Does a Mother's Previous Experience with COVID-19 Infection Change Her Intention to Vaccinate Her Children?

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BACKGROUND

- In January 2020, Coronavirus disease 2019 (COVID-19) was declared a Public Health Emergency by the World Health Organization.
- To prevent further spread of the disease, the Center for Disease Control and Prevention (CDC) advised preventive measures including staying at home, social distancing, and considering good hand hygiene.
- While about 57.9% of the US adult population had been fully vaccinated by the end of June 2021, only 33% of 12-17 years old had received the COVID-19 vaccine by the end of June 2021, and 25% of parents stated that they will definitely not vaccinate their children.
- Early recognition of intention to vaccinate is a critical step towards the implementation of any policies to enhance the COVID-19 vaccine uptake.

OBJECTIVE

This study aimed to understand how mother's previous experience with COVID-19 infection was associated with future intention to vaccinate their children against COVID-19.

METHODS

- An online survey was administered during March 2021 before any vaccine was available for children.
- Mothers who had at least one child between 3-15 years old were recruited.
- Participants' age, marital status, race, educational level, previous COVID-19 infection experience, and future intention to vaccinate children were obtained.
- Based on previous involvement with COVID-19 infection, participants were categorized into two groups (at least one healthcare worker among the household/ no healthcare workers among the household).
- Participants were also categorized into two groups based on the incidence of COVID-19 infection among the household (at least one of the household members/ none of the household members).
- Chi-square test and adjusted logistic regression were carried out for comparison.

RESULTS

Table 1: Mothers' characteristics in relation with intention to vaccinate their children (n=595)

Age*	Total, N (%)	No intention, N (%)	Intention, N (%)
20-30	48 (8.07)	21 (5.72)	27 (11.84)
31-40	330 (55.46)	202 (55.04)	128 (56.14)
40<	217 (36.47)	144 (39.24)	73 (32.02)
Race			
Caucasian/Non-Hispanic White	429(72.1)	168(73.68)	261(71.12)
Non-White	166(27.90)	60(26.32)	106(28.88)
Marital status*			
Single/Separated/ Divorced/Widowed	58(9.75)	30(13.16)	28(7.63)
Married or in a cohabiting relationship	537(90.25)	198(86.84)	339(92.37)
Highest level of education**			
High school diploma	34(5.71)	15(6.58)	19(5.18)
2 years of college	96(16.13)	51(22.37)	45(12.26)
At least 4 years of college	465(78.15)	162(71.05)	303(82.56)
Healthcare worker among the household members			
Yes	217(36.47)	74(32.46)	143(38.96)
No	378(63.53)	154(67.54)	224(61.04)
Coronavirus infection among the household members			
At least once	114(19.16)	49(21.05)	65(17.71)
None	481(80.84)	179(78.95)	302(82.29)

- Majority of the 595 participants were 31-40 years old (55.46%), White (72.1%), and married (90.25%).
- Overall, 38.3% indicated they did not intend to use the COVID-19 vaccine for their children. Mothers' age (older), higher level of education, and being married or in a cohabiting relationship were associated with higher intention to vaccinate (p<.05).
- Among mothers who had no intention to vaccinate, 21.05% had experienced COVID-19 infection in the household while 17.71% of intended mothers had COVID-19 infection experience in the household.
- Multivariable logistic regression analysis revealed that presence of a healthcare worker among the household was associated with higher intention for vaccination (OR=1.50, 95%CI=1.04-2.16). But surprisingly, past COVID-19 infection among the household members was not associated with higher intention to vaccinate (OR=0.85 95%CI=0.55-1.31).



Source of image: https://www.cdc.gov/coronavirus/2019-ncov/communication/print-resources.

*p<0.05; **p<0.01

Table 2: Adjusted Logistic Regression Analysis of Mothers' Previous Experience with COVID-19 Infection and Their Intention to Vaccinate Their Children Against COVID-19 (n=595)

Healthcare Worker Among the Household	Adjusted Odds Ratio	95% Confidence Interval	
At least one	1.50	1.04	2.16
COVID Infection Among the Household			
At least once	0.85	0.55	1.31
Age (ref. 20-30 years)			
31-40 years old	1.71	0.87	3.35
>40 years old	2.13	1.06	4.30
Marital status (ref. single, widowed, or divorced)			
Married/ in a cohabiting relationship	1.58	0.87	2.84
Highest level of education (ref. two years of college)			
High school diploma	1.81	0.80	4.13
Four years of college	1.75	1.09	2.81

LIMITATIONS

- Our sample might not be an excellent representative of all parents, since only mothers were included.
- Due to the voluntary recruitment, our findings might have been affected by non-respondent bias.
- Lastly, interpretations should be with understanding that cross-sectional studies are purely descriptive and used to assess the burden of a particular problem in a defined target population.

CONCLUSION

COVID-19 infection experience was not associated with higher intention for children's vaccination. However, the presence of healthcare workers among the household was associated with higher intention to vaccinate children against COVID-19.

References available upon request