

International Journal of Psychology (IJP)

**Comparative Analysis of COVID-19 Pandemic-Related Mental Health Effects on
Children with Household Healthcare Workers vs. Those Without**

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Article History

Received 24th December 2023

Received in Revised Form 1st January 2024

Accepted 11th January 2024



How to cite in APA format:

Vallabhaneni, R. (2024). Comparative Analysis of COVID-19 Pandemic-Related Mental Health Effects on Children with Household Healthcare Workers vs. Those Without. *International Journal of Psychology*, 9(1), 1–5. <https://doi.org/10.47604/ijp.2258>

Abstract

Purpose: The primary objective of this pilot study is to investigate and comprehend the impact of the COVID-19 pandemic on children's mental health based on the presence of household members working in healthcare settings.

Methods: Permission was secured from the Research Department of a densely populated county in the state of Georgia. Subsequently, an online survey was conducted among participants consisting of high school and middle school students, aiming to evaluate their mental health experiences three years following the onset of the pandemic in the United States. The survey included questions related to fear, sadness, preferences for online schooling, changes in sleeping habits, and whether anyone in the household worked in a healthcare setting. Responses were collected on a Likert scale with options "Yes," "No," and "Maybe."

Findings: Among both groups of children about two thirds reported no increase in fear three years after the onset of pandemic. Around 25% of the children in both groups reported increased sadness. The majority of children in either group did not prefer online schooling.

Unique Contribution to Theory, Practice and Policy: This survey underscores the need to consider household dynamics, specifically the presence of healthcare workers, when addressing children's sleeping habits during global stress situations such as pandemics.

Keywords: COVID - 19 Pandemic, Mental Health, Sleep Habits, School Age Children, Healthcare Workers

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INTRODUCTION

The COVID 19 pandemic affected millions of people around the world in a short span of time ¹. Although the brunt of physical illness was in the adult population ², the mental health effects were significant in children due to multiple factors affecting their household such as job loss, disruption in their routine, change in sleep timings, online schooling, and increase in screen time with limited physical contact with their peers & social isolation ³.

Children living with healthcare workers have increased anxiety or sleep disorders ⁴ as their loved ones were at a very high risk of contracting the virus resulting in severe illness, especially before mass vaccinations.

Many of the published articles regarding the mental health of school age children during the COVID 19 pandemic were during the peak waves of the pandemic. Although it is likely that mental health issues in children during the pandemic are long lasting, there are no large term prospective trials at this time to confirm this.

This is a multifaceted issue with several factors involved in varying degrees that ultimately may lead to long term mental health issues ^{5,6}.

Problem Statement

To our knowledge there are no specific studies looking at long term mental health effects, preference in online schooling or change in sleep habits in school age children living with healthcare workers three years after the first wave of COVID 19 pandemic.

We conducted this pilot survey to elucidate if there were any differences in these parameters depending on whether the children lived in a household with healthcare workers or not.

Materials and Methods -

Permission was secured from the Research Department of a densely populated county in the state of Georgia. Subsequently, an online survey was conducted among participants consisting of high school and middle school students, aiming to evaluate their mental health experiences three years following the onset of the pandemic in the United States. The five questions asked were:

1. After the COVID-19 Pandemic, are you scared?
2. After the COVID-19 Pandemic, are you sad?
3. During the Pandemic, did you like online schooling?
4. Did the Pandemic affect your sleeping habits?
5. Does anyone you live with work in healthcare setting like a hospital / Nursing home / pharmacy / clinic / etc.?

The survey questionnaire was internally validated with middle and high school age children. The questionnaire was then sent through SMS or email to middle and high school children selected randomly and their responses collected anonymously on the online platform "Survey Monkey".

Results were then analyzed in a 4 x 2 table with dichotomy between children living with healthcare workers versus not.

RESULTS

Participant Group	Fear	Sadness	Prefer Online Schooling	Change in Sleeping Habits
Participants with Healthcare Workers (n=28)				
- Yes	7.14% (n=2)	28.57% (n=8)	21.43% (n=6)	28.57% (n=8)
- No	67.86% (n=19)	50.00% (n=14)	64.29% (n=18)	60.71% (n=17)
- Maybe	25.00% (n=7)	21.43% (n=6)	14.29% (n=4)	10.71% (n=3)
Participants without Healthcare Workers (n=31)				
- Yes	3.23% (n=1)	22.58% (n=7)	35.48% (n=11)	35.48% (n=11)
- No	61.29% (n=19)	70.97% (n=22)	54.84% (n=17)	54.84% (n=17)
- Maybe	35.48% (n=11)	6.45% (n=2)	9.68% (n=3)	9.68% (n=3)

Among both groups of children about two thirds reported no increase in fear three years after the onset of pandemic. About a quarter of the children in both groups reported increased sadness. The majority of children in either group did not prefer online schooling.

About one third of children not living with healthcare workers reported change in sleep habits compared to children living with healthcare workers.

Discussion

Children living with healthcare workers showed minimal differing mental health responses with regards to fear and sadness compared to those living without. Overall, most children did not experience shifts in fear or sadness three years after the pandemic. The majority of participants did not prefer online schooling.

About half reported changes in their sleeping habits, mostly in those children living in households without healthcare workers. The disparities may stem from increased familiarity with healthcare context, potentially alleviating some uncertainties. Further research is needed to elucidate the underlying mechanisms of these differences.

Conclusion

This survey underscores the need to consider household dynamics, specifically the presence of healthcare workers, when addressing children's sleeping habits during global stress situations such as pandemics.

The effects of the COVID-19 pandemic on children's sleeping habits and mental health should be further studied in a larger scale to confirm the results of this pilot study.

Limitations

While the study aims to shed light on the association between household healthcare worker presence and children's pandemic-related mental health, it is important to acknowledge several limitations that might impact the interpretation of its findings:

The responses were collected from specific geographic regions. The survey includes a limited set of mental health indicators (fear, sadness, online schooling preferences, sleeping habits)

and does not encompass all possible aspects of children's mental well-being during the pandemic.

Children's mental health can be influenced by a range of factors beyond household dynamics, such as peer relationships, school environments, and community support, which are not considered in this study.

Likert Scale Limitations: The Likert scale used to collect responses provides a limited range of options, potentially oversimplifying nuanced mental health experiences.

Small Sample Size: The participant groups (with and without healthcare workers) consist of relatively small sample sizes, potentially impacting the statistical power to detect significant differences.

The study does not delve into specific contextual elements related to healthcare worker roles within households, which could influence the degree of impact on children's mental health.

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