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Original Research Article

From crisis to coping: Exploring the psychosocial impact of COVID-19 on primary school children in developing country

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ABSTRACT

Introduction: Primary school children are relatively vulnerable to the COVID-19 infection and its impact. This study aimed to assess the impact of COVID-19 on the psychosocial well-being of primary school children.

Materials and Methods: This was a descriptive cross-sectional study from March-August 2021. A sample of 285 children was randomly assigned by cluster random sampling. Children were interviewed using a pretested and validated questionnaire. The questionnaire is composed of questions related to demographic information and the psychosocial impact of COVID-19 on primary school children. Children's responses were scored, and descriptive analyses were conducted with SPSS version 25.0 (IBM SPSS Statistics).

Results: A total of 285 primary school children were interviewed. Children's mean age was 13.2 ± 0.9 years old; 65.3% were males, 84.6% were from public schools, and 78.2% were in grade/class 8. 175 (61.4%) of participants reported that their daily lives had been disrupted by the COVID-19 pandemic, while 176 children (61.8%) avoided visiting crowded places; 59 children (20.7%) did not visit their friends, 90 children (31.6%) avoided public places, and 194 (68.1%) reported keeping their distance from people with influenza-like symptoms.

Conclusion: COVID-19 had a profound impact on the psychosocial well-being of primary school children. Addressing the gaps in children's understanding of COVID-19 and promoting proactive health behaviors through targeted education can significantly contribute to mitigating the psychosocial impact of COVID-19 on the primary school population. Future research and efforts to prioritize the appropriate strategies to mitigate the impact of COVID-19 on primary school children are extremely needed.

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1. Introduction

The COVID-19 pandemic has brought about unprecedented changes to the daily lives of people worldwide, with children being among the most affected demographics.¹ The closure of schools, the shift to remote learning, and the social distancing measures have significantly impacted the psychosocial well-being of primary school children.²

The abrupt transition to remote learning and the isolation from peers have contributed to heightened levels of anxiety,

stress, and depression among primary school children. Studies have shown that the lack of routine, reduced physical activity, and limited social interactions have exacerbated mental health issues. Loades et al. (2020) conducted a systematic review that highlighted an increase in depressive and anxiety symptoms among children and adolescents during the pandemic.² Furthermore, a study by Xie et al. (2020) found that primary school children in China reported higher levels of depressive symptoms during the lockdown compared to pre-pandemic levels.³

The pandemic has also disrupted the social development of primary school children, who rely heavily on peer

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interactions for social learning and emotional growth. The closure of schools and playgrounds has limited opportunities for children to engage with their peers, leading to feelings of loneliness and social withdrawal. A study by Gromada et al. (2020) indicated that the lack of face-to-face interaction with friends and teachers has negatively impacted children's social skills and emotional well-being.¹ Additionally, the use of digital platforms for maintaining social connections has been a double-edged sword, offering a means to stay connected while also introducing potential risks related to screen time and online safety.⁴

Primary school children are relatively more vulnerable to COVID-19 due to their young age. Even though numerous Sudanese studies in this respect among the general population have been published, but there is no previous study specifically focusing on psychosocial effects of COVID-19 on primary school children.⁵⁻⁸ This study aimed at assessing psychosocial effects of COVID-19 on primary school children in Sudan. The findings of this study are of great importance for policymakers to design effective strategies to help primary school children cope with the psychosocial impact of the pandemic.

2. Materials and Methods

School-based descriptive cross-sectional study was conducted in Primary Schools at Jabal Awlyia locality, Khartoum state from September 2021 to March 2022. All Sudanese Primary School children registered for the present academic year, males, and females, in grade seven and eight in the targeted schools at Jabal Awlyia locality were recruited in the study. Students who stopped schooling for 6 months, and those refused to participate in the study were excluded. Epi-info statistical package software version 7.2.2.6 was used to calculate the minimum required sample size with a confidence interval level of 95%, *p*-value less than 0.05, and power of 80%. The estimated sample size was equal to 285. A cluster random sampling technique was used to select the study participants.

Data was collected using pretested, pre-coded, validated, structured, closed-ended questionnaire. The Arabic version of the questionnaire was used. The data collectors were trained on how to properly collect the data. The training is composed of two workshops on separate days conducted by the primary investigator. A pilot study was done on 10-15% of the target population (30 pupils) and the questionnaire and the data collection techniques were checked. Those who participated in the pilot study were excluded from the study population. Data was entered, cleaned, and analyzed using SPSS package version 25. Frequencies, percentages, mean, and standard deviations were used to present the data in tables and graphs. Permission was obtained from the Primary School Administrations of the targeted schools and the Ministry of Education, and a consent form was signed by all participants.

3. Results

3.1. Demographic data of the participants

A total of 285 primary school children were included in the study. The age of the candidates ranged between 11 to 16 years with the mean of 13.2, and SD of 0.86; of whom 193 (67.7%) were younger than 13 years, as detailed in table below.

Table 1: Socio-demographic distribution of study participants

Variable	Frequency	Percentage
Age		
11 to 12 years	193	67.7%
13 to 16 years	92	32.3%
Gender		
Male	186	65.3%
Female	99	34.7%
School type		
Public	241	84.6%
Private	-	-
Grade		
Grade 7	62	21.8%
Grade 8	223	78.2%

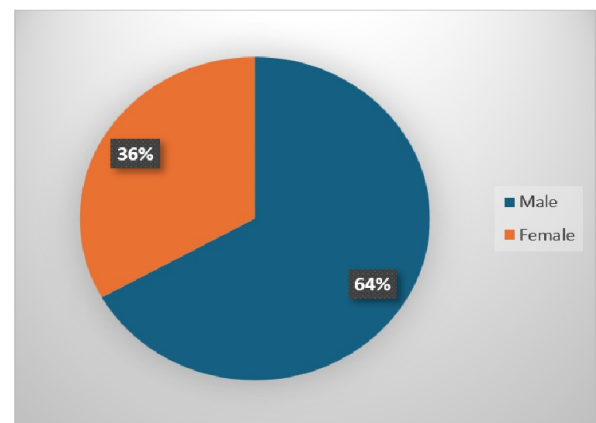


Figure 1: Distribution of participants based on gender

Moreover, the study identified diverse perceptions among primary school children regarding the risk of contracting COVID-19. A total of 124 children (43.5%) acknowledged that everyone was at risk of getting the disease, whereas 129 children (45.3%) believed that only the elderly were at risk.

A substantial number of children, 175 (61.4%), reported that their daily lives had been disrupted by the COVID-19 pandemic. Conversely, 83 children (29.1%) expressed that they were not worried about contracting the virus; however, (23.9%) were quite worried about getting the disease.

In terms of behavioral responses to the pandemic, 176 children (61.8%) avoided visiting crowded places, 169 children (59.3%) reported wearing masks, and 234 children

(82.1%) indicated they washed their hands upon returning home.

Only 50 children (17.5%) found it extremely difficult to stay home if they exhibited flu-like symptoms. Interestingly, when we asked the primary school children about their possible actions if they had close contact with confirmed COVID-19 cases, 220 of them (77.2%) stated they would rather report to the community and stay in quarantine as required. Interestingly, only 155 children (54.4%) admitted they would find an excuse to avoid a friend infected with COVID-19.

A significant number of children, 194 (68.1%), reported keeping their distance from people with influenza-like symptoms, and 137 children (48%) stated they avoided crowded places. Also, when questioned about visiting friends and public places, 59 children (20.7%) mentioned they do not visit their friends, while 90 children (31.6%) indicated they avoid public places such as parks.

4. Discussions

This study represents the first exploration into the impact of COVID-19 on the psychosocial well-being of primary school children, aimed at informing strategies for mitigating its effects on this vulnerable population group within the country.

The study findings revealed that less than half of the children (43.5%) believed that everyone is susceptible to contracting the disease, while a similar proportion (45.3%) perceived only the elderly as being at risk. These misconceptions about the susceptibility of children to infection could potentially lead to adverse outcomes. Similar misunderstandings have been observed among adults in Sudan, where 81.7% mistakenly identified old age as the primary risk factor for COVID-19.⁷ Age-related differences in COVID-19 awareness have been documented in various studies, highlighting the necessity for targeted educational initiatives tailored to young demographics, including primary school children.^{6,9}

The majority of children in this study (91.6%) considered COVID-19 to be a dangerous and potentially fatal disease, with nearly two-thirds (61.4%) reporting disruption to their daily lives due to the pandemic. These findings indicate a substantial perceived burden of infection severity and impact among primary school children. This aligns closely with adult perceptions in Sudan, where 93.4% viewed COVID-19 as a serious public health threat or a dangerous disease.^{6,7} Similarly, a significant portion of the Chadian population (68.44%) found the pandemic to be highly disturbing, with the majority (81.27%) expressing dissatisfaction with their social relationships post-pandemic.¹⁰ Translating these high levels of awareness and concern into practice among primary school children could significantly contribute to disease control efforts.

Also, in this study, nearly a quarter of the children (23.9%) expressed considerable worry about contracting the disease, indicating a reduced perceived susceptibility to COVID-19 among school children. This is comparable to findings in South Korea, where about one-third (34.55%) of the adult population expressed significant concern about infection, and among school-aged children in Hubei province, China, where 37.2% were "quite worried about being infected with COVID-19".^{11,12} However, this perceived susceptibility among primary school children is notably lower than their perception of the disease's seriousness and fatality (91.6%), which could negatively impact their adherence to preventive measures. The misconception that children are at low or no risk of infection may contribute to these attitudes.

Most children (77.2%) in this study indicated they would proactively report close contact with confirmed cases and adhere to quarantine requirements. This is comparable to findings among adults, where a majority (96.7%) agreed that suspected and infected individuals should be isolated and restricted from social contact.⁶ Similarly, a large proportion of adult Sudanese (93.0%) believed that isolating suspected individuals was crucial for preventing the virus's spread.⁷

5. Study Strengths and Limitations

This study provides insights into COVID-19 psychosocial impact on primary school children, highlighting the gaps in specific aspects. However, several limitations should be acknowledged. The study by its nature of the cross-sectional design, could not show a cause-effect relationship beside the findings represent the situation during the study period.

6. Conclusion

In conclusion, COVID-19 had a profound impact on the psychosocial well-being of primary school children. Addressing the gaps in children's understanding of COVID-19 and promoting proactive health behaviors through targeted education can significantly contribute to mitigating the psychosocial impact of COVID-19 on the primary school population. Future research and interventions should continue to prioritize the unique needs and perceptions of children to ensure effective pandemic preparedness and response strategies.

7. Recommendations

1. The study findings suggest the need for more effective and tailored health education programs aimed at mitigating the psychosocial impact of COVID-19 on the primary school population.
2. Further research with appropriate study design(s) to explore all components of COVID-19 psychosocial impact on primary school children and the strategies to mitigate them.

8. Source of Funding

None.


9. Conflict of Interest

None.

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