

## ADOLESCENT VACCINATION STATUS AND PARENTAL INTENT TO GET A COVID-19 VACCINE FOR THEIR ADOLESCENT

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### Abstract

**Background:** Between June and August 2021, child and adolescent COVID-19-related hospitalisations increased fivefold in India, and unvaccinated adolescents had higher rates of hospitalisation and serious illness than their vaccinated peers. This rise occurred during the emergence of the SARS-CoV-2 Delta variant (B.1.617.2) and as schools and parents prepared to return to in-person school for the 2021-2022 school year after switching to remote learning during the early stages of the COVID-19 pandemic. **Materials and Methods:** A cross-sectional survey informed by the Theory of Planned Behaviour (TPB) framework and self-administered online voluntarily by parents of children aged 3 to 12 years old in a tertiary care hospital (Malabar Medical College Hospital & Research Centre) between January 2022 and December 2022 was used in this study. The survey was only open for 12 months in order to provide a snapshot of parents' intentions shortly after the government lowered the COVID-19 vaccination age limit to 12 years of age (previously only available to people over 16 years old). The Participant Information Statement (PIS) stated that by completing and submitting the survey online, they agreed to participate in the research study. **Result:** There had been a total of 100 responses, all of which were complete, giving a completion rate of 100%. According to Table 1, the majority of respondents (n = 83, 83%) were mothers, aged 31 to 40 years (n = 63, 63%), and had two children (n = 57, 57%). Their children ranged in age from three to twelve years old. Approximately two-thirds (61.0%) had a Bachelor's degree, 72 (72%) were employed, and 51 (51%) had a monthly household income of 20,000 or less (the average monthly household income in 2017 was 20,497). Almost 85% of respondents had received COVID-19 vaccines (4 (4%) had one dose, 60 (60%) had two doses, and 20 (20%) had three doses). The majority of them (n = 62, 62%), believed they were knowledgeable about the COVID-19 vaccines. **Conclusion:** This study discovered a moderate level of parental intention to vaccinate their children against COVID-19, as well as empirically testing and demonstrating the utility of the TPB in evaluating how psychosocial attributes may guide parents' decision making. Targeted public health strategies should aim to address parents' concerns about COVID-19 vaccines while also providing accurate and up-to-date information about vaccine uptake, safety, and effectiveness. Importantly, public awareness of the social responsibility associated with vaccination should be raised through coordinated efforts of entities to which parents have entrusted their children.

## INTRODUCTION

Between June and August 2021, child and adolescent COVID-19-related hospitalisations increased fivefold in India, and unvaccinated adolescents had higher rates of hospitalisation and

serious illness than their vaccinated peers.<sup>[1]</sup> This rise occurred during the emergence of the SARS-CoV-2 Delta variant (B.1.617.2) and as schools and parents prepared to return to in-person school for the 2021-2022 school year after switching to remote learning during the early stages of the COVID-19

pandemic. In May 2021, the Food and Drug Administration expanded the authorization of the Pfizer-BioNTech COVID-19 vaccine to include people aged 12 to 15. Despite the fact that two doses of the vaccine are more than 90% effective against the Delta variant in preventing hospitalization, intensive care admission, or the use of life-support, only 46.4% of 16-17 year old adolescents and 37.0% of 12-15 year old adolescents had been fully vaccinated as of September 1, 2021.<sup>[2]</sup>

COVID-19 cases and hospitalizations among children reached their highest level since the pandemic began, possibly due to the emergence of the highly transmissible Omicron variant. For example, the number of COVID-19 cases among US children in early January 2022 was triple that of the end of December 2021. Since the beginning of the pandemic, approximately 8.5 million children have tested positive for COVID-19, which may have immediate as well as long-term effects on children's physical, mental, and social well-being. Furthermore, COVID-19 is one of the top ten causes of death in children aged 5 to 11.<sup>[3]</sup>

Many activities that promote child and adolescent development were hampered by the COVID-19 pandemic, including school, sports, jobs, extra-curricular activities, social events, and religious services. According to a recent review, this resulted in higher rates of depression and anxiety, which were mitigated in part by physical activity and social connectiveness.<sup>[4]</sup> Accumulating evidence shows that SARS-CoV-2 is transmitted during such activities, supporting the need for a multi-pronged approach, including vaccination, to reduce viral transmission and the risk of severe illness.<sup>[5]</sup>

The primary goal of this study is to understand parental COVID-19 intention for their children and the factors influencing their decision-making in order to inform evidence-based actions that change stereotypes and help the COVID-19 vaccination programme succeed.

## MATERIALS AND METHODS

A cross-sectional survey informed by the Theory of Planned Behaviour (TPB) framework and self-administered online voluntarily by parents of children aged 3 to 12 years old in a tertiary care hospital (Malabar Medical College Hospital & Research Centre) between January 2022 and December 2022 was used in this study. The survey was only open for 12 months in order to provide a snapshot of parents' intentions shortly after the government lowered the COVID-19 vaccination age limit to 12 years of age (previously only available to people over 16 years old). The Participant Information Statement (PIS) stated that by completing and submitting the survey online, they agreed to participate in the research study.

A checkbox was placed at the beginning of the survey for respondents to clearly indicate their

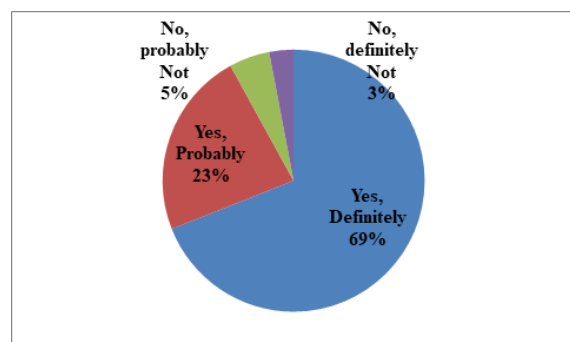
consent before proceeding to answer the survey questions. The PIS also clearly stated the study's purpose, the potential use of the respondents' information, and the safeguards in place to protect their confidentiality. Respondents received no incentives for completing the survey. The study was reported in accordance with the Strengthening of Reporting of Observational Studies in Epidemiology (STROBE) guideline and the Checklist for Reporting Results of Internet E-Surveys (CHERRIES).

The survey's target population was parents or legal guardians of children aged 3 to 12 living in \*\*\*\*\* during the COVID-19 pandemic. The valid sample size is determined at a minimum of 100 (confidence level 95%, margin of error 5%) based on a sample population of 231,200.

To reduce sampling bias due to language barriers, the self-administered structured questionnaire used in this study was prepared in English and other languages. Following Leavy's recommendations, the questionnaire underwent two rounds of pilot testing. The initial instrument was first assessed by three researchers experienced in quantitative studies and public health measures of mass vaccination through a focus group to ensure the face validity of the questionnaire and that the theoretical constructs (Attitude, Subjective Norm, and Perceived Behavioral Control and Intention) were appropriately represented.

Statistical Evaluation: The Statistical Package for Social Sciences (SPSS) version 27 software for Windows was used to analyse the survey responses. Descriptive analysis (frequency) was performed on respondents' demographic characteristics, and univariate analysis using the Pearson chi-square test was used to compare differences in the intention to vaccinate their children with COVID-19 vaccines among subgroups.

## RESULTS



**Figure 1: intention to vaccinate their children against COVID-19**

There had been a total of 100 responses, all of which were complete, giving a completion rate of 100%. According to Table 1, the majority of respondents (n = 83, 83%) were mothers, aged 31 to 40 years (n = 63, 63%), and had two children (n = 57, 57%). Their

children ranged in age from three to twelve years old. Approximately two-thirds (61.0%) had a Bachelor's degree, 72 (72%) were employed, and 51 (51%) had a monthly household income of 20,000 or less (the average monthly household income in 2017 was 20,497). Almost 85% of respondents had

received COVID-19 vaccines (4 (4%) had one dose, 60 (60%) had two doses, and 20 (20%) had three doses). The majority of them (n = 62, 62%), believed they were knowledgeable about the COVID-19 vaccines.

**Table 1: Parents demographics**

Parameter	N	Percentage
Age in years		
<30 years	7	7%
31-40 years	63	63%
41-50 years	30	30%
>50 years	13	13%
Marrital status		
Married	93	93%
Single	2	2%
widowed	5	5%
Number of children		
1	25	25%
2	57	57%
3	14	14%
4	4	4%
Age of the children in years		
3	15	15%
4	10	10%
5	11	11%
6	13	13%
7	12	12%
8	10	10%
9	9	9%
10	8	8%
11	7	7%
12	5	5%

**Table 2: Frequency of parents' answers about intention to vaccinate their children against COVID-19**

S.No	Parents intentions to vaccinate their children against Covid-19	Percentage
1	Yes, Definitely	69%
2	Yes, Probably	23%
3	No, probably Not	5%
4	No, definitely Not	3%

## DISCUSSION

The low perceived susceptibility may undermine parents' appreciation of the true benefits of the COVID-19 vaccine, shifting their risk-benefit assessment further toward safety concerns. Indeed, as reported in our study, some parents perceived their children's risk of contracting COVID-19 as low and the disease's symptoms as mild; they reported less intent to have their children receive the vaccine.<sup>[6]</sup> People who believe COVID-19 poses a higher risk, according to studies, are more likely to engage in preventive measures. It is clear that some parents have yet to fully comprehend the potential impact of COVID-19 on children in the event of a local outbreak or the emergence of a new variant.<sup>[7]</sup> Another important factor influencing parents' decisions was their perception of the risks of vaccination for their children. One of the main reasons given by 7.8% of parents who did not intend or were unsure about COVID19 vaccination for their children was safety concerns. During the pandemic, regulatory authorities granted some

vaccine candidates fast-track licensure, which contributed to vaccination hesitancy.<sup>[8]</sup> Because of the vaccines' short development time and accelerated approval procedures, evidence about their safety, particularly among special age groups, was limited. Parents were understandably concerned about the hurried nature of the testing, as well as their concerns about its safety. As a result, it is critical for the government and medical professionals to effectively communicate with parents about new vaccine types and safety evidence as it accumulates.<sup>[9]</sup>

Furthermore, because the topic of COVID-19 vaccination among children is potentially sensitive, the risks of social desirability bias cannot be ruled out, which could have led participants to indicate their preference when they had not yet made a decision or had decided otherwise. Furthermore, because this study relied on voluntary participation, parents who found the topic of vaccinating their children sensitive or even controversial may have declined to participate, resulting in non-response bias. Indeed, considering the differences between

the proportion of parents with no intention to vaccinate their children with COVID-19 vaccines (19.1%) in this study and the non-vaccination rate of children aged 3 to up to 12 years old, parents with no intention to vaccinate their children may have been under-represented in this study.<sup>[10]</sup>

## CONCLUSION

This study discovered a moderate level of parental intention to vaccinate their children against COVID-19, as well as empirically testing and demonstrating the utility of the TPB in evaluating how psychosocial attributes may guide parents' decision making. Targeted public health strategies should aim to address parents' concerns about COVID-19 vaccines while also providing accurate and up-to-date information about vaccine uptake, safety, and effectiveness. Importantly, public awareness of the social responsibility associated with vaccination should be raised through coordinated efforts of entities to which parents have entrusted their children. Continuous research into the factors influencing parents' decision-making, as well as the differences in the influences of such factors on various subgroups of parents, would be useful for designing precise vaccination campaigns that achieve optimal children's uptake of a COVID-19 vaccine.

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