



# Impact of COVID-19 Pandemic and Lockdown Measures on Mental Health

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## Significance:

COVID-19 pandemic thrust on mental health and mitigating the hazardous effects of COVID-19 on mental health is a Global public health priority. This pandemic implies significant impact on mental health.

## Abstract

**Background:** An Uncontrolled Novel COVID-19 started from Wuhan city of China in Late 2019 and spread worldwide has called for unprecedented measures, to prevent it Government of Pakistan imposed lockdown on the entire country. Lockdown has a huge impact and affected on mental health of population. The present study aims to assess the effect of COVID-19 on mental health of population and identify the coping strategies used to overcome this mental health issues caused by pandemic.

**Methods:** An online survey was administered from 26 May-14 June 2020 to 398 participants. Post Hoc test was performed to examine the associations between general health questionnaire GHQ-12 and socio-economic variables.

**Results:** Losing jobs due to pandemic and lockdown situation and using negative coping strategies were the factors associated with psychological disorders. This study shows high rates of anxiety and stress in younger population specifically in young women with higher odds of endorsing a worst mental health outcome. Outcomes were associated with a number of COVID-19 related risk factors such as challenging family relations, loss of job, no physical activity, financial burden, experiencing stress full events and suicidal ideation.

**Conclusion:** The present situation requires awareness in public via media which could be helpful to deal with this. This present article provides details of COVID-19 pandemic situation on mental health of younger population

## Introduction

Wuhan city of China reported first case viral pneumonia due to unknown microbial pathogen and emerged as new corona virus, which was temporarily named novel corona virus (COVID-19) (1). On January 30, 2020, the world health organization declared global public health emergency of a new corona virus (2019-nCov) and become a global threat of the twenty first century(2).

Corona virus does not only affect the physical health as well as mental health of people(3). On 18 February 2020, 57805 people have been reported as confirmed cases of covid-19, leading to more than 2000 mortalities reported across the 31 provinces of China. This outbreak caused panic in public and affected the mental health (4). The novel corona virus has substantially changed public and private life in Pakistan and rest of the world. To prevent the spread of disease government first called community via media and governance rules to change social behaviors and then imposed lockdown with protective measures such as schools and university closure and stay safe at home orders (5, 6). Adherence to protective measures was quite lower than quarantine facilities has been added(7). Addressing the impact of COVID-19 gender was consistent predictor of psychological outcome and female were found to be more affected by COVID-19 than male, showing lower anxiety level. Another predictor, age such as group of 18-30 and more than 60 years were at higher risk of getting infected and have found to be higher level of psychological stress (8).

In the current situation, we move beyond the focus of protective measure and how does it affected on their physical health but now we are focused on COVID-19 pandemic impact on mental health at community level (9). Overall, literature supports the argument that isolation, lockdown in the country has a huge impact on people's lives, affecting mental health of wellbeing. Therefore, in current scenario negative effect of isolation must be addressed alongside with the virus outbreak. The present study administered and analyze an online survey in general population of Pakistan during COVID-19 pandemic. A self-reported questionnaire integrated with general health questionnaire GHQ-12 and coping strategies was designed to measure psychological distress during pandemic. GHQ questionnaire assesses concentration ability, sleep disturbance, losing confidence, worthless feelings, suicidal ideations, decision making ability, unhappiness, daily activities and useful role in society. The results may assist policy makers and healthcare professionals to correct the mental health disorder by using coping strategies used in this study in the wake of COVID-19 pandemic in Pakistan and other countries.

## Methods:

On May 10, approximately 2 months after the lock down in Pakistan and three months after the World health

organization announced the emergence of novel corona virus as public health emergency globally. A cross sectional study was performed from May 26-14 June, 2020. Only adults >18 years of age, who were able to provide informed consent, recruited in this study using convenience and snow balling sampling methods to distribute question online through survey monkey. No monetary reward was provided to complete this survey. Participant answered the questionnaires anonymously on the survey from May 10<sup>th</sup> to 6<sup>th</sup> June, 2020. All participants reported their demographic profile, COVID-19 related information and completed questionnaire which assessed their general health questionnaire GHQ-12.

Participant personal information including name were not asked to maintain and protect the confidentiality. General health questionnaire GHQ-12 was used to assess the mental health of participant during Covid-19 situation. The questionnaire consists of 12 items, and response option range from 0 (never) to 4 (usually) and High score indicating higher degrees of disturbance of the general health status. Score higher than 15 points indicating towards psychological problems. Copying strategies were used as the final part of the questionnaire was originally developed by Chinese respondents and has shown reliability and effectiveness. Higher copying scale indicates more frequent use of negative coping strategies. All respondent provides Informed consent.

All statistical analysis was performed using SPSS 24.0 with  $p < 0.05$  as the level of significance. The demographic data were described in the form of frequencies, Mean and standard deviation (SD). One-way ANOVA and post hoc comparisons were used to assess the demographic status and mental health level (GHQ) and coping style. We also used the logistic regression to explore the most influencing factor on mental health during pandemic situation.

### Results:

Of the 800 invitations to the participants from 5 provinces in Pakistan, 398 completed the online survey. Therefore 398 respondents participated in this cross sectional online survey. The demographic information of the participant was shown in the table 1. Their age ranges between 18-25 years old (82.8%) and most of the participants were single and majority were students. 85.5% of the participants were un-employed and among them 10% were previously employed. During COVID-19 pandemic they lost their jobs.

One-way ANOVA test revealed significant difference in the GHQ and coping strategies between male and females. This study found significant effect on un-employment in GHQ-12. Post hoc test was performed to

identify the association between variables. To determine the factors that predict anxiety and depression symptoms, univariate regression was conducted.

**Table 1:** Copying Strategies & GHQ-12

Variables	GHQ-12		Negative Coping		
	M ± SD	P	M ± SD	P	
Gender	Female	12.13 ± 5.22	< 0.01	18.14 ± 5.01	<0.01
	Male	12.77 ± 6.68		19.85 ± 6.05	
Age	18-25	12.35 ± 6.56	<0.02	18.75 ± 6.04	<0.42
	26-35	11.92 ± 5.67		18.59 ± 5.36	
	36-45	10.11 ± 6.11		20.06 ± 5.56	
	46-55	9.23 ± 5.75		19.44 ± 5.64	
	>55	8.34 ± 4.66		20.05 ± 6.01	

In this study we identify the factors that influenced mental health among the youth of Pakistan and approximately after the second biggest lockdown from third week to first week of June 2020, 35% of the participants were reported having psychological symptoms and among them 9.6% were having this condition previously. Losing jobs due to pandemic and lockdown situation and using negative coping strategies were the factors associated with psychological disorders. In online survey, found that there were more young people involved in psychological disorders and this ratio is higher than other studies conducted in different environment(10, 11).

During lockdown, participants use coping methods such as actively participated in daily exercise (30.1%), had nap (48.7%), write up in journal (9.8%), housework (47.4%), watched a movie or seasons (49.4%), chatted to someone (51.8%), remote work (20.85) and others (13.4%).

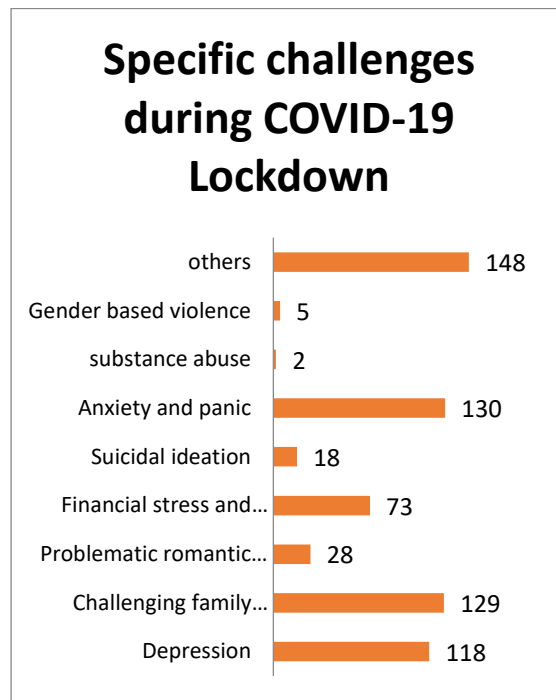
### Discussion

In this study, we reported impact for the first time on the mental health in younger population in context of COVID-19 outbreak and lockdown measures. To the best of our knowledge this is study with large sample size cover the outcome of mental health. This study shows high rates of anxiety and stress in younger population specifically in young women with higher odds of endorsing a worst mental health outcome.

**Table 2:** Characteristics and Activities During Lockdown Measures

Characteristic	Group	N (%)
People Living in house	Alone	3 (0.7)
	1-2 people	10 (2.4)
	3-5 people	215 (52.6)
	6-9 people	160 (39.1)
	>10	21 (5.1)
Spend time outside/day before Lockdown	0-1	65(15.9)
	2-3	32(7.8)
	4-5	47(11.5)
	6-8	185(45.1)
	>8	81(19.8)
Spend time outside during Lockdown	0-1	317(77.3)
	2-3	57(13.9)
	4-5	15(3.7)
	6-8	11(2.7)
	>8	10(2.4)
Feeling of Stress Before Lockdown	Very stressed	43(10.5)
	Stressed	117(28.0)
	Neither stressed nor calm	162(39.6)
	Calm	77(18.8)
	Very Calm	10 (2.4)
Feeling of Stress during Lockdown	Very stressed	73(17.8)
	Stressed	128(31.3)
	Neither stressed nor calm	149(36.4)
	Calm	48(11.7)
	Very calm	11(2.7)
Activities During Lockdown	Chatting to people I live with	185(45.2)
	Chatting to friends online	127(31.1)
	Talking to family and friends on phone	103(25.2)
	Video calling	174(42.5)
	Whats app groups	197(48.2)
Sources of COVID-19 information	Visited friends and relatives	29 (7.1)
	Press and media	295 (72.1)
	Friends and Family	125(30.6)
	Social Media	270(66)
	Whatsapp	139(34)
	Do not get any updates	14(3.4)

**Table 3:** Specific Challenges During COVID-19 Lockdown



**Table 4 Association of Predictable Factors with COVID-19 Pandemic**

Predictor	Estimate	EXP(B)	95% CI		P
Gender, Female	-0.621	1.754	0.411	0.722	<0.001
Working Status					
Employed	0.221	0.808	-0.555	0.118	0.208
Unemployed	0.147	1.751	0.250	0.149	0.044
History of Stressful Situation	0.234	1.270	0.055		0.008
History of Medical Problem	0.208	1.234	0.002	0.403	0.001

Outcomes were associated with a number of COVID-19 related risk factors such as challenging family relations, loss of job, no physical activity, financial burden, experiencing other stress full events and suicidal ideation. Some people had previous psychiatric illness including bipolar disorder 5.9%, obsessive compulsive disorder OCD 2.9% and schizophrenia in 0.7% of participants. This could be the limitation of the study, as previous illness can be confounding factors and self-assessment on online survey can be biased but avoid reporting those issues in this paper would be injustice

and biasness. COVID-19 affecting mental health on population regardless of other factors, such as previous history of psychiatric illness. Compared to the previous report on mental health and COVID-19 in the Italian population and our data suggest increase in incidence of mental health issues such as depression and anxiety symptoms(12). Tools used in this study that may only reveal presence of mental disorder and can be confounded by previous history, so association between pre-covid condition cannot be proposed(13). Earlier reports of china on mental health outcomes related to COVID-19 on large sample size, our study had lower rate of anxiety and depression and higher level of panic and stress. This study also shows positive association with female gender and age were confirmed, suggesting that younger population specifically young females may be at higher risk of acquiring mental disorder(8). Compared to other study restricted movement in lockdown period make people question or puzzled about their power to make a decision, all challenges and personal growth affecting on mental health of wellbeing(14).

### Conclusion

Our study revealed that COVID-19 pandemic situation and imposing the lockdown was the only method to contain this disease and government failure to do so and that impact on mental health because longer the lockdown breaking the economy and increasing the financial burden over the population. Policy makers are not only need to consider how people get affected by this pandemic due to their changed decisions on whether to continue lockdown or not but also how their choices influence the mental well-being of their population.

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