Burden and factors associated with Perceived stress among the general population in Pakistan during the Corona-virus disease 2019

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Abstract

Background: The COVID-19 pandemic has paved the way for psychological crises, especially in resource-limited settings where mental health infrastructure is already crippled. This study aims to determine the prevalence and factors associated with perceived stress in the Pakistani population during the Covid-19 pandemic.

Methods: A web-based cross-sectional survey was conducted on 1679 Pakistani residents who received the study questionnaire's Google form link. We used a validated tool of perceived-stress scale-10 to screen perceived stress levels. Multiple Ordinal Regression was used to identify the factors associated with perceived stress, and the results are reported as adjusted odds ratios with 95% confidence intervals.

Results: The mean score of perceived stress was 19.32 (SD=+6.67). Most of the participants screened positive for moderate (69%) and high levels (14%) of stress, respectively. A significant interaction was seen between generalized-anxiety and the phase of the lockdown. The odds of high-perceived stress among severely anxious participants were 44.67(95% CI: 21.33, 93.53) times than participants with no/minimal generalized anxiety during the complete lockdown. Moreover, the odds of high levels of perceived-stress among moderately anxious respondents were 15.79(95% CI: 10.19-24.28) times compared to participants with no/minimal anxiety during the smart lockdown.

Conclusion: This study evidences that the pandemic was highly distressing for the Pakistani population causing the maximum level of perceived-stress in more than half of the population. Adequate and timely interventions are needed before high-stress levels culminate into psychological disorders.

1. Introduction

The Coronavirus pandemic, initiated by an outbreak of atypical pneumonia in Wuhan, China, soon turned into a unique global crisis never experienced before in modern history. Coronavirus disease (COVID-19) is characterized by acute respiratory infection progressing to alveolar damage and respiratory failure leading to mechanical ventilation dependence and death in the severely affected population (1, 2). The scale of this crisis has upsurged over time, claiming countless lives and affecting millions of people around the globe. In Pakistan, the first case of COVID-19 was identified on 26th February 2020, and since then, there has been a constant battle to contain the spread of the virus(3). As its being written, there have been 502,416 cases of COVID-19 in Pakistan, out of which 456,969 have recovered, whereas 10,644 have died (3, 4). These numbers are inclusive of the second wave of the Coronavirus. Amidst the first extremely fatal wave of COVID-19, 6795 lives were lost, and 632 were left dependent on mechanical ventilation (5).

The Government of Pakistan has taken stringent measures and drastic efforts over the span of time to limit the spread of the virus in the first wave of COVID-19. Four weeks into the outbreak, the Government took an extreme step of complete lockdown, resulting in confinement in different provinces and cities, affecting more than 50 million people(6). As Pakistan is an LMIC where a substantial proportion of the population is impoverished and living on daily wages, to cater to people's financial constraints, complete

lockdowns were eased after a certain time, and smart lockdowns were implemented(7, 8). These lockdowns caused significant social disruption and panic among people, causing a significant shortage of medical masks, sanitizers, medicines, and other necessities, including food items, due to hoarding. Other than that, immense pressure on hospitals and medical staff was also reported due to the growing number of cases and a shortage of healthcare facilities and equipment. The fear of facing a shortage of essential medical and food supplies, the fatality associated with the pandemic, and the frustration of being quarantined/self-isolated could have caused a lot of distress and panic among the mass populace (9, 10).

Multiple studies worldwide evidenced extremely high and alarming levels of perceived stress in people due to COVID-19. Perceived stress is "the feelings or thoughts of an individual about how much they are under stress at a given point in time" (11). It is a multi-dynamic concept with a range of causative and conducive factors. The perceptions leading to stress can depend on medical, psychological, physical, psychosocial, or cultural contexts (12, 13). Internationally, in Italy, 21.8% of the general population was found to have extremely high perceived stress levels (14), whereas, in Paraguay, almost 78% of the study subjects were suffering from moderate to high perceived stress levels (15). Other international studies from Australia and Columbia depicted similar findings as a substantial proportion of the general population had high levels of stress (16, 17). Regionally, a survey on the Chinese population showed an increased prevalence of moderate to severe stress during the Corona pandemic's early stages (8.1%) (10). Similarly, in Nepal, almost three-quarters of the study participants perceived moderate to severe stress (18). In Iran, extremely high-stress scores were seen in COVID-infected patients (19). Multiple factors were found to influence perceived stress status during the pandemic, including gender, socio-economic status, worry about getting infected after a sudden rise in cases or deaths, knowledge about the outbreak, conspiracy theories, exposure to news, uncertainty of the situation, existing comorbidities, level of confidence on government and health care services, level of confidence on infection control measures, preparedness to handle crisis and contact history with the infected person(10, 20, 21). In Pakistan, most of the studies are conducted on healthcare workers, medical students, and COVID-infected patients. In one such study, almost 68.5% of healthcare workers dealing with COVID patients reported moderate to severe stress (22). Nearly 53.5% of dental students were suffering from severe stress in another study (23). To the best of our knowledge, there is hardly any literature available to evidence perceived stress levels of the general population of Pakistan amidst the first wave of COVID-19, however considering alarming levels of moderate to severe stress in students and healthcare professionals, it is likely to speculate high levels of stress in the general population as well.

Pakistan, a resource-limited country, is undergoing a major medical crisis as the second wave of Coronavirus has hit the nation. The impact of the first wave of COVID-19, including economic instability, social disruptions, ceasing of international trade, unemployment, and shortage of essential amenities, hasn't been subdued. About 39% of the Pakistani population was below the poverty line before COVID-19, and the pandemic has made things much worse (7). In Pakistan, the mental health infrastructure is already not well established, and the psychological impact of COVID-19 has burdened it further. The long-term consequences of high-stress levels are highly detrimental, including established psychological

disorders, disabilities, suicidal tendencies, loss of productivity, and physical morbidities. Hence, it should be a priority to proactively tackle the stress levels and their associated factors in the general population before they become unmanageable. There is also a need for an evidence base that depicts the psychological impact and its influencing factors to curate relevant policies. Thus the present study aims to estimate the prevalence of perceived stress levels in the general population amidst corona crises and determine factors associated with it.

2. Methods

2.1. Study design

A web-based cross-sectional survey was conducted between April – August 2020 to determine the status of perceived stress in the general population amidst the first wave of the COVID-19 pandemic in Pakistan. The web-based survey questionnaire was broadcasted on the Internet through Google form. Participants were able to access this form through a link generated to permit access to this form. This link was made available to the general population using different social media platforms (Facebook, Instagram, and Twitter), emails, SMS, and messages on cellular phone applications (WhatsApp).

2.2. Study Population

Individuals who belonged to any province, city, village, state, or district of Pakistan irrespective of age, had access to the study questionnaire, were competent in English/Urdu language, and gave consent were included in this study. Individuals who were not residents of Pakistan or were currently living outside Pakistan (Pakistani citizen but not presently in Pakistan) were excluded from the study.

2.3. Measures

2.3.1. Outcome

Perceived stress:

Perceived stress scale-10 (PSS-10) was used to assess the perceived stress status of study participants. This scale was a self-reported instrument that assessed how unpredictable and uncontrollable respondents find their lives. This tool contained six positively constructed and four negatively constructed questions (24). Respondents had to choose on options on a 5 point Likert scale, from 0=never to 4=very often. All responses were taken based on the past month. Questions from this tool included upset due to something unexpected, unable to control important things in life, felt nervous or stressed, confident about handling personal problems, felt things going your way, unable to cope with stressful things, able to control irritations in life, thought that you were on top of things, angered because something happened out of your control and felt difficulties piling up to the extent of being uncontrollable. The range of this tool was 0 - 40, the highest score, indicated the higher level of perceived stress. This variable was considered as ordinal based on the given cutoffs. The cutoff scores of this tool were 0-13, indicating low stress, 14-26 representing moderate stress, and 27-40 suggesting high stress (24). The internal

consistency of this tool was deemed good, with a Cronbach alpha of 0.78-0.89(25). The reliability of this tool was also considered good, with an intra-class correlation of >0.70 (25). This tool was previously used and validated in our settings (26). Moreover, this tool was also used to assess perceived stress in the general population in pandemic situations (27).

2.3.2. Covariates

Generalized Anxiety disorder

Generalized anxiety disorder was assessed by the GAD-7 tool. This tool comprised 7 questions answered by choosing an option from a Likert scale with 4 options from 0= not sure at all to 3 nearly every day. All responses were taken based on the past two weeks. The questions of this tool included being nervous, anxious, or on edge, not being able to stop worrying, worrying too much about different things, trouble relaxing, being restless, becoming easily annoyed, and feeling afraid that something wrong will happen. The range of this tool was from 0 to 21. The highest the score, the greater was the severity of GAD. This variable was considered as ordinal representing no or minimal anxiety (score < 5), mild anxiety (Scores 5-9), moderate anxiety (Scores 10-14), and severe anxiety (scores >15) (20). The sensitivity of this tool is 89%, whereas specificity is 82%. The internal consistency of this tool is excellent, with Cronbach alpha of 0.92, whereas the reliability with an intra-class correlation of 0.83 indicating good reliability (28). This tool was validated for use in the general population (29, 30) and was previously used and validated in our settings (30). Moreover, this tool was also previously used to assess GAD in the general population in pandemic situations (20, 31).

Other covariates

Other covariates were divided into sociodemographic characteristics including variables like age, gender, province, city, marital status, educational status, employment/occupation status, number of family members living in the same home as well as number of elders (60 years or above) and children (younger than 5 years) living in the same home with the participant, Worries, fears and opinions about the current Covid-19 pandemic including individual history of psychiatric illness, family history of psychiatric illness, presence of chronic illness, worry of getting infected from corona after first definite case was reported in Pakistan, worry of getting infected from corona virus after first death due to this virus in Pakistan, worry of getting infected when number of corona cases continued to increase in Pakistan, worry of imposition of lockdown, worry about shortage of essential supplies, fear of self-isolation, fear of getting infected, fear of family members getting infected, opinion about government measures, opinion about health authorities, feelings about quarantine and infection control of individuals and indulgence into physical and recreational activities and knowledge about COVID19 including knowledge items related to symptoms of Corona virus, preventive actions, when to visit a doctor, current health status and contact history with infected patient.

2.4. Sample Size and sampling strategy

To determine the burden of perceived stress, a minimum sample of 1,535 individuals was required for the estimation of the prevalence of moderate to severe stress levels assuming an anticipated prevalence of moderate to severe stress levels ranging between 8.1% to 53.8% with 2.5% absolute precision and level of significance of 5%. Sample size based on factors associated with perceived stress was also calculated assuming that the anticipated prevalence of different sociodemographic factors, factors related to a pandemic like worry, fear, and knowledge Anticipated prevalence of various sociodemographic factors with items related ranged between 10-50%. The odds ratio of 2 or more and the ratio between individuals with no mental disorder to individuals with mental disorders between 1 to 12 was assumed. 1,248 was the sample size with these assumptions at 80% power and 5% level of significance. The sample size calculated based on prevalence was greater; hence 1,535 was taken as a required sample size. As it was a web-based study, 10% of incomplete forms were anticipated. After catering to the anticipated 10% refusals and incomplete forms, the required sample size was 1689. We managed to recruit 1679 participants in our study. A non-probability purposive sampling technique was adopted to conduct this survey.

2.5. Statistical Analysis

Descriptive analysis of all the variables was done. The outcome of perceived stress was measured on an ordinal scale. The frequency and percentages of all qualitative categorical variables were reported. Mean and standard deviation when symmetric data and median along with interquartile range (where needed) when asymmetric data for continuous quantitative variables were reported. Crude and adjusted odds ratios and 95% confidence intervals were reported using simple and multiple ordinal regression, respectively, to determine factors influencing perceived stress.

2.5. Ethical considerations:

Approval from the Institutional review board (Aga Khan University Ethical review board) was taken. Electronic consent was obtained before starting of the study questionnaire. This consent had details about the purpose of the study, possible risks and benefits, financial incentives, confidentiality, procedures, and consequences of terminating the study. Screening results were sent to all the participants who provided their contact details. A referral list of relevant organizations providing counseling and therapies and motivational videos was also sent to participants.

3. Results

3.1. Perceived stress status:

A total of 1679 participants were evaluated and analyzed in this study. Among these participants, 14% (n=286) exhibited high levels of perceived stress, whereas 69% (n=1160) and 16.8% (n=283) had moderate and low levels of perceived stress, respectively. Overall the mean perceived stress score of the participants was 19.31(6.67).

3.2. Sociodemographic characteristics:

This study consisted of 73% female participants. Approximately 85% of females and 78% of male respondents had moderate to high-stress levels. Almost half of this study participants belonged to the 25-39 years age group, preceded by 37% of respondents from the 15-24 years age group. 7.5% and 5% of the respondents were between 40-49 or 50 and above years, respectively. 87% of the participants belonging to the 15-24 age group, followed by 83% of respondents between ages 25-39, were found to have maximum stress levels. 58% of the respondents of this study were single, whereas 39% were married. Among single respondents, a substantial proportion of 86% of participants exhibited moderate to severe stress than 79% of married respondents in a similar category. Almost 84% of the respondents in this study were either graduates or postgraduates, followed by 16% of participants who had a maximum of 12 years of education. Participants (88%) whose education status was up to intermediate were more likely to have moderate to severe stress. A significant proportion (41%) of respondents were employed amidst Covid-19, preceded by students (29%), homemakers (14%), businessmen (9.5%), and unemployed participants (7%). 94% of the unemployed participants and 87% of the students demonstrated moderate to high-stress levels. 30% of the study respondents were working from home, followed by 28% currently studying. 3% of the respondents were unfortunately laid off from work due to the pandemic. The remaining sample consisted of individuals either going to the office, relaxing at home, or doing daily chores. 32% and 21% of the respondents who were laid off or doing household chores had severe stress, respectively. 75% of the participants enrolled in this study during the smart lockdown, whereas 25% were recruited during the complete lockdown. Approximately 86% of the individuals who participated in this study during smart lockdown had moderate to severe stress (Table 1).

3.3. Generalized Anxiety Disorder:

Approximately 18% of respondents of this study were screened positive for severe anxiety, whereas 22%, 39%, and 21% were falling in moderate, mild, and no/minimal anxiety categories. Among individuals with severe anxiety, 43.5% had severe stress, and 54.8% had moderate stress. 95.5% of respondents screened positive for moderate anxiety, and 87% of individuals with mild anxiety were found to have moderate to severe stress (Table 1).

3.4. Medical and Family History:

Almost 24% of the participating individuals were currently affected by any psychiatric illness. Among individuals with any current psychiatric illness, 93% had moderate to high levels of perceived stress. A small proportion (12%) of respondents reported having any chronic comorbidity. Among the patients of any chronic disease, 82% exhibited moderate to high levels of stress. 7.5% of the participants were either currently infected or recovered from COVID infection, whereas 4% had at least one symptom of COVID. Victims of COVID and those with COVID symptoms were found to be more likely to suffer from moderate to severe stress (90%) (Table 1).

3.5. COVID related fears, worries, and perceptions:

Assessed via self-designed questions, 20% of the participants were worrying a lot when the first case of Covid-19 was reported in Pakistan, whereas 24% and 48% recalled immense worry when the first death due to COVID was reported, and cases started surging in Pakistan. Among those who expressed worry after reporting the first COVID case, 21% had the highest stress level. Moreover, among individuals who were extremely worried when the first death due to COVID occurred and cases started increasing, 21% and 18% were falling in the severe stress category. Respondents also reported immense worrying about the imposition of lockdown (48%), shortage of food(41%), and medical supplies (53%). 78.5%, 80%, and 77% of those respondents who were worried about the imposition of lockdown, shortage of food, or medical supplies demonstrated moderate to severe stress. 38% of the respondents reported extreme fear of getting infected, whereas 76% were immensely scared of their loved ones getting infected from COVID. 85% of the respondents who were frequently checking COVID-related news (28.05) exhibited moderate to high levels of stress. 27.5% of the participants found quarantine/social isolation very stressful, whereas 52% were somewhat affected. 92% of adolescents who found self-isolation extremely stressful were having moderate to severe stress. Approximately 37% of individuals were not satisfied by the infection control practices by people surrounding them, out of which 80% had moderate to severe stress. 49% of the participants were not indulging in any form of physical activity resulting in moderate to severe stress (87%) (Table 1).

The results of simple and multiple ordinal regressions assessing the factors influencing the perceived stress status of participants are given in Table 2. The odds of participants having severe stress were twofold (OR=1.96 95% CI=1.44-2.67) among those who were currently suffering from any psychiatric illness compared to those who had no current psychiatric morbidity. Likewise, respondents who were immensely strained and traumatized by quarantine were more likely to have a maximum level of stress (OR=1.45 95% CI=1.03-2.05). The working status of the participants was influencing perceived stress status as the odds of participants having the highest stress levels were almost three times (OR=3.12 95% CI=1.57-6.16) more likely to be among respondents who were laid off amidst pandemic as compared to those who were employed. Similarly, the odds of respondents who reported having high stress levels were more likely to be among those who indulged in household chores (OR=2 95% CI=1.41-2.83). Additionally, students were more likely to have severe stress levels than participants working from home (OR=1.51 95% CI=1.07-2.12).

This study catered to participants belonging to different age brackets. Age was significantly associated with the stress status of participants. The odds of severely stressed participants among adolescents and youth (age 15-24) were two-fold (OR=1.99 95% CI=1.13-3.47) compared to elderly respondents. Furthermore, participants aged 25-39 years were 1.66 times (OR=1.66 95% CI=1.00-2.76) more likely to have high stress levels. Indulgence in the exercise was found to be a protective factor in reducing stress levels. The odds of respondents having high-stress levels among those respondents not indulging in any form of physical exercise were 1.30 times (OR=1.30 95% CI=1.03-1.62) compared to regularly exercising individuals. Participants worrying about the shortage of food (OR=1.27 95% CI=1.01-1.60) and the imposition of the lockdown (OR=1.26 95% CI=1.00-1.58) were more likely to have severe stress. Additionally, confidence about infection control practices in the surroundings of the respondents was also

significantly associated with stress levels. The odds of severely stressed participants among those respondents who were not confident about infection control practices in the surroundings were 1.25 times (OR=1.25 95% CI=1-1.57) compared to respondents satisfied with infection restraining measures (Table 2).

In the final model (Table 2), a significant interaction was seen between generalized anxiety status and phase of lockdown during which the participants were enrolled for this study (Figure 1), indicating that during the complete lockdown, the odds of high-stress levels were 44 times (OR=44.67 95% CI=21.33-93.53) among severely anxious respondents as compared to non/minimally anxious respondents. Furthermore, during the smart lockdown, the odds of maximum stress levels were 33 times (OR=33.28 95% CI=20.60-53.78) among respondents with severe anxiety than participants with no/minimal anxiety. Likewise, participants with high stress were 15 times (OR=15.79 95% CI=10.19-24.28) more likely to be screened positive for moderate anxiety during the smart lockdown. Among participants enrolled amidst smart lockdown, the odds of severe stress were three times (OR=3.49 95% CI=2.41-5.05) in the mild anxiety category as opposed to no/minimal anxiety.

4. Discussion

In the present study, rates of high and moderate perceived stress among the general population during the Covid-19 outbreak were 14% and 69%, respectively, comparable to the studies conducted in various parts of the world (32-35). Such high prevalence could be explained by several factors, including the financial circumstances of an individual, their current and previous psychological status, their perception of the measures taken by the general public and hospitals, and other sociodemographic variables (32, 35).

Working status was found to be one of the critical factors affecting the perceived stress of an individual during the pandemic situation. Those who were laid off from work had thrice the higher odds of perceived stress. As highlighted in the literature, losing a job itself is psychological trauma, and when it is experienced during such a crisis, it poses the individual with an immediate threat of survival and can further aggravate stress and other psychological symptoms (36). On the other hand, young individuals were also more likely to have high perceived stress than the older population. This was consistent with previous literature (32, 37). The individuals of age cohort 15-24 years are primarily students or fresh graduates. The possible justification of higher stress could be the immediate requirement to adapt to the new online learning system or the higher unemployment rates and hiring freeze worldwide to the Covid-19 outbreak.

Another significant variable was the persisting mental illnesses. Relative to other studies, psychiatrically ill individuals had greater odds of perceived stress (35). People with existing mental conditions are the most vulnerable population, especially during emergencies, as the symptoms of their pre-existing mental disorders worsen under such tense circumstances, leading to extreme levels of fear, stress, and anxiety among them (38, 39).

The findings of our study further indicated a significant impact of fear regarding food shortage on an individual's stress level. Food is the basic necessity of life, and the fear of not meeting or afford the most basic need could lead to heightened stress. Another probable reason could be the mass purchasing behavior observed during covid-19, which led to the decrease in the amount of food available in the market and the upsurge of prices (40). This could also explain the higher stress among those who were worried about the imposition of lockdown. It could lead to prevention and disruption in accessing workplaces, education institutes, and the basic needs of an individual like food and medication.

Similarly, another key finding of our study was the interaction between phases of lockdown and generalized anxiety. Indicating that individuals with severe generalized anxiety during the complete and partial lockdown had high perceived stress compared to those with minimal anxiety. Stress and anxiety, at times, go hand in hand. Anxiety can cause stress, and stress can trigger anxiety. Moreover, lockdown, whether partial or complete, causes widespread despair and uncertainty among people thus, resulting in high levels of stress and anxiety (41).

The present study highlighted new information on levels of perceived stress among the Pakistani population during the coronavirus outbreak, which should be considered by health systems and experts alongside other aspects of infection prevention and control. Limitations of the study may include higher percentages of female and young population. As the study was carried out online using different media platforms, it was comparatively higher, which is why only the results are only generalizable for internet users. Furthermore, the subjectivity of the outcome was another limitation of this study.

5. Conclusion

We found high levels of perceived stress in the Pakistani population, indicating that the first wave of COVID-19 was highly distressing. These findings further warrant the need to monitor the psychological impact of COVID-19 before it substantiates a significant mental health crisis. Moreover, psychological interventional measures like toll-free counseling services, telehealth interventions via calls, WhatsApp, Zoom sessions, mhealth, app base interventions, and communication of positive motivational messages through media should be considered to cater to the increasing burden of pandemic related psychological morbidities.

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Tables

Table 1: Baseline characteristics of Participants as per perceived stress status

Characteristics	Total 373	low stress 95(25.47%)	Moderate stress 245(65.48%)	High Stress 33(8.85%)
Age				
• 15-24	619(36.87)	80(12.92)	441(71.24)	98(15.83)
• 25-39	841(50.09)	139(16.53)	582(69.20)	120(14.27)
• 40-49	130(7.74)	33(25.38)	87(66.92)	10(7.69)
• 50 and above	89(5.30)	31(34.83)	50(56.18)	8(8.99)
Sex				
• Male	458 (27.78)	101(22.05)	318(69.43)	39(8.52)
• Female	1221(72.72)	182(14.91)	842(68.96)	197(16.13)
Education status				
• Up to intermediate	269(16.02)	31(11.52)	189(70.26)	49(18.22)
• Graduate	727(43.30)	116(15.96)	503(69.19)	108(14.86)
• Postgraduate	683(40.68)	136(19.61)	468(68.52)	79(11.57)
Working status				
• Working from home	516(30.73)	110(21.32)	362(70.16)	44(8.53)
• Go to the office for work	264(15.72)	49(18.56)	192(72.73)	23(8.71)
• I am relaxing	107(6.36)	25(23.36)	69(64.49)	13(12.15)
• I am a student	474(28.23)	61(12.87)	330(69.62)	83(17.51)
• I am laid off from work	49(2.92)	1(2.04)	32(65.31)	16(32.65)
• Doing household chores	269(16.02)	37(13.75)	175(65.06)	57(21.19)
Time				
• Complete lockdown	417(24.84)	102(24.46)	275(65.95)	40(9.59)
• Smart lockdown	1262(75.16)	181(14.34)	885(70.13)	196(15.53)
Generalized Anxiety Disorder				
• No/minimal anxiety	490(29.18)	192(39.18)	295(60.20)	3(0.61)
• Mild anxiety	523(31.15)	70(13.38)	429(82.03)	24(4.59)
• Moderate anxiety	365(21.74)	16(4.38)	271(74.25)	78(21.37)
• Severe anxiety	301(17.93)	5(1.66)	165(54.82)	131(43.52)
Currently having any psychiatric illness				
• yes	409(24.36)	30(7.33)	265(64.79)	114(27.87)
• no	928(55.27)	226(24.35)	653(70.37)	49(5.28)
• Don't know	342(20.37)	27(7.89)	242(70.76)	73(21.35)
Worried about getting infected when				

the first case confirmed					
	338(20.13)	29(8.58)	237(70.12)	72(21.30)	
• Worried a lot	507(30.20)	76(14.99)	371(73.18)	60(11.83)	
• Worried little bit	834(49.67)	178(21.34)	552(66.19)	104(12.47)	
• Never thought about it					
Worried about getting infected when cases started increasing					
• Worried a lot	812(48.36)	100(12.32)	565(69.58)	147(18.10)	
• Worried little bit	496(29.54)	100(20.16)	344(69.35)	52(10.48)	
• Never thought about it	371(22.10)	83(22.37)	251(67.65)	37(9.97)	
Worried about the imposition of lockdown					
• No	866 (51.58)	185(21.36)	565(65.24)	116(13.39)	
• Yes	813 (48.42)	98(12.05)	595(73.19)	120(14.76)	
Worried about the shortage of food					
• No	978(58.25)	197(20.14)	659(67.38)	122(12.47)	
• Yes	701(41.75)	86(12.27)	501(71.47)	114(16.26)	
Fear of getting infected with coronavirus					
• No fear	231(13.76)	57(24.68)	139(60.17)	35(15.15)	
• Slight fear	807(48.06)	170(21.07)	557(69.02)	80(9.91)	
• A lot of fear	641(38.18)	56(8.74)	464(72.39)	121(18.88)	
Fear of loved ones getting infected with coronavirus					
• No fear	79(4.71)	21(26.58)	53(67.09)	5(6.33)	
• Slight fear	318(18.94)	83(26.10)	213(66.98)	22(6.92)	
• A lot of fear	1282(76.35)	179(13.96)	894(69.73)	209(16.30)	
Frequency of checking news					
• Frequently	471(28.05)	65(13.80)	331(70.28)	75(15.92)	
• Sometimes	593(35.32)	111(18.72)	410(69.14)	72(12.14)	
• Rarely	615(36.63)	107(17.40)	419(68.13)	89(14.47)	
Stressful self-isolation/quarantine					
• no	337(20.07)	103(30.56)	194(57.57)	40(11.87)	
• somewhat	880(52.41)	142(16.14)	640(72.73)	98(11.14)	
• yes, a lot	462(27.52)	38(8.23)	326(70.56)	98(21.21)	
Currently indulging in physical activities					
	824(49.08)	108(13.11)	570(69.17)	146(17.72)	

• no	855(50.92)	175(20.47)	590(69.01)	90(10.53)
• yes				
Confident with infection control practices by people around				
• no	1030(61.38)	150(14.56)	710(68.93)	170(16.50)
• yes	649(38.65)	133(20.49)	450(69.34)	66(10.17)
Anxious about the uncertainty of the situation				
• Not anxious	139(8.28)	30(21.58)	97(69.78)	12(8.63)
• Mildly anxious	668(39.79)	149(22.31)	471(70.51)	48(7.19)
• moderately anxious	605(36.03)	84(13.88)	426(70.41)	95(15.70)
• severely anxious	267(15.90)	20(7.49)	166(62.17)	81(30.34)
Current health status				
• Infected or recovered from corona	127(7.56)	14(11.02)	94(74.02)	19(14.96)
• Currently one or more symptoms	68(4.05)	7(10.29)	46(67.65)	15(22.06)
• Currently no symptoms of corona	1484(88.39)	262(17.65)	1020(68.72)	202(13.61)
Knowledge regarding symptoms				
• Poor	233(13.88)	43(18.45)	171(73.39)	19(8.15)
• Satisfactory	944(56.22)	166(17.58)	639(67.69)	139(14.72)
• Good	502(29.90)	74(14.74)	350(69.72)	78(15.54)
Knowledge regarding prevention				
• Poor	93(5.54)	8(8.60)	78(83.87)	7(7.53)
• Satisfactory	644(38.36)	111(17.24)	433(67.24)	100(15.53)
• Good	942(56.10)	164(17.41)	649(68.90)	129(13.69)

Table 2: Simple & Multiple Ordinal Regression reporting Crude & adjusted odds ratio along with 95% confidence interval for predictors associated with perceived stress levels.

Characteristics	Crude Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Participant's current psychiatric illness				
• Yes	5.54 4.08	4.18-7.34 3.04-5.47	1.96 1.86	1.44-2.67 1.36-2.54
• Don't know				
Stressful Quarantine				
• Somewhat	1.77 3.60	1.35-2.32 2.64-4.92	1.09 1.45	0.81-1.46 1.03-2.05
• Yes, A lot				
Working status of the participant				
• Student	1.98 2.23	1.51-2.60 1.61-3.08	1.51 2.00	1.07-2.12 1.41-2.83
• Household chores	1.12	0.82-1.53	1.27	0.90-1.78
• Going office for work	5.12 1.04	2.83-9.26 0.66-1.63	3.12 1.15	1.57-6.16 0.71-1.86
• Laid off				
• Relaxing				
Age				
• 15-24	3.07 2.51	1.93-4.89 1.59-3.95	1.99 1.66	1.13-3.47 1.00-2.76
• 25-39	1.39	0.80-2.43	1.24	0.67-2.28
• 40-49				
Indulgence in exercise				
• No	1.76	1.43-2.18	1.30	1.03-1.62
Worried about the shortage of food				
• Yes	1.57	1.27-1.93	1.27	1.01-1.60
Worried about the imposition of lockdown				
• Yes	1.52	1.23-1.86	1.26	1.00-1.58
Confident about inflectional control measures				
• No	1.60	1.29-1.98	1.25	0.99-1.57
Time				
• Smart lockdown	1.86	1.47-2.36	-	-
Generalized Anxiety Disorder				
• Mild anxiety	4.08 19.63	3.05-5.48 13.19-	-	-
• Moderate anxiety	58.22	29.22	-	-
• Severe anxiety		38.52-87.89		
Complete Lock Down				

• <i>No / Minimal Anxiety</i>	-	-	Reference	
• <i>Mild anxiety</i>	-	-	2.46	1.42-4.24
• <i>Moderate Anxiety</i>	-	-	6.67	3.30-13.49
• <i>Severe Anxiety</i>	-	-	44.67	21.33-93.53
Smart Lock Down				
• <i>No / Minimal Anxiety</i>	-	-	Reference	
• <i>Mild anxiety</i>	-	-	3.49	
• <i>Moderate Anxiety</i>	-	-	15.79	2.41-5.05
• <i>Severe Anxiety</i>	-	-	33.28	10.19-24.28
				20.60-53.78

Cut1: 1.04 Cut2: 6.12
Chisq: 660.83

Figures

Figure 1

Graphical representation of association of generalized anxiety on perceived stress status of general Population of Pakistan amidst COVID enforced lockdowns

Supplementary Files

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