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# Depression and Post-Traumatic Stress among Children during the COVID-19 Pandemic: Evidence from Parental Reports

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**Abstract**

The COVID-19 pandemic and subsequent lockdowns necessitated unprecedented social isolation and school closures, significantly disrupting the developmental environment of children. While the physical health implications of the virus were widely documented, research on the specific psychological burden among the children particularly in rural regions remains scarce. This study assessed the prevalence of post traumatic stress disorder (PTSD) and depression symptoms among children aged 7–14 years in rural District Hangu, Pakistan. A descriptive quantitative design was used, and data were collected from 60 parents, who had at least one child aged 7–14 years, through structured bilingual (English/Pashto) questionnaires. The Short Mood and Feelings Questionnaire–Parent Version (SMFQ-P) and the Impact of Event Scale–Revised (IES-R) were employed to evaluate depressive and trauma related symptoms. The prevalence of PTSD was 20%, while 18.3% of children exhibited depressive symptoms. Higher levels of both PTSD and depression were observed among female children compared to males. Additionally, children aged 11–14 years showed greater psychological distress than younger age groups. High parental illiteracy (41.7% of fathers) suggested potential socio-economic vulnerabilities in the sample population. One in five children in this rural Pakistani community exhibited PTSD and depressive symptoms, during the COVID-19 pandemic. These findings highlight the need for targeted mental health screening, school-based psychosocial support, and family-focused interventions in similar low-resource settings during and after public health crises.

## Introduction

In December 2019, a novel coronavirus disease (COVID-19) was first identified in Wuhan, China (Shah *et al*., 2020; Haung *et al*., 2020). The outbreak rapidly evolved into a global public health emergency and was officially declared a pandemic in March 2020 (WHO, 2020). In response to the unprecedented spread of the virus, governments worldwide implemented strict containment measures, including nationwide lockdowns, quarantine protocols, school closures, social distancing mandates, and restrictions on public movement. Although these measures were necessary to control viral transmission, they significantly disrupted daily life, education systems, and social interactions particularly for children and adolescents. Quarantine and lockdown conditions are widely recognized as psychologically distressing. Factors such as isolation, fear of infection, disruption of routines, and prolonged uncertainty contributed substantially to emotional stress. Children and adolescents were especially vulnerable because these developmental stages are critical for social, emotional, social and cognitive growth. School closures deprived children of structured learning environments, peer interaction, physical activity, and access to psychosocial support services. According to United Nations estimates, nationwide school closures affected more than 90% of enrolled students across 188 countries, confining children to their homes for extended periods and raising serious concerns for their psychological health and overall well-being (Brooks *et al*., 2020; Joseph *et al*., 2020).

Pakistan reported its first confirmed COVID-19 case in February 2020 and subsequently experienced multiple waves of infection (Waris *et al*., 2020). By the end of 2021, more than 1.29 million confirmed cases of COVID-19 and 28,909 associated deaths had been recorded in the country (Aheron *et al*., 2022; Mathieu *et al*., 2020).

Due to its large population and limited healthcare infrastructure, Pakistan faced significant challenges in managing the outbreak. Nevertheless, early interventions and public health measures helped reduce widespread transmission (Bhutta *et al*., 2020; World Health Organization, 2021). A significant proportion of infections were asymptomatic, particularly among younger individuals, contributing to lower observed mortality rates (Bhutta *et al*., 2020).

Epidemiological evidence suggests that exposure to traumatic or highly stressful events can lead to mental health disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD). Approximately 5–10% of individuals develop PTSD following traumatic experiences. Children aged 7–11 years represent a particularly sensitive developmental group because this stage is essential for emotional, cognitive, and social development. Although children are less likely to experience severe physical illness from COVID-19 (Götzinger *et al*., 2020), the indirect psychological effects of the pandemic, including stress, anxiety, and depression may be profound and long-lasting (Loades *et al*., 2020). Children from socioeconomically disadvantaged backgrounds were disproportionately affected, facing additional challenges such as food insecurity, limited access to digital learning resources, and reduced parental support due to financial stress (Alloh *et al*., 2018; Li *et al*., 2021).

The province of Khyber Pakhtunkhwa, which is characterized by a predominantly rural population, limited healthcare facilities, and lower literacy rates, was particularly vulnerable to the indirect effects of the pandemic. Prolonged school closures, restricted mobility, and inadequate access to digital learning resources greatly affected children living in these areas (UNICEF, 2021).

Despite the growing global literature on the psychological effects of COVID-19, there remains a significant lack of research on the mental health of children in Pakistan, particularly those living in rural areas, who often lack the digital and educational resources available in urban centers. Therefore, the present study aims to assess the mental health status of children aged 7–11 years in District Hangu, Khyber Pakhtunkhwa, Pakistan, with a particular focus on trauma and depression in the post-COVID-19 period. Understanding these psychological impacts is essential for developing targeted interventions and effective mental health support strategies for children in resource-limited rural settings.

## METHODOLOGY

A cross sectional study was conducted in 2020 at Government Girls Community Middle School (GGCMS) Heera Banda, District Hangu (33°28'53.6"N 71°01'53.0"E) Pakistan, during a scheduled Parents–Teacher Meeting (PTM). The study aimed to assess mental health issues, specifically depression and post-traumatic stress symptoms among children aged 7 to 14 years. Parents were selected as respondents due to their direct observations of their children's emotional and behavioral changes. Eligible participants were required to have at least one child within the target age range. Parents were informed about the purpose, significance, and ethical considerations of the study. A total of 60 out of 100 voluntarily agreed to participate in the study. Written informed consent was obtained from all participants, and confidentiality was assured by omitting identifying information from the records. The study protocol adhered to ethical principles for research involving human participants and followed international recommendations regarding the monitoring of children's mental health during the COVID-19 pandemic.

Data were collected using a structured questionnaire developed in both English and Pashto languages. However, the English version was used for data analysis. For parents with limited literacy, trained facilitators provided assistance to minimize comprehension barriers while maintaining participant privacy.

Post-traumatic stress symptoms were measured using the Impact of Event Scale–Revised (IES-R), a 22 items validated self-report instrument (Weiss, 2007). The IES-R

measures distress on a five-point Likert scale ranging from 0 to 4, with a maximum score of 88, which indicate a greater risk of PTSD (Ma *et al*., 2021).

Depression symptoms were assessed using the Short Mood and Feelings Questionnaire–Parent Version (SMFQ-P). This instrument is a shortened version of the original 33-item Mood and Feelings Questionnaire and was developed to provide a brief yet reliable measure of depressive symptoms (Angold *et al*., 1995). It consists of 13 items rated on a three-point scale ranging from "not true" to "true." The SMFQ-P is widely used in child and adolescent mental health research due to its validity and ease of administration (Ma *et al*., 2021).

Demographic information including children's age, gender, and educational level, as well as parents' marital status, educational background, and profession were recorded. Participants completed the questionnaires during the scheduled session and returned them to the researcher within the allotted time. A total of 60 completed questionnaires were collected and included in the final analysis. The data was analyzed by using SPSS version 22.

## RESULTS

Among the 60 participating parents, the children represented were 33.3% males and 66.7% females. The majority of children were enrolled in Class 5 (33%), followed by Class 4 (25 %) and Class 3 (16.7 %), while the remaining children belonged to other classes.

Regarding parental education, a high percentage of parents were illiterate, including 41.7% of fathers and 53.3% of mothers. The highest qualification attained was high school for fathers (16.7%) and middle school for mothers (8.3%). While all mothers were housewives, the majority of fathers were employed as drivers (60%), followed by shopkeepers (23.3%) and farmers (16.7%).

All participating parents reported having basic awareness of COVID 19. A higher proportion of parents perceived psychological effects (41.7%) in their children compared to physical effects (33.3%), while 25% reported no noticeable impact.

Using an IES-R cut off score of >20, the prevalence of PTSD symptoms in this study was 20%, indicating that one in five children exhibited clinically significant post-traumatic stress symptoms related to the COVID-19 pandemic. Similarly using an SMFQ-P cut off score of >12, 18.3% of children met criteria for probable depression. IES-R and SMFQ-P scores were significantly higher among females than males, indicating a greater burden of trauma related distress and depressive symptoms among girls. Symptoms were also more prevalent among children aged 11-14 years compared with younger children. (Table 1,2,3)

**Table 1: Demographic characteristics of parents**

| | | **Parents** | |
|---|---|---|---|
| | | Mother (%) | Father (%) |
| **Education** | Primary | 38.3 | 8.3 |
| | Middle | 8.3 | 33.3 |
| | High school | 0 | 16.7 |
| | Illiterate | 53.3 | 41.7 |
| **Occupation** | Farmer | | 16.7 |
| | Shopkeeper | | 23.3 |
| | Driver | | 60 |
| | Housewife | 100 | |
| **Awareness** | | 100 | 100 |

**Table 2: Prevalence of PSTD (IES-R) and the depression symptoms (SMFQ-P) among children aged 7 to 14 years**

| | Total | PSTD (%) | SMFQ-P (%) |
|---|---|---|---|
| **Overall prevalence** | 60 | 20% | 18.3% |
| **Age (years)** | | | |
| 7-10 | 29 | 3(10.3%) | 2(6.9%) |
| 11-14 | 31 | 9(29%) | 9(29%) |
| **Gender** | | | |
| Male | 20 | 2(10%) | 3(15%) |
| Female | 40 | 10(25%) | 8(20%) |

**Table 3: Demographic characteristics of children**

| | Children (%) | |
|---|---|---|
| **Impact of COVID 19** | Psychological | 41.7 |
| | Physical | 33.3 |
| | No impact | 25 |
| **Class-wise distribution** | 1 | 8.3 |
| | 2 | 16.7 |
| | 3 | 16.7 |
| | 4 | 25 |
| | 5 | 33.3 |

## DISCUSSION

The Implementations of public health emergency control measures during COVID-19 had a substantial psychological impact on children and adolescents (Wang *et al*., 2020, Dalton *et al*., 2020). The negative consequences of the pandemic affected nearly every aspects of the society (Brooks et al., 2020, Cao *et al*., 2020). For many children, prolonged confinement at home, limited outdoor activities, and reduced interaction with friends resulted in increased anxiety, loneliness, and emotional distress (Cao *et al*., 2020; Kmietowicz, 2020; Xiao, 2020). Previous studies have identified educational system and regional background remain as the significant factors for developing PSTD symptoms in children (Ma *et al*., 2021). Together, these challenges have created a complex environment that continues to test the emotional resilience of youth.

The present study highlights the significant psychological impact of the COVID-19 pandemic on children aged 7 to 14 years in District Hangu. The result indicated that 20.7% of children exhibited symptoms of PTSD, while 18.3% showed symptoms of depression relate to the COVID-19 pandemic.

These findings are consistent with studies conducted in China where Ma et al. (2021) reported a PTSD prevalence of 20.66% among children and adolescents. The similarity between these figures, despite vast geographic and cultural differences, suggests that the trauma of social isolation and the fear of a global health crisis created a universal psychological impact on the youth. However, the depression rate in the present study (18.3%) is notably higher than the 7.18% reported in some urban Chinese cohorts, which may reflect the added stress of resource limitations in rural Pakistan. Children

from low-income or low-literacy households faced a "double burden": the fear of the virus and disruption of education due to a lack of online learning facilities (United Nations, 2020). This aligns with the "Social Determinants of Health" framework, where low parental education and unstable employment exacerbate distress in children during national emergencies (Marmot & Wilkinson, 2005).

The data also highlights a significant gender and age disparity, with females and children aged 11–14 exhibiting the highest scores for both trauma and depression. This mirrors findings by Imran et al. (2020) study, which suggested that adolescent females in traditional rural societies may experience greater internalizing symptoms due to increased domestic responsibilities and restricted social interaction during lockdowns. Furthermore, children 11–14 years are at a developmental stage in which peer interaction plays a critical role in emotional regulation. The sudden removal of peer support and school based socialization may therefore explain the higher SMFQ-P scores observed in this age group compared to younger children aged 7–10 years, who are more dependent on immediate family for emotional stability.

Although all participating parents reported having basic awareness of COVID-19, this awareness did not translate into psychological protection for their children. In fact, 41.7% of parents noticeable psychological effects in their children, whereas, only 33.3% reported physical health issues This indicates that public health messaging primarily focused on infection prevention and failed to provide psychological first aid or coping strategies for families. As untreated psychological symptoms during childhood may result in long term developmental and emotional consequences (Deoni, 2022), therefore, integrating mental health screening and psychological support into the educational recovery programs is essential, particularly in rural districts of Pakistan (Imran *et al*., 2020).

The high paternal illiteracy rate (41.7%) observed in this study represents an important contextual factor influencing child mental health outcomes. Lower levels of parental education are often associated with limited awareness of psychological well-being, reduced capacity to provide academic and emotional support, and restricted access to healthcare resources (Bradley &Corwyn, 2002; Reiss, 2013). In addition, socio-economic disadvantage further exacerbates these challenges by increasing exposure to stressors such as financial instability, poor living conditions, and limited access to mental health services (Yoshikawa *et al*., 2012). The COVID-19 pandemic intensified these vulnerabilities, particularly in low-resource settings, where school closures, social isolation, and disruption of routine disproportionately affected children from underprivileged backgrounds (UNICEF, 2021). Consequently, parental education and socio-economic status emerged as important determinants of children's psychological resilience and vulnerability during public health crises

According to Cortés-Albornoz et al. (2023), the shift to remote learning during COVID-19 lockdowns significantly disadvantaged children living in areas lacking digital infrastructure and parental academic support. In rural areas like Hangu, where fathers are primarily employed in manual labor (60% drivers) and have limited formal schooling, the "educational halt" was likely absolute. This lack of engagement not only hindered learning abilities but also removed the sense of purpose and routine that schools provide, directly contributing to the 18.3% depression rate observed in this study.

The present findings revealed that a substantial proportion of children experienced mild to moderate depressive symptoms rather than severe. Avoidance behaviors and hyperarousal, including sleep disturbances, concentration difficulties, feelings of loneliness, and physiological reactions to reminders of stressful events were observed in a significant subset of children. These findings suggest that the pandemic acted as a psychologically stressful event, triggering both emotional and behavioral responses consistent with post-traumatic stress. These findings contribute to the broader

understanding of mental health consequences of global crises on children in resource-limited settings.

## CONCLUSION

In conclusion, this study identifies a significant mental health burden among children in District Hangu, with 20% meeting the criteria for PTSD and 18.3% exhibiting symptoms of depression. These findings highlight that adolescent girls and children aged 11–14 are particularly vulnerable to the psychological consequences of the pandemic. Furthermore, the high rate of paternal illiteracy (41.7%) and manual labor employment suggests that socio-economic instability and a lack of digital learning resources acted as primary stressors. While basic awareness of COVID-19 was universal, it proved insufficient to protect children against from the psychological effects of social isolation and educational disruption. The study confirms that the psychological consequences of the pandemic were more prevalent than physical effects among children in this community.

To address these findings, we recommend implementing school-based mental health screening and teacher-led psychological first aid to provide early intervention for traumatized youth. Furthermore, targeted social support programs should be developed for adolescent girls, who demonstrated the highest vulnerability in this study. Finally, community-based awareness initiatives utilizing non-written media are essential to help parents with lower literacy levels recognize and support their children's emotional needs.

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