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The COVID-19 Pandemic and Psychiatric Symptoms in Pakistan

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Abstract

The COVID-19 pandemic created the perfect storm for expression of psychiatric symptoms across the world. The current study sought to examine the specific impact of the pandemic via the pathways of stress and coronavirus anxiety on psychiatric symptoms in a Pakistani sample. As expected, women reported significantly more symptoms of depression, anxiety and somatization than men. After controlling for age, gender, and socioeconomic status, it was found that perceived stress and coronavirus anxiety were strong predictors of psychiatric symptoms. This study highlights that women in Pakistan may be at greater risk for psychiatric symptoms during stressful periods, perhaps due to common gender issues across cultures, but also the specific situation for women in Pakistan. The specific impact of the pandemic on psychiatric symptoms through the route of stress and anxiety towards the illness caused by coronavirus is also highlighted by this research. Implications include planning for psychological care for future stressful situations, as well as increasing awareness and availability of psychiatric care for women in Pakistan.

Keywords: *COVID-19, Coronavirus Anxiety, Depression, Anxiety, Somatization, Perceived Stress, Pakistan, Gender Differences.*

Introduction

COVID-19 pandemic has been a challenging time for people across the globe given the novelty and the extensive care protocol of the virus. The pandemic has affected individuals in different capacities, such as financial problems (Wolfe & Patel, 2021), employment-related issues (Almeida & Santos, 2020), compromised foreign direct investments and affecting tourist industries (Khan et al., 2021). With these changes in the economy and the changes in social interactions, a number of psychiatric illnesses started to emerge, given the emotional distress that the virus caused to individuals (Goularte et al., 2021). Research has shown prevalence of psychiatric symptoms, specifically, depression (68%), anxiety (81.9%), somatic symptoms (62.6%) and sleep related disturbances.

The treatment for COVID-19 initially required hospitalization in many cases, which gave rise to emotional disturbance for both patients and their families. Hospitals were considered as the breeding grounds for the virus (Leith et al., 2022) and strict protocols were in place that prohibited family members from visiting their loved ones. It was reported that the patients of COVID-19 who were hospitalized for treatment later reported the presence of psychiatric symptoms such as depression (42%), PTSD (34%), and anxiety (24%; Wang et al., 2021). Similarly, the prevalence of symptoms of obsessions and compulsive behaviors also observed an increase, attributed to the public health advice to strictly follow COVID-19 standard operating procedures, such as thoroughly cleaning hands multiple times for protection (Lazzari et al., 2020). The fear of the virus and the distress it causes has shown an increase in suicide rates (Sher et al., 2020). There have been instances such as a nurse committing suicide reportedly due to the fear of contaminating her family with the virus (Al Arabia, 2020).

The impact of coronavirus has been massive in terms of the shift in routines and social interactions, thereby posing threats not only in physical capacity but also sabotaging mental health. Different demographic factors play a significant role in terms of an individual's coping strategies and prevalence of psychiatric symptoms. During the pandemic, factors such as gender (Liu et al., 2020), age, and socioeconomic status (Agberotimi et al., 2020) have proven to be contributing factors for the development of psychiatric illnesses.

Over time, research has shown that gender differences are an integral discriminating factor in terms of how a similar situation is perceived differently, for example by men verses women. The beginning of pandemic was a challenging situation for all, regardless of whether they are males or females, as it held same consequences for both. However, research on gender in relation to COVID-19 has revealed that women experienced higher levels of anxiety, depression, and somatization in comparison to men (Laufer & Bitton, 2021). The research showed that more women showed concern over the health conditions of those around and were more reluctant than men to carry on with their jobs. This finding was associated to the role assigned to the women in the society, which makes them vulnerable to experience more psychiatric symptoms given the increased role burden (Laufer & Bitton, 2021).

Similarly, a study of data of 59 countries considering the psychosocial impact of COVID-19 indicated that women experienced more psychiatric symptoms than men. The research showed that women rated higher for stress, depression, anxiety, and trauma related distress in comparison to men (Kolakowsky-Hayner et al., 2021).

The reasons discussed for this disparity were the genetic vulnerabilities for women, along with their role of being primary caregivers, and socio-economic factors such as financial burden. Regarding age, women who were at the child-bearing age reported experiencing greater psychiatric symptoms due to health-related concerns and childbearing (Kolakowsky-Hayner et al., 2021). Another attributable factor identified for these gender differences was the gender violence that these women experienced (Soron et al., 2021).

The findings of Yan et al. (2021) research showed similar results where being a female, being of young age, educated, unemployed and those with poor health conditions were the participants of who were at greater risk of developing symptoms of stress. Thus, reflecting the interplay between the factors of gender, age, and socioeconomic status in determining the prevalence of psychiatric illnesses amongst individuals during the pandemic.

The socio-economic status plays a vital role in predicting for well-being especially in times of pandemic with uncertain job and sustenance conditions due to lock-down (Claes et al., 2021). Research on the Swiss population indicated that those who belonged to lower socio-economic class were impacted the most in terms of psychological effects due to COVID-19. The psychological conditions that were experienced by these participants were depression, trauma, perceived stress, fear, and isolation. The research also indicated

the association of these psychological symptoms with the changing job status due to COVID-19, specifically, unemployment and job uncertainty (Marmet et al., 2021).

The cultural context can also influence the concerns that individuals of a specific ethnicity, region or country can have about a phenomenon. Mukhtar (2020) identified Pakistan as a society that has a collectivistic culture where extended family units and social interactions are an essential feature. It is due to these social interactions and family support that presence of negative emotions, and loneliness are countered.

With COVID-19 hitting Pakistan in March 2020, lockdowns, social distancing, quarantine, and self-isolation became common practices which led to development of psychological problems (Mukhtar, 2020; Mumtaz, 2020). Along with this, the economic aspects such as people losing their jobs and struggling financially contributed towards a rise in psychiatric symptoms being experienced by the general population (Mumtaz, 2020).

Research in Pakistan for prevalence of depression and anxiety symptoms among the general population during COVID-19 lockdown showed significant results. The findings indicated a prevalence of 39.9% for depression and 57.7% for anxiety (Ullah et al., 2022). The variable of gender was found to be significantly related to depression and anxiety, where women were at higher risk for depression (67.8%) and anxiety (43.8%) in comparison to men, which was 46.5% and 35.6%. In reference to demographic factors, education and monthly income were significantly related to presence of depressive symptoms while place of residence and the occupation of the participants were significantly related to both depression and anxiety.

While the findings of Aqeel et al.'s (2021) research showed that the prevalence for anxiety disorders was higher in comparison to those of depressive disorders. The research also showed a negative relationship between mental health, illness perception, anxiety, and depressive symptoms. Whereas the regression analysis showed depression and anxiety symptoms to be the mediating factors for the relationship between mental health and present perception of illness (Aqeel et al., 2021). Imran et al's (2022) research also supported similar findings in regard to prevalence of psychiatric symptoms who had tested positive for COVID. The research findings accounted for adjustment disorder (67.5%), acute stress disorder (3.5%), anxiety symptoms (16.7%), depressive symptoms (18.4%) and insomnia (29.8%) amongst the study population.

Hypotheses

Hypothesis 1: Women have higher rates of symptoms of somatization, depression, and anxiety compared to men.

Hypothesis 2: Perceived stress and Coronavirus Anxiety predicts overall symptoms of somatization, depression and anxiety during the COVID-19 Pandemic.

Method

The study employed cross sectional research design.

Participants

There were 320 individuals who participated in the study employed through non probability purposive sampling technique. Inclusion criteria included age of at least 16 years (the age of consent in Pakistan), literate in English, and able to access the internet to complete the questionnaire. After deletion of missing data, the sample totaled 320 participants. Details of the demographic information of the sample is given in

Table 1. The mean age of the sample was 32.6 (*SD* = 14.1) years and there was an almost equal proportion of women (53.4%) and men (46.6%). The participants were primarily single (57.4%) or married (41.1%), with only a small amount divorced/separated (1.2%) or Widowed (0.3%). The socioeconomic status of the sample on average was middle, upper middle (*M* = 24.54; *SD* = 4.8) but ranged from lower, upper lower class to upper class. Participants were primarily Muslim (86.2%) and from the Punjab region (82.2%).

Table 1: Demographic Characteristics of Participants

Variable	M (SD)	Range	Frequency (%)
Age	32.2 (13.8)	17-88	
Gender			
Men			150 (46.9)
Women			170 (53.1)
Marital Status			
Single			187 (58.4)
Married			133 (41.6)
Family System			
Joint			114 (35.6)
Nuclear			206 (64.4)
Socioeconomic Status (SES)*	24.4 (4.7)	5-29	
Religion			
Muslim			275 (85.9)
Christian			31 (9.7)
Other			4 (1.3)
Prefer not to answer			10 (3.1)
Region**			
Punjab			264 (82.5)
Sindh			23 (7.2)
KPK			32 (10.0)

Note. *SES is represented as a scale from upper (from 26 to 29); middle, upper middle (from 16 to 25); lower middle (11 to 15); lower, upper lower (5 to 10); lower (1 to 4); **one person did not report their region.

The sample included representation from three provinces of the country, different socioeconomic classes and two family systems.

Measurement Tools

The measurement tools used in the study are described in this section. Coronavirus Anxiety Scale (CAS; Lee, 2020)- The CAS (Lee, 2020) was a five-item inventory to measure anxiety about the coronavirus and reported to discriminate well between people with and without dysfunctional anxiety. The cut off score was 9 and above, also the scale reported to have sensitivity and specificity.

Demographic Form – a demographic form was specifically was designed for this study to record personal characteristics of the participants.

Perceived Stress Scale (PSS) – was used to assess stress from responses rated on 5 point rating scale ranging from 0 (never) to 4 (very often). The scores were categorized in three categories from low stress to high perceived stress.

Brief Symptom Inventory-18 (BSI-18; Derogatis, 2001) – was used to record psychiatric symptoms experienced by the participants. It included three 6 item scales of somatization, anxiety and depression, global severity index.

Procedure

This study was conducted using an online survey through Google Forms. Participants were recruited using snowball sampling. The researchers sent the link to their social network along with a request to forward the link to anyone who might be interested in participation. Following the informed consent page, participants were directed to fill the demographics page, including age, gender, marital status, family structure, socioeconomic status (as measured by the socioeconomic scale by Kuppuswamy (1976) adapted for Pakistan by Aggarwal et al, (2005), religion, and region. The next pages contained the CAS, PSS, and BSI-18. The entire survey required roughly 20 minutes to complete.

This study was approved by the Institutional Review Board of Forman Christian College (A Chartered University) for ethical soundness (IRB # IRB-238/06-2020). All ethical considerations, such as informed consent, voluntary participation, and anonymity, were maintained and there were no ethical breaches during the duration of the study. IBM Statistics Subscription was used to analyze the data. Descriptive statistics were computed for demographics and measurement tools. Independent samples t-tests were computed to answer the first hypothesis. To answer the second hypothesis, a hierarchical regression model was computed.

Analysis

Findings of the descriptive statistical analyses of the measurement tools used in the study are presented in table 2

Table 2: Descriptive Statistics of the Participant's Scores

Measurement Tool	N of Items	Mean	SD	Range	α
CAS	5	2.36	3.49	0-18	.849
PSS	4	6.69	3.44	0-16	.656
BSI-18	18	19.49	17.77	0-70	.950
Depression	6	7.51	6.69	0-24	.869
Anxiety	6	6.65	6.66	0-24	.903
Somatization	6	5.33	5.68	0-24	.863

Note. ; BSI-18 = Brief Symptom Inventory-18 Item; CAS = Coronavirus Anxiety Scale; PSS = Perceived Stress Scaleα = Cronbach's Alpha

Hypothesis 1: Women will have higher rates of symptoms of somatization, depression, and anxiety compared to men.

To answer this hypothesis, independent samples t tests were computed for BSI-18 total somatization, BSI-18 total depression, and BSI-18 total anxiety respectively. The findings of the independent samples t-tests are presented in Table 3.

Table 3: Gender Differences on Depression, Anxiety and Somatization Scores

	Men		Women				95% Confidence	
	M	SD	M	SD	df	T	Interval	
Depression	5.16	5.63	9.59	6.88	318	-6.332*	-5.804	-3.052
Anxiety	4.40	5.26	8.64	7.13	318	-6.100*	-5.609	-2.873
Somatization	3.77	4.81	6.71	6.04	318	-4.841*	-4.134	-1.745

*$p < .001$.

On all subscales of the BSI-18, women reported significantly higher levels of symptoms [depression: $t(324) = -6.184$, $p < .001$; anxiety: $t(324) = -4.797$, $p < .001$; somatization: $t(324) = -5.927$, $p < .001$]. The effect size as measured by Cohen's d was large (depression: -.701; Anxiety: -.671; Somatization: -.535).

Hypothesis 2: After controlling for demographic variables, perceived stress and Coronavirus Anxiety will predict overall symptoms of somatization, depression and anxiety during the COVID-19 Pandemic.

To answer the second hypothesis, a hierarchical regression model was employed to evaluate the specific predictive value of Coronavirus Anxiety on overall psychiatric symptoms (BSI-18 total). In the first step, demographic variables (e.g., age, family system, gender, marital status, and socioeconomic status) were entered, followed by perceived stress, and, finally, Coronavirus Anxiety. The results of the regression analysis are displayed in Table 4.

Table 4: Results of Hierarchical Regression Analysis for Psychiatric Symptoms

Predictors	B	β	T	R	R^2	$R^2\Delta$	FΔ	
Model 1				.428	.183			5, 314
(Constant)	26.057		4.462**					
Age	-.117	-.091	-1.273					
Marital Status	-7.174	-.199	-2.839*					
Gender	8.474	.238	4.304**					
Family System	-.330	-.009	-.173					
SES	-.168	-.044	-.749					
Model 2				.659	.434	.251	138.906**	1, 313
(Constant)	-3.288		-.601					
Age	.035	.027	.454					
Marital Status	-3.654	-.102	-1.717					
Gender	5.891	.166	3.558**					
Family System	-2.873	.000	.000					
SES	.023	.006	.125					
PSS	2.908	.563	11.786**					
Model 3				.728	.529	.095	63.014**	1, 312
(Constant)	-4.789		-.958					
Age	.058	.045	.815					
Marital Status	-4.570	-.127	-2.347*					
Gender	2.795	.079	1.789					
Family System	.101	.003	.069					
SES	.067	.018	.393					
PSS	2.554	.495	11.118**					
CAS	1.703	.334	7.938**					

Note. PSS = Perceived Stress Scale; CAS= Coronavirus Anxiety Scale
*p < .01; ** p < .001

When other variables were controlled then coronavirus anxiety and perceived stress were observed to significant predictors of psychopathology most specifically depression, somatization and anxiety.

Discussion

COVID-19 emerged as a medical emergency that exposed the world to many novel challenges and brought attention to various factors that contribute to our wellbeing and/or affect the outcome of health practices. Psychological wellbeing and risk factors related to it are likely to get affected by a wide range of personal,

social and cultural factors, from which gender emerge as one of the most notable factor (Afifi, 2007). In general, literature links gender with varied pattern of coping (Tsukamoto et al., 2021) and psychological disorders (Laufer & Bitton, 2021). Interestingly, male participants in present study scored significantly better on all dimensions of psychological health which falls in line with findings of other researches observing significantly lower rates of psychological distress in men compared to women (Afifi, 2007; Viretrio et al., 2021). There are many studies that stressed the need to explore gender differences in presentation of mental health issues experienced during covid-19 pandemic (Laufer and Bitton, 2021; Tsukamoto et al., 2021). The higher scores of females on depression, anxiety and somatization in current study can be explained in light of other researchers (Idowue et al., 2022) that concluded that women are most likely to use emotion focused coping skills and score high on anxiety trait (Serpytis et al., 2018; Wenjuan et al., 2020). Because of using emotion focused coping women are also likely to rely more on social support which was significantly affected during covid-19 pandemic due to social restrictions as availability of social support is frequently linked with lower levels of psychological distress even during covid-19 (Nazim et al., 2022) This might have increased the anxiety of female participants. This finding also highlighted the fact that women need more care in difficult situations to help them improve their mental health which in turn will leave better impact on their physical health as well.

Women are reported to have higher rates of somatization (Piccinelli & Simon, 1997) probably because of the emotional repression which is reported as one of the common attributional factor in somatization. Another reason of females scoring higher on somatization might be that societies are usually more accepting of somatic problems in women compared to men which makes it less threatening for females to express their psychological distress in somatic problems.

COVID-19 emerged as a one of the most appalling health threat of modern times, disrupting normal life and changing lifestyles significantly across the world (Majeed et al., 2021; Nazim et al., 2022). COVID-19 brought in a lot of uncertainty resulting in illnesses related to stress and anxiety in many individuals (Nazim et al., 2022). The increased levels of anxiety and stress were also found to be a significant contributor to general psychological distress during pandemic (Laufer & Bilton, 2021). Findings of the present study also supported this as high levels of psychological distress as was observed in participants of the present study.

COVID-19 was noted to be one of the strongest health threats of modern times, and COVID-19 related anxiety turned out to be a significant predictor of psychiatric symptoms as was reported by many researches conducted in different countries including Pakistan(Aqeel et al., 2021; Laufer & Bilton, 2021). It was observed that since the start of pandemic, perception of it's nature and its wide and rapid spread led to large scale changes in lifestyles across the globe. COVID-19 related sanctions had an evident impact on lifestyle, social activities and social engagement of individuals which consequently affected their psychological health whether they contracted the virus or not (Mumtaz, 2020). The feared vulnerability of contracting the virus, absence of vaccine, rapidly changing prevention guidelines, uncertainty regarding lockdown duration were observed to have disproportionate impact on well-being particularly psychological well being (Jimenez et al., 2020; Weirenga et al., 2021).

Similarly, heightened stress about corona virus susceptibility was particularly linked with clinically significant anxiety and depression (Goodwin et al., 2020). Uncertainty, ambiguity and abrupt social changes are generally overwhelming for most people and result in anxiety and stress. COVID-19 had all three characteristics and caused anxiety and stress in a large majority of world population. The lifestyle changes demanded by the situation were not only new for most but also disrupted the social interaction and social support that was available previously. Many studies have already established that abrupt lifestyle changes and lack of social support relate with low resilience and various psychological disturbances (Nazim et al., 2022; Shin & Park, 2022). This might be one of the reasons behind high levels of psychological distress reported by most of the respondents in present study.

The current study involved a small sample size but provided some valuable insights into coronavirus related psychological distress among Pakistani population. The results will be helpful in designing future researches in this area and developing management plan for those who suffer from covid-19 related anxiety and distress.

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