Provide doctors with the essential health safety and other equipment to combat with outbreak. Provide poor people with daily necessities because they are not able to fulfill their needs due to lockdown.
- Make face masks, sanitizer at suitable rates and improve quarantine measures.
- Government 1st of all should make a policy regarding food supply to underprivileged people and labourers. For that purpose, government should make committee of volunteers in their relevant town. They will work voluntarily to supply food for needy ones. Furthermore, proper awareness campaign should also be launched with help of student's committee. I request to government of Pakistan please do all these measures as early as possible to reduce this outbreak. Government can also increase its revenue by deducting salaries of government officers to fulfil the needs.
- Don't create panic in community through social media. Digital media should be aware of spreading fake news and restrain of posting fabricated news. Government should also take steps against such persons who spread fake news.
- Research on vaccine development should be boosted up. Secondly our media should play a positive role because the frequency of talk shows regarding the hypothetical concerns of COVID-19 increase the panic condition in public.
- Be like Chinese Government in taking strict measures against virus.

expressed in this study. Around 94.7% of the students revealed that they informed their family, friends for adopting precautionary measures. Our study also revealed the self-protective behaviour of respondents. However, it was striking that a number of students were reluctant themselves to contact with other people during pandemic period due to fear of virus transmission. Findings of some other researchers are also in line with ours, showing over-exaggerated impact of community against such type of outbreaks in case if there is no proper communication and organised public response e.g. symptoms related to bioterrorism amplify psychological responses unintentionally that leads to enhance its impact its impact (Stein et al., 2004).

The current study indicates that impact of COVID-19 associated with several factors. The most important is residence area of respondents during studying at university. This is mainly concern with the safety of respondent's family members, friends and relatives from the areas affected with COVID-19, as showed in the results related to such experiences.

The current study also have some limitation. First of all is the small sample size, the generalization of the findings is lemmatized because of unawareness of non-participants behaviour in comparison with respondents. Second is the self-reported impact which is kept as dependent variable might be different from that as a result of their personal experiences, hence increasing the susceptibility of biasness. Our findings are indicative but not conclusive due to the limitations of the data. Forthcoming studies are

necessary for further exploration of the association of the psychosocial impact because, less information regarding psychological behaviour has been available for the guidance and psychosocial support of affected people during epidemics.

## Conclusion

The findings of our study are valuable and meaningful for the policy makers of health department and those who provides services for the interventions of students during pandemic situations. Depending upon the findings of current study it is highly recommended to create awareness regarding safety and counteraction against helplessness condition persuaded by the pandemic. Continuing public education about preventive measures should also be adopted. Such integrative assessment can be achieved via modern communication platforms.

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## Authors Contribution

Zeeshan Ahmad Bhutta: Conceptualization, Methodology, Writing - Original draft preparation  
 Muhammad Fakhar-e-Alam Kulyar: Methodology, Writing - Original draft preparation  
 Muhammad Shoab: Formal analysis  
 Wangyuan Yao: Software, Formal analysis  
 Muhammad Asif: Software, Validation

Shah Nawaz: Resources, Visualization  
Moazam Ali: Writing - Review and Editing  
Ayesha Kanwal: Writing - Review and Editing.

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