

*Original Research Article*

# Psychological Effects of COVID-19 on Mental Health: An ICT-based Perspective

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## Abstract

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The purpose of this study is to ascertain the immediate effect of the Coronavirus Disease 2019 (COVID-19) on mental health. For data collection, a survey was distributed on the social media platform in July 2020. Participants completed a validated questionnaire to evaluate the effect of COVID-19 on mental health. The research included a total of 173 individuals, 81 men and 92 females from eight countries. Out of 173 respondents, 108 are graduates, and their ages were almost between 16 and 25. According to this study, most of the young groups are predisposed to mental health issues. Thus, this was surprising proof that viral illnesses, such as COVID-19 may substantially impact the mental health of children and adolescents. The effect of the COVID-19 pandemic was moderately distressing in our poll, although the pandemic is continuing. These findings would be utilised to get a better understanding of the COVID-19 outbreak's psychological impact.

**Keywords:** Coronavirus, Mental health, COVID-19 Pandemic outbreak, COVID-19 impact on Mental health

## INTRODUCTION

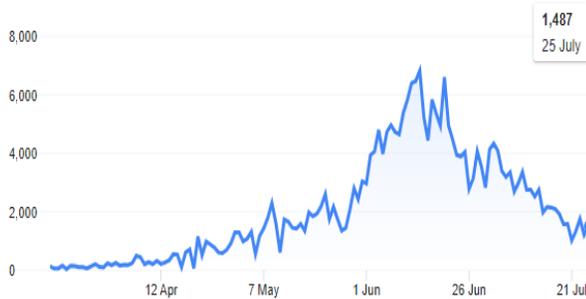
Between December 2019 and early 2020, the COVID-19 pandemic (World Health Organization, 2005) began in Wuhan, China, and expanded countrywide. As a result, the Chinese government, and the World Health Organization (WHO) begin cooperating on the pandemic. The causative agent was identified as a novel virus called Novel Corona Virus owing to its outer structure resembling a crown. On the other hand, on 11 January, China reported the death of a 61-year-old man due to COVID-19 (Du et al., 2020; Wang et al., 2021). After a few weeks, the virus quickly spread across the world (Islam et al., 2020). The virus spreads and harms people's physical and mental health (Islam et al., 2020) (Sareen et al., 2013). On 30 January 2020, the WHO designated the outbreak a Public Health Emergency of International Concern (World Health Organization, 2005; World Health Organization, 2020a). On 11 February, the WHO reported the discovery of a new coronavirus illness called COVID-19 (Jee, 2020), and on 11th March, the WHO designated COVID-19 a pandemic, with about 215

nations impacted to date (World Health Organization, 2020b).

According to the World Health Organization, there have been reported 15745102 COVID-19 cases worldwide, including 273000 in Pakistan (Figure 1). In most countries like Pakistan, rigorous quarantine has isolated many individuals and impacted many areas of their life (Liu et al., 2020; WHO, 2020b; World Health Organization, 2020b).

The COVID-19 pandemic has harmed people's physical and emotional health and wellbeing. Numerous psychological issues were also triggered including depression, panic disorder, and anxiety (Sareen et al., 2013). This research aims to determine the extent to which this virus is prevalent and how dangerous it is. A data set on psychological dread was compiled to assess society's mental health. As a result, it adopts mental health policies that enable it to deal with the Challenge quickly and effectively and to assist individuals in overcoming the pandemic. Mental health research is

interdisciplinary in nature, including social science, psychology, neuroscience, psychiatry, behavioral science, and clinical medicine (Holmes et al., 2020). As a result, the purpose of this research is to determine the immediate effect of the COVID-19 pandemic on mental health using information and communication technology (ICT) tools, with Pakistan having the most prominent case study. Figure 1



**Figure 1.** Reported Covid-19 cases in Pakistan from March 2020

## Literature Review

Numerous studies have been conducted on the effect of COVID-19 on mental health. Google Scholar and other academic search engines were utilised to perform the related research. Additionally, the WHO website was used to confirm Corona cases and fatalities. The following subsections detail the literature review on the general population's mental health, Coronavirus patients, and healthcare professionals.

### ***Effects of COVID19 on the general population's mental health***

The first instance of the COVID-19 pandemic was discovered in December 2019 in Wuhan, China (Galea et al., 2020). Since then, the illness has continued to grow at an alarming rate, to the point that it is causing mental health problems in both short and long term. COVID-19's influence on mental health is severe at that extend that the United Kingdom's Department of Mental Health was the first to offer helpful advice based on the disease's psychological effect on mental disorders through anxiety, depression, and fear (Shatla et al., 2020). Additionally, the WHO reported that from 30th December 2019 to 15th June 2020 (WHO, 2020a), COVID-19 instances total 7,823,289, and total fatalities were 431 541 worldwide.

Ipsos MORI conducted two polls (Mahase, 2020) with 1099 respondents and another by mental health research organisation MQ with 2198 respondents. The polls were performed online and drew on a representative sample of

the general population. The two votes aimed to ascertain public opinion on mental health and COVID-19; the surveys were conducted in late March 2020 and included 24 specialists. Participants discuss various mental illnesses such as anxiety, depression, and fear. Pneumonia may be caused by mental health problems (Seminog and Goldacre, 2013).

In China, 173 million individuals are suffering from mental health problems due to COVID-19 (Galea et al., 2020). Individuals who are COVID-19 victims and self-isolated confront many difficulties. Several of the issues include feeling sad and lonely during self-isolation; in fact, some patients believe they are nearing the end of their lives (Zandifar and Badrfam, 2020).

### ***Healthcare workers and their Mental health***

Healthcare professionals (paramedical personnel) are critical throughout this pandemic. COVID-19 has a detrimental impact on the mental health of healthcare workers. Numerous factors contribute to this impact, including the stress of additional work hours, a lack of current protective equipment linked to COVID-19, and time away from their families to ensure their families' safety (Kang et al., 2020). China built a healthcare worker training facility and split it into three sections (Chen et al., 2020). The first division is to organise various activities for healthcare professionals in a group setting to alleviate stress (Zhou et al., 2020). The second division is to form a psychological medical team; the mission of this team is to offer an online guide and courses for resolving fundamental psychological issues in known individuals. The third section is dedicated to psychological help, which is accessible to the general public both online and offline for advice in resolving psychological problems (Lowe et al., 2015; Mak et al., 2010). Additionally, telephone helplines are utilised to resolve psychiatric issues. China developed physical requirements for healthcare workers, such as nourishment, and educated them on the required safeguards for COVID-19 patient recovery and entertainment activities to cheer up patients and awareness of health workers' precautionary measures.

### ***Survey and Statistical Modelling***

A research questionnaire was developed to assess people's psychological suffering during the global pandemic of COVID-19. The questionnaire was disseminated and shared through social media platforms such as Facebook, Twitter, and Instagram to gather data. This web-based survey was performed online, and a total of 173 valid answers were received from eight countries (the United Kingdom, the United Arab Emirates, France, Turkey, China, and Nigeria, Pakistan, and Saudi Arabia)

**Table 1.** Description of the survey conducted

Survey Title	Methodology to collect data	Factors of Mental health	Formation of Data
<b>Psychological Effects of COVID-19 on Mental Health</b>	Online survey fill	Anxiety, Schizophrenia, Bipolar Disorder, Obsessive Compulsive Disorder, Phobias, Substance Use Disorder, eating disorder, personality Disorder, and Mood Disorder in the past week, ranging from strongly disagree to agree strongly	Graph, charts, and tables

**Table 2.** Covid-19 Survey Results On Mental Health

Row Labels	Secondary	Higher Secondary	Bachelor (B.A,B.Sc and BS)	Master(MSC/MS/Mphil)	P.H.D	Total
<b>Female</b>	<b>1</b>	<b>3</b>	<b>54</b>	<b>31</b>	<b>3</b>	<b>91</b>
<b>Anxiety</b>			2	1		3
<b>Depression</b>			6	4		10
<b>Eating Disorder</b>			2			2
<b>Mood Disorder</b>	1	2	6	6		15
<b>Not Applicable</b>		1	37	20	3	61
<b>Phobias</b>			1			1
<b>Male</b>		<b>4</b>	<b>50</b>	<b>26</b>	<b>1</b>	<b>81</b>
<b>Anxiety</b>		1		2		3
<b>Depression</b>			1			1
<b>Mood Disorder</b>			1	1		2
<b>Not Applicable</b>		3	47	22	1	73
<b>Obsessive Compulsion Disorder</b>			1	1		2
<b>Others</b>			1			1
<b>Grand Total</b>	<b>1</b>	<b>7</b>	<b>104</b>	<b>57</b>	<b>4</b>	<b>173</b>

and 43 cities in Pakistan by 12 July 2020. Males made up 47% of our poll respondents, while females made up 53%. Young adults (16–25 years) had higher scores because they consume a significant quantity of social media material that may quickly induce stress. The following research questions (RQ1 to RQ5) were considered.

**RQ1:** Do you have any mental illness before the COVID-19 pandemic?

**RQ2:** Are you a victim of COVID-19 pandemic?

**RQ3:** What is the level of anxiety during COVID-19 pandemic?

**RQ4:** Are you more depressed than earlier during COVID-19 pandemic?

**RQ5:** Does the COVID-19 pandemic affect your psychological health?

Given that the elderly had the most incredible death rate during the pandemic, it's unsurprising that older individuals are more prone to experience psychological distress. Similarly, those with a greater level of education reported more discomfort, most likely due to increased

self-awareness of their health. Notably, workers and employees reported the most significant levels of discomfort across all professions. People were concerned about public transportation to and from work; their concerns grew daily, accounting for their high-stress narrative. On the other hand, psychological worry levels were also maintained by prudent use of medical resources, the effectiveness of quarantine facilities and the public health system, and proactive steps made to combat the pandemic scenario. Table 1

The COVID-19 pandemic triggered a public health emergency after the virus's formal confirmation of transmission. In March 2020, most governments adopted severe preventive measures, including self-quarantine, while the WHO declared a Public Health Emergency of International Concern on 31 January 2020. According to the findings of this research, public distress levels have been steadily declining over time. The spread of the virus has slowed somewhat because of efficient preventive and control measures implemented by governments. Self-quarantine, appropriate use of medical equipment, social distance, population movement management, and reduction of gatherings are few elements that contribute

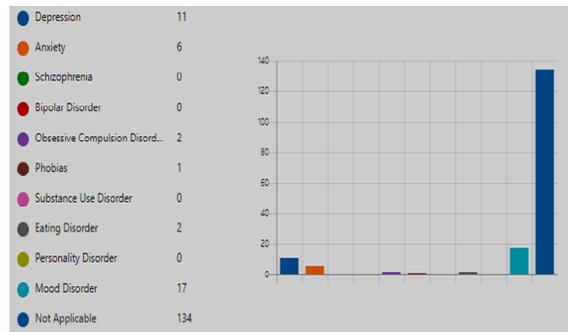


Figure 2. Graph about Mental illness

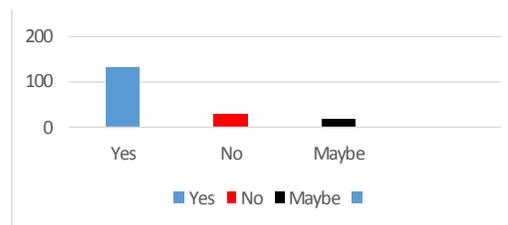


Figure 3. Graph about a pandemic victim

to the virus's containment. The following table has a comprehensive explanation of the survey that was performed. Figure 2

### Statistical modelling

All statistical analyses, including psychological effects, degree of stress and anxiety, depression, and personality disorder, were analysed using Microsoft Excel 2016. The survey form is created in Microsoft Teams and disseminated through different social media sites such as Facebook, WhatsApp, Telegram, and LinkedIn. A total of 173 respondents completed the questionnaire. The aggregated findings are presented in the form of graphs based on responder responses. Table 2

### RESULTS AND DISCUSSION

The surveys were given generally to a variety of persons with interest in people's mental health. Along with demographic information (province, gender, age, education, and occupation),— the COVID-19 pandemic elicited responses regarding the presence of Depression, Anxiety, Schizophrenia, and bipolar disorder. Others include Obsessive-Compulsive Disorder, Phobias, Substance Use Disorder, Eating Disorder, Personality Disorder, and Mood Disorder in the preceding week, with responses ranging from strongly disagree to strongly agree as displayed in Table 1. The table below shows that out of 91 females, 3 are victims of anxiety, 10 have

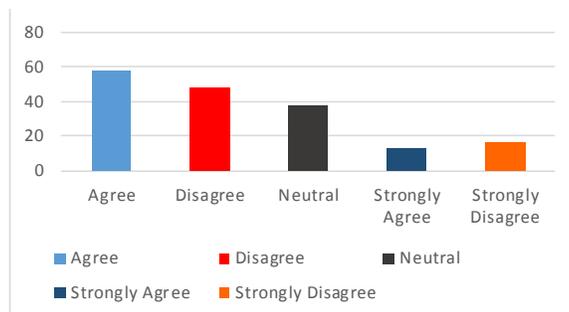
depression, 15 have Mood Disorder and one female has phobias. Out of 81 males, 3 are the victims of stress, 1 have depression, 2 have Mood Disorder, and two males have obsessive compulsive disorder. Figure 3

To answer the research questions RQ1, there is a need to know if the respondents have any mental issues before accurately identifying the effect of COVID-19. However, from Figure 2, the survey results show that most people suffer from a mood disorder during the pandemic period. This is because out of 173 responses; Mood Disorder has the highest responses of 17, depression has 11 responses, anxiety has 6 responses, obsessive compulsive disorder has two responses Phobias has one response. Schizophrenia, Bipolar Disorder, Substance Use Disorder, and Personality Disorder does not react. Figure 4,5

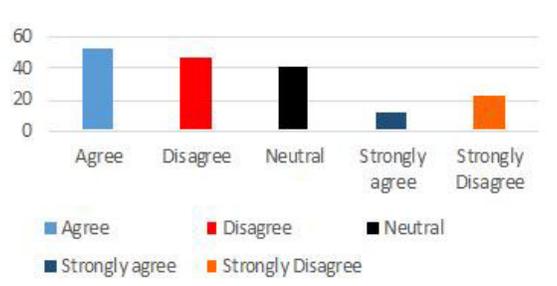
In RQ2, a poll was undertaken to ascertain if respondents had been a victim of COVID19 or not. According to the survey, most of the population was affected during the period of COVID-19 pandemic. Out of 173 respondents, 130 thought they were affected by COVID-19, while 27 believed they were not as depicted in Figure 3.

The answers to RQ3 indicate that most respondents experienced fear because of the COVID-19. The primary reason is that most of the respondents express anxiety and fear in response to the COVID-19 news broadcast and the high mortality (death) rate. According to Figure 4, out of 170 responses, 58 agreed, 48 disagreed, 38 were neutral, 13 strongly agreed, and 16 strongly disagreed.

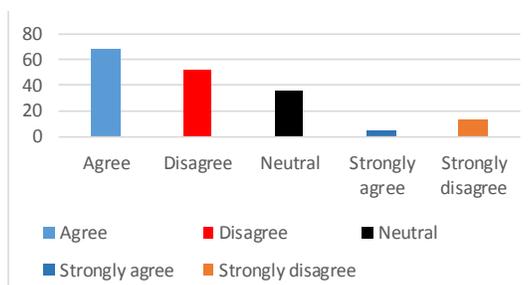
The answers to RQ4 suggest that individuals are experiencing more depression. The reason behind that



**Figure 4.** Graph about fear/anxiety due to COVID-19 pandemic



**Figure 5.** Graph about comparison life of COVID-19 and before COVID-19 life



**Figure 6.** Graph about the impact of COVID-19 on psychological health

depression is that most responders are under 18, and their social engagements are reduced as compared to the pre COVID-19 pandemic. According to Figure 5, 53 individuals agree, 46 disagree, 41 remain neutral, 11 strongly agree, and 22 strongly disagree with this idea. Figure 6

RQ5 examines the effect of COVID-19 on people's psychological well-being. According to the study, most respondents believe that the virus has harmed their psychological health. The primary causes are lockout, disruption of normal daily activities, job loss, and various other issues. According to Figure 6, 39% of the overall population's psychological health was affected. This is because 68 individuals agreed, 52 disagreed, 36 were indifferent, four strongly agreed, and 13 strongly disagreed.

### Policy Implications and Future Work Directions

According to this study, the following intervention strategies should be applied: Vulnerable populations such as young people, older people, women, and migrant workers should need a greater level of care. In this regard, the focus is on making medical supplies more readily available. After conducting a thorough study of COVID-19, it has been determined that a greater emphasis must be placed on the management of public resources within the public health system. To handle the worry, dread, and other psychological problems, each country needs a unified national planning and coordinating structure. Another challenge calls for mechanisms to support prevention and crises, including systematic epidemiological surveillance, screening,

referral, and focused intervention.

## CONCLUSION

The whole world is facing many difficulties because of the COVID-19 pandemic. Cultural, political, and religious activities are prohibited to prevent congestion. In countries where COVID-19 has been detected, all educational institutions have been shuttered and sporting events have been cancelled. Consequently, we ran an online poll to ascertain COVID-19's effect on mental health during the worldwide pandemic. This comprehensive study covers eight countries including Forty-three cities from Pakistan. The survey's findings indicated that COVID-19 pandemic harms mental health of the public, especially children and adolescents. It contributes to a variety of illnesses such as anxiety, dread of death, and sadness. The results also indicated that governments and other relevant organisations should create welfare and rehabilitation programmes to address and reduce the pandemic's harm to the public mental health and social well-being.

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