

CORONA VIRUS CONTAGION: ESTIMATION OF MENTAL AND PSYCHOLOGICAL IMPACT “COVID – 19 FEAR; A DESPERATE ESCAPE”

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ABSTRACT

Objective: To study the mental and psychological impact of “COVID-19” Fear in Pakistani population.

Study Design: Cross-sectional study.

Place and Duration of Study: Tertiary Care Institute, Rawalpindi, from Feb 2020 to Apr 2020.

Methodology: This study constituted of a paper-based and web-based questionnaire. A pilot study carried out at 15-20 participants for questionnaire validation and reviewed by independent experts for face validity, a final questionnaire comprised of 10 questions in addition to demographic profile. The minimum sample size required for the study was 359, where the prevalence of anxiety and depression related to disease was considered to be 63%.

Results: A total of 1500 participants participated in the study and data extracted from their responses. Age range 24-61 years of sample was with mean age was 36.66 ± 9.0 years. 1125 (75%) participants were males whereas 375 (25%) were females. In reply of are you depressed of self-isolation and social distancing 855 (57%) said yes whereas 645 (43%) disagreed (p -value <0.001). In response to children behaviour during pandemic lockdown condition 255 (17%) participants stated no change, 315 (21%) said scared and 930 (62%) replied aggressive/irritable (p -value 0.021).

Conclusion: It is frightening for the general population to be amid a worldwide pandemic, therefore focused attention on reassurance should be paid as most of the patients recover without hospitalization.

Keywords: Coronavirus, Mental Health, Pandemic.

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INTRODUCTION

Recently recognized Coronavirus belongs to a widespread family of viruses. These entities can cause various human diseases. The range of disability varies from acute common cold to full-blown severe acute respiratory illness syndrome. It was named Corona Virus Disease 2019 by the World Health Organization on February 11, 2020, abbreviated as COVID-19¹. Initially declared as an outbreak, in March 2020, the World Health Organization evaluated COVID to be categorized as a Global Health issue and pandemic².

This ongoing pandemic is a type of rare and extreme crisis scenario, generating morbidity, mortality, and stress globally. In addition to its physical infliction, the general population of all age groups, from all over the world is impacted

by the storm of social stigma of fear, depression, and anxiety³.

Due to severe pulmonary disease, imposing a greater risk to front line healthcare facilitator and law enforcement personnel, fear and stigma are prevailing due to enormous misinformation and subsequent unfounded rumours. Solidarity is the need of hour in changing behaviour against this stigma. Administrative authorities have to play an epic role to lessen prevailing fear and discrimination^{4,5}.

The mainstay of prevention of this widespread disease is being controlled by involving isolation, quarantine and social distancing. Globally affected areas are in lockdown state⁶. Cancellation of transports, being locked up in a home, timely opening of canteen stores, empty wandering roads, uncertainty regarding disease pathogenesis, safety aspects of already chronically ill patients and widespread prevalence of conspiracy theories on social media has put

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Received: 07 Apr 2020; revised received: 11 Jun 2020; accepted: 12 Jun 2020

humans in severe anxiety state that world health organization director of global infectious hazard preparedness Sylvie Brian said " fear and stigma go together and when people fear, they tend to stigmatize other groups and what we try to do is to reduce this fear"⁷.

An Indian labour mistakenly thought to have COVID 19 committed suicide to protect his villagers as he was too scared of himself infecting others with this deadly disease⁸.

German foreign minister is alleged to have committed suicide. It was then later disclosed by his close friend that he was scared of an economic crisis to an extent to end up his life by himself⁹.

The COVID pandemic was confirmed to approach Pakistan borders in February 2020 with the highest toll in Punjab province. Country wide lockdowns have been imposed, thought to be implemented until mid-April to effectively stem outbreaks¹⁰.

Since this disease regarded as a pandemic, is not merely a disease but a spectrum of emblems characterizing despair stirred up with fear and anxiety. Therefore our objective was to assess the mental and psychological well-being of the general population in Pakistan.

METHODOLOGY

This cross-sectional study was carried out at the Tertiary Care Institute at Rawalpindi from February 2020 to April 2020, approval was taken from the ethical research committee of the Institute (ERC Number - 229/ERC).

Methodology constituted of a web-based questionnaire devised by relevant studies on the subject. A pilot study carried out at 15-20 participants for questionnaire validation and reviewed by independent experts for face validity. The questionnaire comprised of 4structured multiple-choice questions (close-ended) with a variable number of stems in addition to information on the demographic profile. There is no statistical method that can be employed to validate the questionnaire in this case. After reliability and authenticity establishment via cross-validation

with the pilot study and experts overview web-based survey launched among participants to achieve a significant number of responses within a stipulated time. All questions aimed to detect psychological impact of coronavirus disease and imposed Lockdown. Feedback recollected from (100%) participants.

The minimum sample size required for this cross-sectional study was 359 [open epi calculator], with hypothesized % frequency of outcome factor in the population as $63\% \pm 5$, with (5%) margin of error and (95%) confidence levels where the prevalence of anxiety and depression related to COVID-19 was considered to be 63% as reported by Coe *et al*¹¹.

A non-probability consecutive sampling methodology was employed and the questionnaire was distributed among (n=1500) participants. Enlistment measures for the study were general population with adequate literacy level, appropriate mental health, no age and gender orientation were incorporated to survey their mindfulness for the subject.

Data entered and analyzed by using data management software IBM SPSS (version 23.0). The descriptive statistics of continuous variables presented as mean and standard deviation, while for categorical data frequencies and percentages used. Categorical grouped data analyzed by either Chi-square or Fischer-exact test as applicable. A *p*-value of ≤ 0.05 considered statistically significant.

RESULTS

A total of 1500 participants participated in the study and data extracted from their responses. Significance of responses pertinent to gender were analyzed by cross-tabulation. Age range 24–61 years of sample was with mean age was 36.66 ± 9.00 years. 1125 (75%) participants were males whereas 375 (25%) were females. In reply of are you depressed of self-isolation and social distancing 855 (57.0%) said yes whereas 645 (43%) disagreed (*p*-value 0.001) (table-II). In response to children behaviour during pandemic lockdown condition 255 (17%) participants stated

no change, 315 (21%) said scared and 930 (62%) replied aggressive/irritable (*p*-value 0.021). In response to are you experiencing more than usual anger 360 (24%) responded yes whereas 1140 (76.0%) said no. When asked about fear of being alleged of affecting others, 1230 (82%) and 270 (18%) said yes and no respectively. 1425 (95%) were concerned regarding food safety for family during lockdown were not 75 (5%). Regarding job safety 1320 (88%) were insecure however 180 (12%) were confident. When surveyed about

agencies (LEA) whereas 30 (2%) shared such experience. Significant concurrence of general population mental fears and psychological impact in terms of behaviour elaborated (table-III).

The following chart describes the percentages of the general population who were found to be apprehensive regarding the ongoing pandemic of COVID 19 (fig-1).

DISCUSSION

Data analysis of our research and study results supported our objective that COVID-19 pandemic is not only physical debilitation also causative in mental health deterioration. We found an amalgamated response to depressed of self-isolation and social distancing as 855 (57%) agreed whereas 645 (43%) disagreed. However, in response to children behaviour during pandemic lockdown condition 930 (62%) replied aggressive /irritable. There was enormous prevalence of insecurity regarding food articles and job during lockdown 1425 (95%) and 1320 (88%) respectively. Shadow of this torment is going to mark mind and souls even after when we would be able to vanquish this bug and bring resilience. COVID-19 reproducing effects on individuals victimized by the virus, furthermore has repercussions on the family of sufferer thus rendering frightful psychological effects on the entire population. Coe *et al* studied aspects of emotional strain caused by COVID-19 in the United States of America (USA) as illustrated below (fig-2)¹¹.

Dalton *et al* emphasized on providing psychological protection to children due to COVID-19 isolation and social distancing. In our study a statistically significant number of participants 62% (*p*-value <0.05) stated that children exhibit greater irritability and aggression under the prevailing scenario. Children and young adults constitute 42% of the global population, under current situation neglected because of imminent risk among the elderly, therefore timely measures should be taken for psycho education and inculcation of coping capabilities in children through effective communication to prevent irreparable psychological corrosion. It is pertinent to mention

Table-I: Questionnaire to assess mental and psychological impact.

Questionnaire	
Q1	Are you experiencing more than usual anger?
Q2	How would you describe the children behaviour during pandemic lockdown condition?
Q3	Are you afraid of being alleged of affecting others?
Q4	Are you depressed of self-isolation / social distancing?
Q5	Are you concerned regarding food safety for your family during a lockdown?
Q6	Do you think that the pandemic situation may affect your present job safety?
Q7	Do you think corona pandemic is fueling racial and ethnic discrimination?
Q8	How much time do you spend on surfing social media during pandemic lockdown condition?
Q9	Do you think social media is acting as a fertile ground for dangerous rumour-mongering?
Q10	Have you experienced being victimized by law enforcement agencies and personnel?

social media is acting as a fertile ground for dangerous rumour-mongering, 330 (22%) agreed however 1110 (74%) and were not sure 60 (4%). Generally 180 (12%), 465 (31%) and 855 (57%) participants spent <2 hours, 2-5 hours and >5 hours respectively on surfing social media during pandemic lockdown condition. 975 (65%) stated that they spent more than usual time on social media whereas 525 (35%) disagreed. 1470 (98%) denied of being victimized by Law enforcement

that this state of phobia and diversion of health authorities' eye on outbreak has put over 100,000 thalassemia patients lives at stake owing to shor-

Impact of Events Scale-Revised (IES-R) instrument. Out of 470 (94%), 68 (14.5%) participants displayed anxiety, 42 (8.9%) were positive for

Table-II: Concurrence between aggravation of anger and depression due to lock down.

		Are You Depressed of Self-Isolation / Social Distancing		p-value
		Yes	No	
Are you experiencing more than usual anger	Yes	180 (21.1%)	180 (27.9%)	0.002*
	No	675 (78.9%)	465 (72.1%)	

*Significant p-value; p-value was calculated by applying Fischer-exact test

Table-III: Co-relation between mental and psychological impact.

		Are You Experiencing More Than Usual Anger?		p-value
		Yes	No	
Are you afraid of being alleged of affecting others?	Yes	300 (83.3%)	930 (81.6%)	0.47
	No	60 (16.7%)	210 (18.4%)	
Are you concerned regarding food safety for your family during lockdown?	Yes	330 (91.7%)	1095 (96.1%)	0.001*
	No	30 (8.3%)	45 (3.9%)	
Do you think that pandemic situation may affect your present job safety?	Yes	345 (95.8%)	975 (85.5%)	<0.001
	No	15 (4.2%)	165 (14.5%)	

*Significant p-value; p-value was calculated by applying Fischer-exact test

tage of blood donations leading to insecurities of survival to little ones and their guardians¹².

Tan *et al* surveyed the psychological impact

depression, 31 (6.6%) for stress, and 36 (7.7%) for clinical concern of post-traumatic stress disorder. Anxiety prevalence ratio was higher among

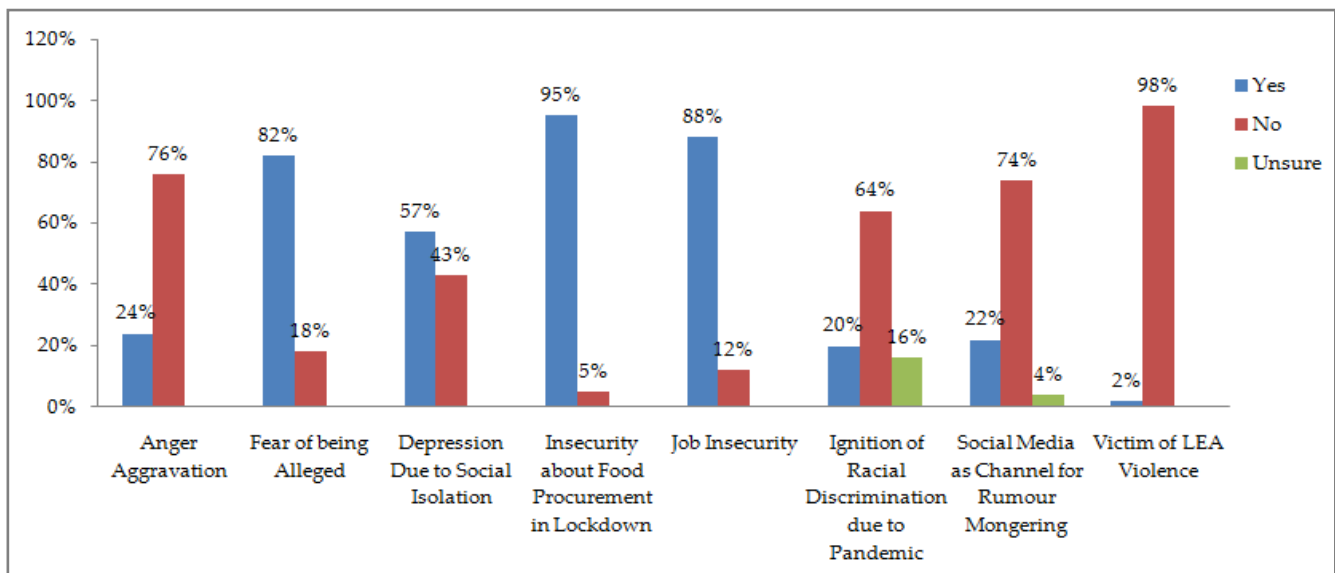


Figure-1: Apprehensions of General Population in COVID -19 Pandemic.

of the COVID-19 pandemic on health care workers, taking care of COVID-19 patients in Singapore via a self-administered questionnaire. The questionnaire addressed the Depression, Anxiety, and Stress Scales (DASS-21) and the

non medical health care workers than medical professionals (20.7% versus 10.8%; $p=0.011$)¹³.

Lai *et al* performed a cross sectional study to analyze factors associated with mental health outcomes among health care workers exposed

to coronavirus disease. 634 (50.4%) respondents endorsed depression, whereas anxiety was expressed by 560 (44.6%), insomnia exhibited by 427 (34%), and distress was prevalent among 899 (71.5%). When comparison made among various categories severe depression among physicians

0.003), anxiety (48 (5.1%) - 18 (5.5%) $p=0.046$) and insomnia (10 (1.0%) - 2 (0.6%) $p=0.02$)¹⁴.

Rossi *et al* studied via web-based survey impact of COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. Total 18147 indivi-

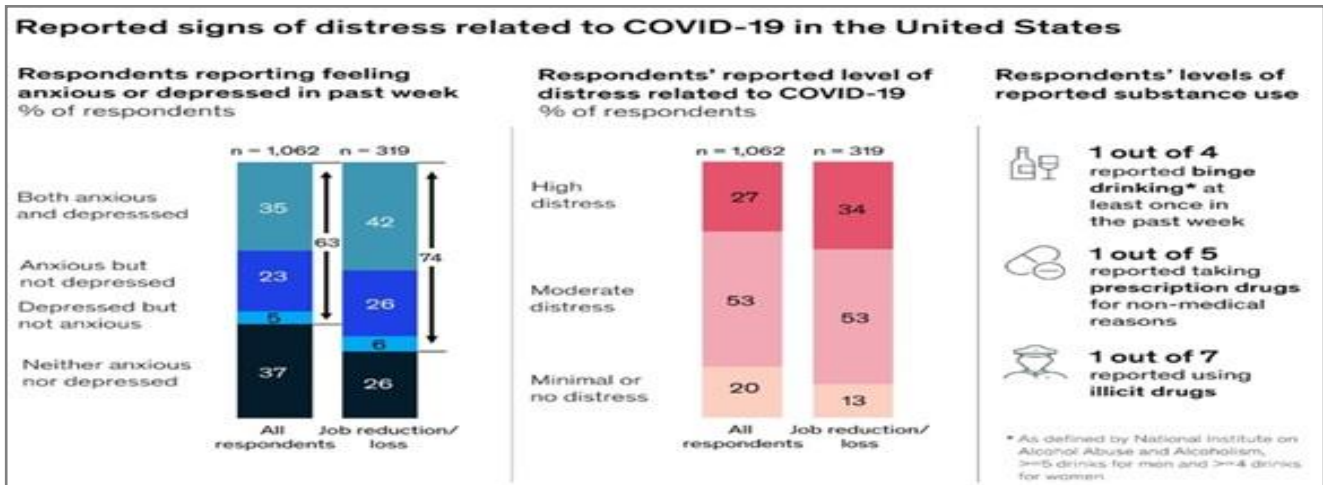


Figure-2: Mental health state in united states related to COVID-19¹¹.

versus nurses (24 (4.9%) - 54 (7.1%) $p=0.01$) was seen and severe anxiety among men versus women (10 (3.4%) - 56 (5.8%) $p=0.001$). Severe insomnia among frontline workers versus second-line workers (9 (1.7%) - 3 (0.4%) $p<0.001$) and severe distress among workers in Wuhan versus Hubei (96 (12.6%) - 19 (7.2%)). Secondary hospital workers were more severely affected

duals completed the questionnaire, respondents endorsing post-traumatic stress syndrome, depression, anxiety, insomnia, high perceived stress and adjustment disorder were 6604 (37%), 3084 (17.3%), 3700 (20.8%), 1301 (7.3%), 3895 (21.8%) and 4092 (22.9%), respectively. Symptoms were more pronounced in women and younger age. Quarantine, any recent COVID-related stressful life event, discontinued working activity working more than usual, having a loved one deceased by COVID-19 were responsible for post-traumatic stress syndrome, depression, perceived stress, and insomnia¹⁵.

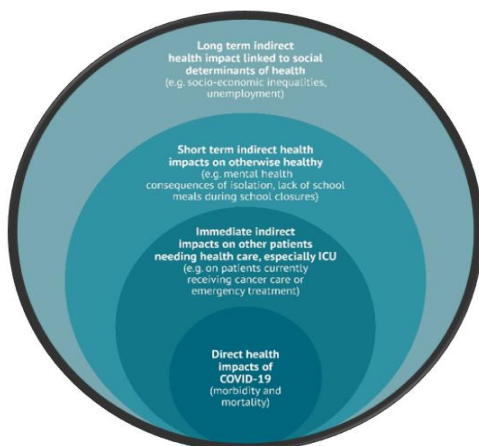


Figure-3: UK Response to COVID-19¹⁹

when compared with tertiary care hospital staffin terms of depression (53 (5.6%) - 25 (7.7%) $p=$

Roy *et al* studied knowledge, attitude, anxiety, and perceived mental healthcare needs in the Indian population during the COVID-19 pandemic. They evaluated that greater than (80%) of the public had preconceived thoughts of COVID-19 and (72%) reported the need to use gloves, and sanitizers. Insomnia, paranoia about acquiring COVID-19 infection, and distress related social media was expressed in (12.5%), (37.8%), and (36.4%) respondents respectively whereas (22%) of our respondents expressed social media related exaggeration and distress.

Apprehended mental healthcare was reported in more than (80%) of participants¹⁶.

Zhang *et al* conducted a cross-sectional study to analyze the impact of the COVID-19 pandemic on mental health and quality of life among residents of China. An online survey was distributed to evaluate the Impact of Event Scale (IES), indicators of negative mental health impacts, social and family support, and mental health-related lifestyle changes. Out of a total of 263 respondents mean IES score in the participants was 13.6 ± 7.7 , reflecting a mild stressful impact. (7.6%) of participants had an IES score ≥ 26 representing severe impact. (53.3%) did not feel helpless due to the pandemic whereas (52.1%) of participants were terrified. (57.8%–77.9%) participants expressed an increased sense of solidarity and emotional bonding. As per their analysis, it was a neutral kind of response as seen with our participants (57%)¹⁷.

Balkhi *et al* surveyed psychological and behavioural responses to the coronavirus (COVID-19) Pandemic in Karachi Pakistan via a structured self-administered questionnaire and distributed among 400 participants. Anxiety was represented in (62.5%) of the total. Fear of market places was pronounced in (88.8%), raised concerns for the health of family members among (94.5%) and (71%) were under-confident about pandemic control arrangements as in our study results participants were concerned about procurement of necessities about their family members (95%). >35 years of age was associated with a greater level of fear even at home ($p=0.06$). There was an increased level of anxiety among respondents less than 35 years old due to greater social media usage and hype ($p=0.04$). Adapting in behaviour endorsed by participants was reduced physical contact (86.5%) and visits to healthcare facilities (74.5%), cancelled plans (84.5%), and washing hands more often (87%)¹⁸.

Our study was crucial as it emphasized on the inescapable psychological impact of a pandemic on the community as seasoned from past epidemics. There are certain degree of concerns

regarding healthcare facilities, the safety of loved ones, provision of necessities to the family, financial security all evolved with this pandemic. Therefore, besides calling focus to this perturbing aspect, other haunted afflictions will be addressed to prevent phantom impact. Concerned authorities need to develop time-honoured counterfeit based on imitation of developed nations (model of United Kingdom illustrated in (fig-3)¹⁹ to encounter deep-rooted psychological blemishes caused by pandemic as time served with dead and buried Ebola, Severe Acute Respiratory Syndrome, etc.

CONCLUSION

It is frightening for the general population to be amid a worldwide pandemic, therefore focused attention on reassurance should be paid as most of the patients recover without hospitalization.

CONFLICT OF INTEREST

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

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