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Perception of healthcare workers regarding the psychological impact of COVID-19 on their children

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ABSTRACT

Background and Objective: Pandemics like COVID-19 adversely affect children's behavior and psychological development by disrupting routine life activities. Children of healthcare workers are exposed additionally due to the fear of parental exposure to the virus. The objective of this study was to assess the perception of frontline healthcare workers (HCWs) regarding the psychological impact of the COVID-19 pandemic on their children. We also sought to identify the difference of the psychological impact on children of the male and female healthcare workers.

Methods: A survey questionnaire was developed comprising 10 questions about the perception of HCWs regarding the psychological impact of COVID-19 on their children. It was distributed both online and face to face among 150 healthcare professionals, working in training and non-training posts in 4 public and 5 nongovernment hospitals of Pakistan. The mean and standard deviation were calculated for each survey item using Statistical Package for the Social Sciences 26.0.

Results: The response rate was 71.3% and majority (64.2%) of the healthcare professionals were ≥ 30 years of age. Ninety-two HCWs (85.98%) either agreed or strongly agreed that the parental separation from their kids for long hours during the pandemic had a negative psychological impact on their children. There was a significant difference in perceived psychological impact of COVID-19 on the children of male and female HCWs, with a mean survey score of 2.29 ± 1.82 and 1.69 ± 0.79 , respectively ($t = 2.29$, p -value = 0.024).

Conclusion: Children of the healthcare workers experience more stress and anxiety because of long duty hours and working in high-risk settings. Continuous psychological support and counseling services may be adopted formally to prevent unforeseen adverse events or any long-term negative impact on their physical and mental health.

Keywords: Healthcare workers, pandemic, COVID-19, Anxiety, Psychological impact, children.

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Introduction

The economic stability and emotional well-being of human beings have been affected by the pandemic across the world. Children are more vulnerable as their growth and development is at stake, as well as the quarantine and isolation of their parents and other family members have emotionally deprived the children of parental love and companionship.¹

Governments all over the world had to impose a lockdown to reduce the spread of the disease but the restrictions on parks and playgrounds led to limited exposure to physical activity for the children. Closures of schools and childcare centers may have further reduced children's activity levels

as these settings are shown to be associated with increased physical activity.² Moreover, frontline healthcare workers not only have extended duty hours but due to exposure or symptoms of coronavirus infections, they have to quarantine themselves for at least 2 weeks away from the family members, leading to additional mental trauma to them and their children.³ The World Health Organization and Centers for Disease Control and Prevention have reported a lower risk of exposure and serious illness in children as compared to the adults. On the contrary, the research on pandemics and natural disasters has confirmed that children are more vulnerable to the emotional impact of traumatic events that

disrupt their daily lives.⁴ Family set up, friendships, and daily routines are also affected by isolation and quarantine.⁵⁻⁷

Pandemic-related emotional responses may not be immediately evident in children, rather it would take decades and will be detected after a period of time. Child and adolescent psychiatrists label it as a sleeper effect.⁸ Years from now, today's children will tell the next generation about their experiences during the coronavirus disease 2019 (COVID-19) pandemic. What they recount will depend on how old they are currently and the circumstances in which they currently live.⁶ Gurwitsch et al.⁹ reported that children certainly are being impacted by COVID-19 because it has changed their worlds. This is especially true if they have had sick family members or loved ones who have died during the pandemic. The loss of routine refreshing activities and the inability to socialize with family and friends add further to the feelings of anxiety and upheaval.

Therefore, this research is aimed to explore the perception of frontline healthcare workers about the psychological impact of COVID-19 on their children.

Methods

A descriptive, cross-sectional, survey-based study was conducted from September 2020 to November 2020 after approval from the ethical review board of University College of Medicine and Dentistry, Lahore Pakistan. A 10-item questionnaire was developed by the authors addressing the perception of healthcare workers about the psychological impact of COVID-19 on their children. The questionnaire was validated by two medical educationists and the clarity and language of the questions was reassured by their qualitative feedback. Each statement of the questionnaire had the following response choices: "strongly agree," "agree," "disagree," or "strongly disagree." A scoring system was applied using a 4-point Likert scale, from 0 points ("strongly disagree") to 3 points ("strongly agree"). The total scores reported by our respondents ranged from 0 to 30 points.

The study participants were healthcare workers (HCWs) of both genders, who were working in the capacity of house physicians, postgraduate residents, medical officers, and assistant professors in COVID-19 outdoor/emergency units, isolation wards, and intensive care units.

The HCWs who refused to consent were not included. Those who were working in general emergency, outpatient departments, and follow-up clinics were also excluded from the study.

The questionnaire was distributed face to face to 20 frontline HCWs having similar sociodemographic and professional characteristics to the members of the study population for pilot testing. It was then sent to 130 HCWs from 4 government and 5 private hospitals in Lahore, Sargodha,

and Faisalabad city of Pakistan through manual distribution, Google Forms, and WhatsApp according to the convenience of the receiver. They were reassured of maintaining the confidentiality of personal biodata and official information.

Statistical analysis

The data obtained were computed in Statistical Package for the Social Sciences version 26.0 for statistical analysis. The percentage and mean value for each item were calculated. The means thus obtained were computed against the gender of the participants and independent sample *t*-test was run. *p*-value ≥ 0.05 was taken to be statistically significant.

Results

Out of 150 HCWs, 107 (71.3%) returned the completed survey forms.

The results showed that there were 43 (40.18%) participants <30 years of age and 64 (63.80%) were ≥ 30 years of age. The mean age observed was 34.16 years (SD ± 8.275). There were 58 (54.20%) females and 49 (45.79%) males.

HCWs had a strong agreement about the adverse psychological and emotional effects upon their children, with the highest mean score of 3.2 for item number 1, stating that "My child/children talk about feeling bored due to the current state of isolation." Item number 5, stating that "My child/children wake up at night due to fear of being left alone," showed the lowest mean score of 1.9. Sixty-two HCWs (57.94%) agreed or strongly agreed that the parental separation from their kids due to long duty hours and anxiety of losing them due to the COVID-19 infection had a negative psychological impact on their children (Table 1).

We also compared the differences of male and female HCW's mean scores of items of the survey by computing the independent sample *t*-test. It showed significantly higher (*p* = 0.024) mean values of all the items in children of male HCWs, with a mean and SD of 2.29 ± 1.82 , than female HCWs, who had a mean and SD of 1.69 ± 0.79 (Table 2).

Discussion

Pakistan being a developing country is already facing challenges of poverty, lack of education, and malnutrition among children and mothers. The resources for child and adolescent mental health were already stretched thin even before the COVID-19 crisis.¹⁰ Therefore, mental health of children is bound to suffer due to these factors.

Analysis of individual items of our questionnaire showed that most of the children were feeling bored, which could be explained based on the lack of social interaction and physical activity at schools and parks, as is reported by Liu et al.¹¹ in their study conducted in China. On the other hand, another study conducted in China screened children and adolescents for behavioral and emotional distress due to the COVID-19

Table 1. Mean scores of the survey items of the study participants (N = 107).

Items	Strongly disagree	Disagree	Agree	Strongly agree	Mean score & Standard deviation
My child/children frequently talk about feeling bored due to the current state of isolation	6 (5.6%)	20 (18.7%)	70 (65.4%)	11 (10.28%)	3.21 ± 1.05
My child/children are anxious/depressed and frequently talk about it	13 (12.1%)	32 (29.9%)	59 (55.14%)	3 (2.80%)	2.55 ± 1.15
My child/children frequently talk about death now a days	32 (29.9%)	42 (39.3%)	32 (29.90%)	1 (0.90%)	3.12 ± 1.36
My child/children worry a lot when I go out for my job/grocery etc.	9 (8.4%)	30 (28%)	59 (55.14%)	9 (8.41%)	2.81 ± 1.32
My child/children wake up at night due to fear of being left alone	40 (37.4%)	47 (43.9%)	19 (17.75%)	1 (0.90%)	1.55 ± 1.22
My child/children are excessively clingy or afraid to be left alone	25 (23.4%)	40 (37.4%)	30 (28.03%)	12 (11.21%)	1.80 ± 3.33
My child/children do not sleep alone in his/her room or has difficulty in sleeping	32 (29.9%)	29 (27.1%)	41 (38.31%)	5 (4.7%)	1.95 ± 1.44
My child/children frequently talk about germs and diseases	29 (27.1%)	33 (30.84%)	15 (14.01%)	30 (28.03%)	1.77 ± 1.22
My child/children talk about missing his/her peers at school and neighborhood	33 (30.84%)	29 (27.1%)	39 (36.44%)	6 (5.60%)	2.55 ± 2.33
My child is scared of wearing mask	45 (42.05%)	25 (23.4%)	25 (23.4%)	12 (11.21%)	2.85 ± 2.35

Table 2. Gender differences of HCWs (N = 107) and the perceived psychological impact on their children.

Gender	Mean ± SD	p value
Male	2.29 ± 1.82	0.024
Female	1.69 ± 0.79	

pandemic and showed that depression, anxiety, and fear of losing a parent or close relative are the more frequently encountered psychological impacts on the children rather than feeling bored.¹² This fact favors the results depicted in the current study. Similar results have been reported by other studies from Pakistan, Brazil, Italy, and China.¹³⁻¹⁶

The mean scores of survey items also showed that the lowest mean score of item number 5, stating that “My child/children wake up at night due to fear of being left alone”, is contradictory to previous studies.^{14,15} Children of working parents may be alone at home with maids or nannies, many of whom do not give them proper care and attention and it is expected that children may develop fear of being left alone. The low mean score of this item in the present study may be attributed to the relatively better family support system in Pakistan, with grandparents or other close relatives at home, who look after the children in the absence of their working parents.¹⁷ However, this aspect may be explored in further studies on the subject.

Item number 3 of the questionnaire, stating “My child/children frequently talk about death nowadays,” showed a mean score of 3.1. Death is perceived by children much less

frequently than adults. They over hear their parents talking about deaths, especially during the pandemics, which in turn may produce fear and anxiety among the children.¹⁵ Item number 4, stating “My child/children worry a lot when I go out for my job/grocery etc.,” had a mean score of 2.81. A child feeling worried may be related to fear of being left alone or may be due to the desire to go outside with parents as they get bored staying home for prolonged periods of time. This fact has been supported by other studies conducted during the COVID-19 pandemic.^{11,13,18} The sixth and seventh items stated “My child/children wake up at night due to fear of being left alone” and “My child/children do not sleep alone in his/her room or has difficulty in sleeping,” respectively. Poor sleep or finding it difficult to sleep affects the general health and well-being of children. It may further affect their school performance.¹

The item numbers 8 and 10 of the questionnaire were related to talking about germs and diseases and hesitation to wear masks by the children. As discussed above, there are chances to have a ‘sleeping effect’ of such behaviors as upon growing; therefore, these children are at increased risk of developing psychiatric disorders, including obsessive compulsive disorder, etc.^{8,10} Item number 9, “My child/children talk about missing his/her peers at school and neighborhood,” is related to physical activity and relationship of children with other children of their age group. During the lockdown period, this has been one of the major problems faced by the children, hampering their emotional and psychosocial adaptation to the new environment.

Another finding was a significant difference between mean values of items in the perception of male and female healthcare workers regarding psychological distress in their children. The mean value of perception of male HCWs was greater than that of female HCWs. This finding is different from other similar studies which reported more serious negative impacts of maternal separation as compared to the paternal separation for long hours in the children of working parents.^{19,20}

The mental health of children is worsening across the globe and the most vulnerable children are those who have been separated from their caregivers; as are those of healthcare workers.¹⁸ Therefore, they may develop posttraumatic stress disorder as is seen in previous pandemics and natural disasters. Therefore, it is imperative that formal psychological support and counseling services and timely diagnosis and management services be offered to these families to avoid any long-term adverse effects on the child's mental development and well-being.

Conclusion

HCWs perceive that there is a strong psychological impact of COVID-19 on their children. Children are attached to their parents and are affected by the fear of their exposure to deadly virus. Government and private clinical centers must ensure formal psychological support services to the families of their employees in order to prevent the development of both short- and long-term serious mental disorders in these children.

Limitations of the study

The study sample was small so the results cannot be generalized. Another limitation of the current study is that a qualitative perspective could have been added by interviewing children and their HCW parents to get a deeper insight into the problem. We recommend further studies to explore this phenomenon.

List of Abbreviations

HCWs Healthcare workers

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Conflict of interest

None to declare.

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None to disclose.

Ethical approval

The study was approved by the Institutional Ethical Review Board of University College of Medicine and Dentistry, Lahore, Pakistan, vide Letter No. ERC# 02/20/07 dated 20/07/2020.

Authors' contributions

SB and AWR: Conceptualized and designed the study, drafted the manuscript, reviewed and revised the manuscript.

RR and QAN: Data collection, interpretation and analysis, reviewed and revised the manuscript.

SR and SQ: Critically reviewed the manuscript for important intellectual content

All AUTHORS: Approval of the final version of the manuscript to be published.

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