

Research Paper

Effect of Covid-19 Pandemic on Career Choices of Children of Healthcare Professionals

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ABSTRACT

Background: The Covid-19 pandemic has affected the frontline health workers and their families considerably. Children of HCWs have also been subjected to separation anxiety and those who have lost their parents have suffered from grief, loneliness, social stigma as sources of contagion and post-traumatic stress disorder. All these led us to conduct this survey amongst children of the healthcare professionals in urban India who were between the age group of 10 to 18 years to study how this pandemic affected the children's thought process regarding their career choices. **Method:** This cross-sectional, observational study was carried out among children of healthcare workers in India. The online self-reported questionnaire included 13 questions related to personal demographic details, effect of Covid-19 pandemic in their family, their career choice before and after the pandemic and the reason for any change in the career choice. Participants with access to internet and of age 10 to 18 years who were able to understand English and willing to participate were included. The data collection was done between June, 2021 and August, 2021. The presentation of the Categorical variables was done in the form of number and percentage (%). On the other hand, the quantitative data were presented as the means \pm SD and as median. The association of the variables which were qualitative in nature were analysed using Fisher's exact test. The final analysis was done with the use of Statistical Package for Social Sciences (SPSS) software version 21.0. p value of less than 0.05 was considered statistically significant. **Observations:** There were 53 respondents to the questionnaire that was circulated. Of these 27, 19, and 7 were children of doctors, nurses and paramedics. Parents' profession or age group of the children had no statistically significant effect on the number of children wanting change to their profession after the pandemic ($p > 0.05$) Even though majority of the respondents knew what kind of profession they would like to pursue in life before the advent of the pandemic, 71.70% ($n=38$) were not sure about changing their choice of profession even after the ravaging effects of the pandemic were seen. A similar number of respondents wanted to

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change their profession from ‘medical to non-medical’[n=7] and ‘non-medical to medical’[n=8]. The decision to change the profession from either medical to non-medical profession or non-medical to medical profession was not significantly different amongst the groups of children who were directly affected or not affected by the SarsCov-2 virus ($p > 0.05$). A great number of respondents (41.51%) in our study too believed that children of non-medical professionals are at lower risk of Covid-19 infection than themselves. At the same time a major percentage also felt that the pandemic presents an opportunity for reforms in the healthcare system (81.13%). **Conclusion:** A great percentage of children i.e., 71.70% (n=38) were not sure if they wanted to change their career choice inspite of seeing Covid-19 infections and deaths in their family and friends’ circle. Majority of the children in our study have shown great resilience and an optimistic mindset.

Keywords: *Healthcare Professional, Children, Career Choice, COVID-19*

The Covid-19 pandemic has affected all sections of the society in some way or the other for more than a year now. The frontline workers have however been affected the most. Among these frontline workers the medical professionals have been directly in touch with the Covid-19 patients and their working hours and conditions have also been made worse considerably. The families of these medical professionals or health care workers (HCW) also had to witness a period of huge stress during that period directly or indirectly. There have been numerous reports of stress, anxiety, and depressive symptoms and attacks on HCWs during the COVID-19 pandemic. Mostly, the anxiety is related to patient care in addition to the possibility of infecting their families. [1,2] There has been devastating economic and social disruption caused by the pandemic too with nearly half of the world’s 3.3 billion global workforce are at risk of losing their livelihoods. Adhering to workplace safety and health practices and ensuring access to decent work and the protection of labour rights in all industries have become crucial concerns. [3] Children of HCWs have also been subjected to separation anxiety and those who have lost their parents have suffered from grief, loneliness, social stigma as sources of contagion and post-traumatic stress disorder. This kind of stress can cause somatic complaints and sleep disturbance, addiction to the internet and cell phones and difficulty in readapting after the crisis. [4,5] Covid-19 infection risk and hospital admission were doubled among household members of frontline workers in analyses adjusted for sex, age, ethnicity, socioeconomic status, and comorbidity. [5, 6]

This gave rise to the question in our minds as to how the conditions consequent to this pandemic affected the children’s thought process regarding their career choices. So, this survey was conducted amongst children of the healthcare professionals in urban India who were between the age group of 10 to 18 years.

METHODOLOGY

This cross-sectional, observational study was carried out among children of healthcare workers, namely doctors, nurses and paramedical staff, in India. An online structured questionnaire was developed by using Google forms and the link of the questionnaire was sent through WhatsApp to the HCWs so that their children could take the survey. On receiving and clicking the link the participants got auto directed to the information about the study. A set of several questions appeared sequentially, which the participants were supposed to answer. Identity of the participants was not divulged to the investigators. Participants with access to internet and of age 10 to 18 years who were able to understand English and willing to participate were included. The data collection was done between

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June, 2021 and August, 2021. The online self-reported questionnaire included 13 multiple choice questions and contained questions related to personal demographic details, effect of Covid -19 pandemic in their family, their career choice before and after the pandemic and the reason for any change in the career choice. The last questions tried to understand how many students considered the pandemic to be an opportunity to bring any reform in the society.

Statistical Analysis: The presentation of the categorical variables was done in the form of number and percentage (%). On the other hand, the quantitative data were presented as the means \pm SD and as median with 25th and 75th percentiles (interquartile range). The association of the variables which were qualitative in nature were analysed using Fisher's exact test. The data entry was done in the Microsoft EXCEL spreadsheet and the final analysis was done with the use of Statistical Package for Social Sciences (SPSS) software, IBM manufacturer, Chicago, USA, version 21.0. For statistical significance, p value of less than 0.05 was considered statistically significant.

Observations

The demographic profile analysis of the 53 respondents showed that 27(50.94%) were children of doctors, 19 (35.85%) and 7(13.21%) were children of nurses and paramedics respectively. 16(30.19%) respondents belonged to the age group 10-14 years and 37(69.81%) belonged to 14-18 years. (Table 1)

Table 1:- Demographic profile of participants (profession of parents and age group)

	Frequency	Percentage
Profession of parents		
Doctor	27	50.94%
Nurse	19	35.85%
Paramedic	7	13.21%
Total	53	100.00%
Age group		
10-14 Years	16	30.19%
14 -18 Years	37	69.81%
Total	53	100.00%

24 children wanted to pursue the medical profession before the pandemic arrived. Of these 7 (13.21%) wanted to change to non-medical profession. The reason for this change of mind was stated as 'Fear of contracting diseases during a future pandemic/epidemic' by 2 respondents, and 'Think that the stress of everyday life of a medical professional is too high' by 5 respondents.

Non-medical profession was the career choice in 25 (47.17%) respondents before the Covid and 8 respondents (15.09%) wanted to go into medical profession. (Table 2) The reasons stated were 'It will be a disaster if nobody joins the medical profession' by 2 children, 'Want to help others as a medical professional in times of need' by 5 children and 'Think that the stress of everyday life of a medical professional is too high' by 1 respondent. (Table 3)

Even though majority of the respondents knew what kind of profession they would like to pursue in life before the advent of the pandemic, 71.70 % (n=38) were not sure about

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changing their profession even after the ravaging effects of the pandemic were seen. (Figure 1)

Table 2:-Distribution of profession want to pursue before the Covid-19 pandemic of study subjects.

Profession want to pursue before the Covid-19 pandemic	Frequency	Percentage
Can't Say	4	7.55%
Medical	24	45.28%
Non-Medical	25	47.17%
Total	53	100.00%
Answer of profession change after the pandemic		
Can't say	3	5.66%
No	35	66.04%
Yes	15	28.30%
Nature of the change		
Medical to Non-Medical	7	13.21%
Non-Medical to Medical	8	15.09%
Not Applicable	38	71.70%

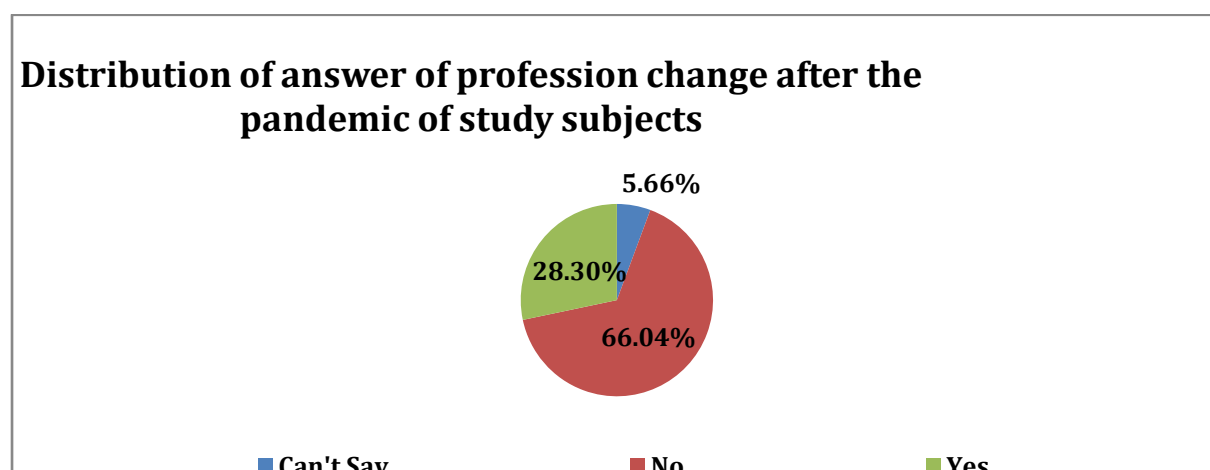


Figure 1:-Distribution of answer of profession change after the pandemic of study subjects.

Table 3:-Association of reason for changing profession with change in career choice*.

Reason for changing profession	Cant'say or no change(n=38)	Medical to Non-Medical(n=7)	Non-Medical to Medical(n=8)	Total
Not Applicable	17 (44.74%)	0 (0%)	0 (0%)	17 (32.08%)
Fear of contracting diseases during a future pandemic/epidemic	3 (7.89%)	2 (28.57%)	0 (0%)	5 (9.43%)
Fear of contracting diseases during a future pandemic/epidemic;Think	1 (2.63%)	0 (0%)	0 (0%)	1 (1.89%)

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that the stress of everyday life of a medical professional is too high				
It will be a disaster if nobody joins the medical profession	0 (0%)	0 (0%)	2 (25%)	2 (3.77%)
Think that the stress of everyday life of a medical professional is too high	4 (10.53%)	5 (71.43%)	1 (12.50%)	10 (18.87%)
Want to help others as a medical professional in times of need	13 (34.21%)	0 (0%)	5 (62.50%)	18 (33.96%)
Total	38 (100%)	7 (100%)	8 (100%)	53 (100%)

* Fisher's exact test

Parents' profession had no statistically significant effect on the number of children wanting change to their profession after the pandemic ($p=0.799$). 7, 5 and 3 children of doctors, nurses and paramedics had definite intention of switching profession respectively.

When the association of age group with change in career choice after the pandemic was analysed, it was seen that 3 out of 16 children in the age group of 10-14 years and 12 out of 37 children in the age group 14-18 years knew definitely that they wanted a change in profession. There was however no statistically significant difference ($p = 0.513$).

The direct effect of the pandemic was assessed by three questions i.e. Have your parents been infected by the Covid-19 virus?/ Have you been infected by the Covid-19 virus in 2020/ 2021?/ Have you lost anyone in your family or friends' circle to the Covid-19 virus? Amongst the 53 respondents, 27 (50.94%) had parents who were infected by the Covid-19 virus, 10 (18.87%) had themselves been infected by the SarsCov 2 virus and 24 (45.28%) were aware of deaths in the family or friends' circle. These unfortunate events had affected a big number of these children as seen from the figures in Table 4. Any association between parents, family members or the study respondents being affected by the pandemic and their decision to change their career choice was also looked into. (Figure 2,3,4) There was no statistical significance when these factors were analysed (as seen by Fisher's exact test) as to the decision to change from either medical to non-medical profession or non-medical to medical profession ($p > 0.05$) (Table 5).

Table 4: Distribution of Covid-19 infection / death in family/friends' circle :

Parents have been infected by the Covid-19 virus	Frequency	Percentage
No	26	49.06%
Yes	27	50.94%
Total	53	100.00%
Study subject has been infected by the Covid-19 virus		
No	43	81.13%
Yes	10	18.87%
Total	53	100.00%

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Lost anyone in family or friends' circle to the Covid-19 virus		
No	29	54.72%
Yes	24	45.28%
Total	53	100.00%

Table 5: Association of parents/respondents having been infected by the Covid-19 virus or any death in family/ friends' circle with change in career choice*.

Parents have been infected by the Covid-19 virus	Cant' say or no change(n=38)	Medical to Non-Medical(n=7)	Non-Medical to Medical(n=8)	Total	P value
No	18 (69.23%)	4 (15.38%)	4 (15.38%)	26 (100%)	0.911*
Yes	20 (74.07%)	3 (11.11%)	4 (14.81%)	27 (100%)	
Total	38 (71.70%)	7 (13.21%)	8 (15.09%)	53 (100%)	
Study subject has been infected by the Covid-19 virus					
No	33(76.74%)	6(13.95%)	4(9.30%)	43(100%)	0.059
Yes	5(50%)	1(10%)	4(40%)	10(100%)	
Total	38 (71.70%)	7 (13.21%)	8 (15.09%)	53 (100%)	
Lost anyone in family or friends' circle to the Covid-19 virus					
No	20 (68.97%)	5 (17.24%)	4 (13.79%)	29 (100%)	0.683
Yes	18 (75%)	2 (8.33%)	4 (16.67%)	24 (100%)	
Total	38 (71.70%)	7 (13.21%)	8 (15.09%)	53 (100%)	

Fisher's exact test

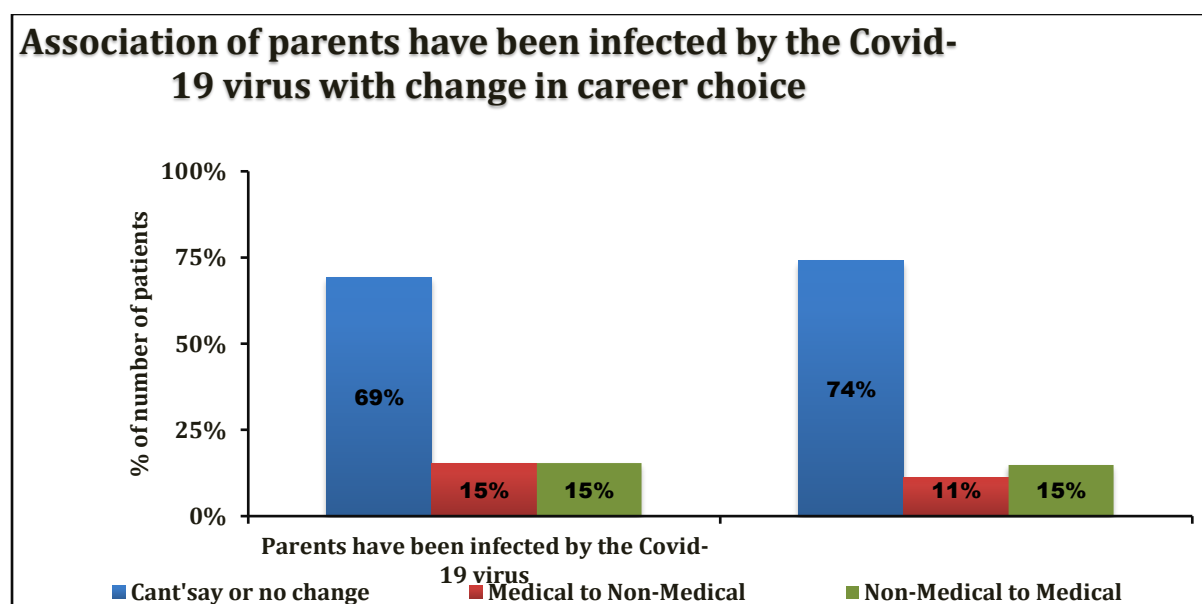


Figure 2:-Association of parents have been infected by the Covid-19 virus with change in career choice

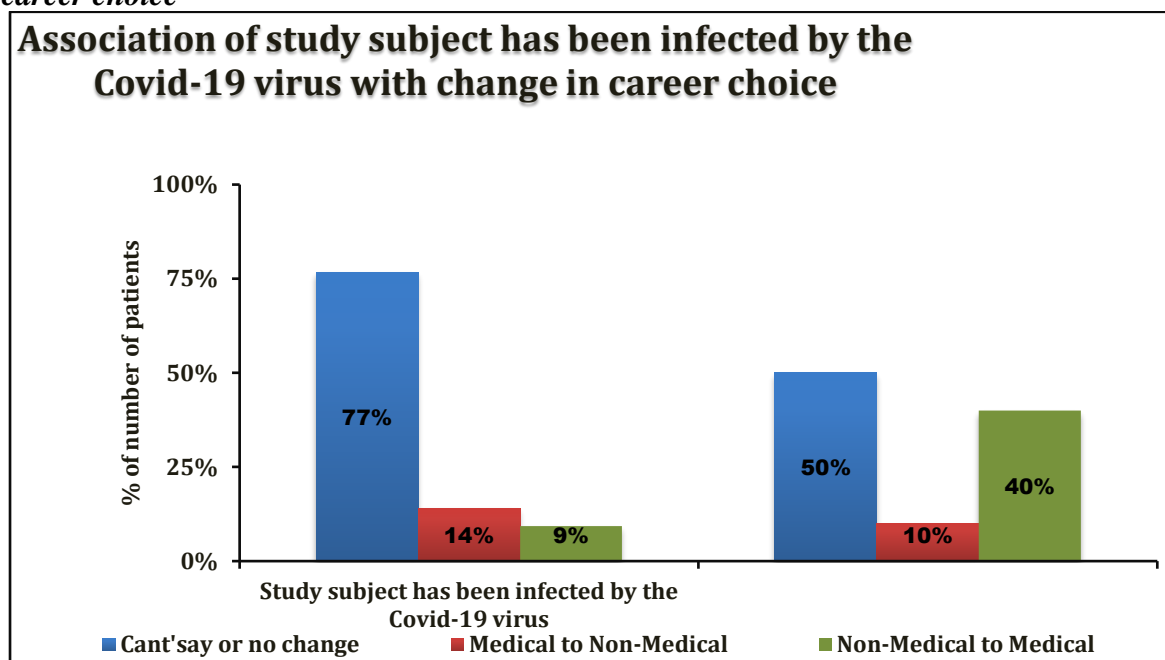


Figure 3:-Association of study subject has been infected by the Covid-19 virus with change in career choice.

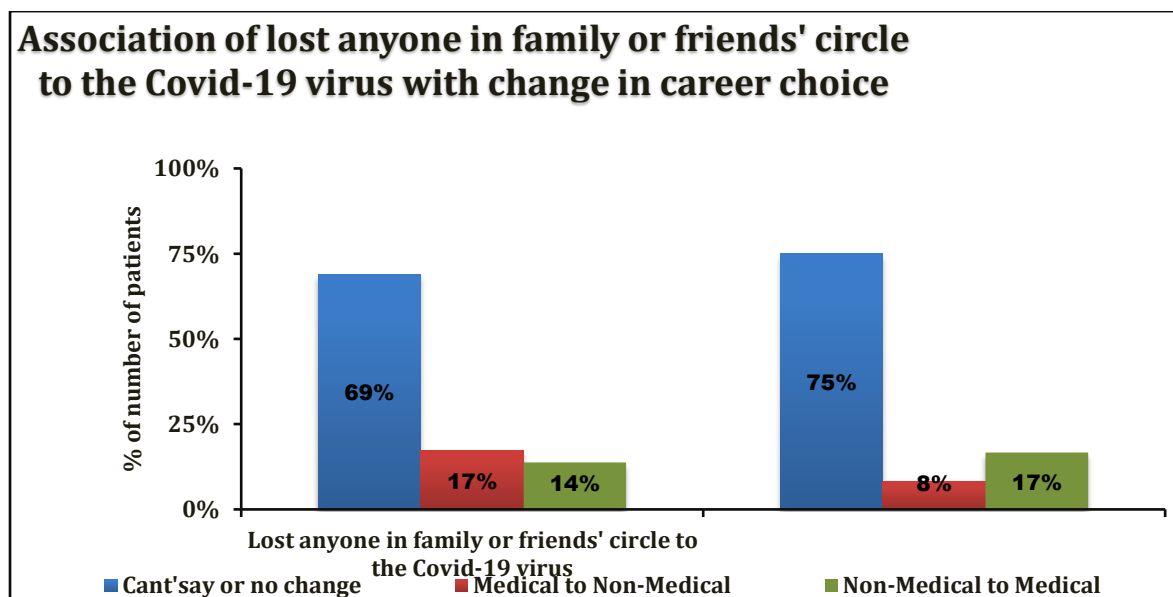


Figure 4:-Association of lost anyone in family or friends' circle to the Covid-19 virus with change in career choice.

A great number of respondents (41.51%) believed that children of non-medical professionals are at lower risk of Covid-19 infection than themselves of study subjects. At the same time a major percentage also felt that the pandemic presents an opportunity for reforms in the healthcare system (81.13%). 12 respondents (22.64%) felt that they should partake in 'Decision making pertaining to healthcare', 20 (37.74%) felt reform was possible through 'Developing technology to support healthcare' while 9 (16.98%) felt one should 'Serve as healthcare providers' to bring in the reforms. (Figure 5)

Distribution of think that more people need to be involved in the healthcare system of study subjects

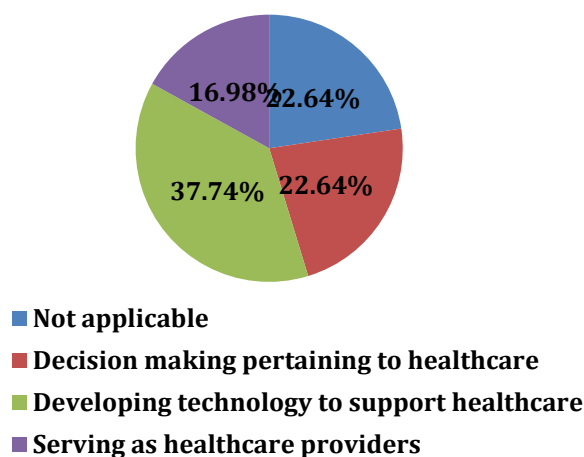


Figure 5:-Distribution of 'think that more people need to be involved in the healthcare system' of study subjects.

DISCUSSION

The families of medical professionals or health care workers (HCW) had to witness a period of huge stress during covid-19 pandemic period directly or indirectly. There have been numerous reports of stress, anxiety, and depressive symptoms in HCWs during the COVID-19 pandemic. Mostly, the anxiety is related to patient care in addition to the possibility of infecting their families. Both individuals on the frontline and other HCWs are susceptible to anxiety, poor quality sleep, and feelings of isolation. [1] Ironically the HCWs have been victims of attacks ranging from the use of heavy weapons targeting health facilities to the stigmatisation of health care workers. Whether they were in the form of a cyber-attack or a physical assault, they have endangered HCWs globally. [2] Apart from the stupendous loss of human life worldwide, the COVID-19 pandemic has led to an unprecedented challenge to public health, food systems and the world of work. There has been devastating economic and social disruption caused by the pandemic due to which tens of millions of people are at risk of falling into extreme poverty, while the number of undernourished people, currently estimated at nearly 690 million, could increase by up to 132 million by the end of the year.

Also, nearly half of the world's 3.3 billion global workforce are at risk of losing their livelihoods. Adhering to workplace safety and health practices and ensuring access to decent work and the protection of labour rights in all industries have become crucial concerns. [3] Children of HCWs being taken care of by their grandparents or relatives are subjected to separation anxiety and those who have lost their parents have suffered from grief, loneliness and post-traumatic stress disorder. This kind of stress can cause somatic complaints and sleep disturbance. Other pertinent problems have been addiction to the internet and cell phones and have difficulty in readapting after the crisis. [4] With this backdrop in mind, this study was conducted to see how the children of HCWs in the age between 10-18 years were affected by the pandemic and whether that in turn affected their career choice.

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There were 53 respondents to the questionnaire that was circulated. Of these 27, 19, and 7 were children of doctors, nurses and paramedics. More children from the age group 14-18 years (69.81%) responded to the questionnaire than children from the age group 10-14 years (30.19%). Parents' profession or age group of the children had no statistically significant effect on the number of children wanting change to their profession after the pandemic ($p > 0.05$). Even though majority of the respondents knew what kind of profession they would like to pursue in life before the advent of the pandemic, 71.70% ($n=38$) were not sure about changing their choice of profession even after the ravaging effects of the pandemic were seen. Only 15 respondents were certain that they wanted to change their profession in the wake of the pandemic. A similar number of respondents wanted to change their profession from 'medical to non-medical' [$n=7$] and 'non-medical to medical' [$n=8$].

The respondents were asked if their parents or they themselves have been infected by the virus or if there was any death in the family or friends' circle. These unfortunate events had affected these children quite significantly as seen from our study. However, the decision to change the profession from either medical to non-medical profession or non-medical to medical profession was not significantly different amongst the groups of children who were directly affected or not affected by the SarsCov-2 virus ($p > 0.05$).

Covid-19 infection risk and hospital admission were increased or even doubled among household members of frontline workers, as shown by various analyses adjusted for sex, age, ethnicity, socioeconomic status, and comorbidity. [5, 6] A great number of respondents (41.51%) in our study too believed that children of non-medical professionals are at lower risk of Covid-19 infection than themselves. At the same time a major percentage also felt that the pandemic presents an opportunity for reforms in the healthcare system (81.13%). A study by Shreffler J et al has noted that some frontline workers however experienced better mental health outcomes due to a sense of vocation / purpose in work, along with greater control of environment. Majority of the children in our study have shown great resilience and an optimistic mindset [1]

CONCLUSION

A great number of respondents who participated in our survey believed that children of non-medical professionals are at lower risk of Covid-19 infection than themselves but a major percentage were also optimistic enough to feel that the pandemic presents an opportunity for reforms in the healthcare system. Also, important to note is the fact that a great percentage of children i.e., 71.70% were not sure if they wanted to change their career choice in spite of seeing Covid-19 infections and deaths in their family and friends' circle.

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Conflict of Interest

The author(s) declared no conflict of interest.

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