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Research Article

Families' Acceptance, Concerns and Obstacles Towards COVID-19 Vaccine Among Children in Saudi Arabia: A Cross Sectional Survey

Lamya Abdullah Almatrafi[1], Refal Essam Fagieha[1], Mohammed Abdulmuti Simsim[1] , Alaa H. Falemban[2,3], Safaa M. Alsanosi[2], Deena Bukhary[4] and Yosra AL-Hindi[2]

[1]Pharm D candidate, Faculty of pharmacy, Umm Al-Qura University, Makkah, KSA.

[2]Pharmacology and toxicology department, Faculty of medicine, Umm Al-Qura University, Makkah, KSA.

[3]Saudi Toxicology Society, Umm Al-Qura University, Makkah, Saudi Arabia

[4] Pharmaceutical Science department, Faculty of pharmacy Umm Al-Qura University, Makkah, KSA

Abstract: While coronavirus disease 2019 has become a pandemic, the necessity of vaccination is crucial. Early 2020, scientists across the world started their vaccine trials to fight the pandemic. More than 46 million doses of a COVID-19 vaccines have been administered in Saudi Arabia. However, vaccine hesitancy, especially from parents towards their children can be an obstacle. As the parents can be hesitant, they can refuse or deny to vaccinate their children. Our aim is to investigate families' acceptance, concerns, and obstacles related to COVID-19 vaccine among children in Saudi Arabia. Cross-sectional study was conducted from January to April 2022. An online form questionnaire composed of 15 questions was distributed electronically. Our results showed a total of 250 respondents were included in the analysis, of which 78% were female and 22% male aged between 21 to 78 years old. 88% had a university education and 40% was received 3 doses of COVID vaccine, 55.5% received two doses of vaccine, 4% received only one dose and 1% not vaccinated. 64% of parents do not support their children receiving the Corona vaccine, while 36% are supportive of it. This study revealed that many parents were hesitant to give immunity against SARS-CoV-2 to their children. Further educational programs and influence from the social media for parents and community is essential to fight this hesitancy.

Key Words: Vaccination, Beliefs, Barriers, Saudi Arabia, Covid-19

***Corresponding Author**

Dr. Yosra Alhindi , Pharmacology and toxicology department, Faculty of medicine, University of Umm Al-Qura, Makkah, KSA.

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1. INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus[1]. This new infection was believed to have emerged from Wuhan City, Hubei Province, China in December 2019[2]. The virus has a single-stranded RNA genome. [3] Among all the RNA viruses, the RNA genome of Coronavirus (Covid) is one among the largest [4]. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 as a pandemic [5]. (COVID-19) pandemic has approximately affected 113 million individuals worldwide; of which around 2.5 million people lost their lives un-fortunately[6]. Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment [7]. However, some will become seriously ill and require medical attention and hospitalization [8]. Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness[9]. Anyone can get sick with COVID-19 and become seriously ill or die at any age [10,11]. Early 2020, scientists across the world started their vaccine trials to fight the pandemic [11,12]. More than 46 million doses of a COVID-19 vaccines have been administered in Saudi Arabia[13]. Many countries have already approved the use of vaccines for children ages 12 and over [14]. In some, attention is now turning to expanding vaccination eligibility to include younger children, following research into their safety and benefits [14]. WHO on Saudi Arabia announced on December 2021 that, children in the age group of 5-11 will now be able to receive their first dose of COVID-19 vaccines and they noted in a statement that, the priority of receiving the shots will be giving for those children at high-risk and have more susceptible from the virus' complications [15]. They are suggesting that vaccines offer a safe and effective way for children to return to school and resume normal, everyday life and to reduce the risk of them spreading the disease to their families. Despite of this statement, some parents still have reservations about the vaccination and its harmful effects on their children. In this research, we aim to find the reasons that led to this concern and hopefully solve it.

2. MATERIALS AND METHODS

Cross-sectional study was conducted from January to April 2022. An online form questionnaire composed of 15 questions was distributed electronically. To be included in the final analytic sample, the respondents must have children, Arabic speakers and currently residing in Saudi Arabia. Excluded respondents were those who partially submitted their responses, those who did not have children and Saudi Nationals who reside out-side Saudi Arabia. The questionnaire consists of demographic data such as age, social and educational status of the parents. Then, the number of doses, they received from the Corona vaccine, and if they & their children adhered to the precautionary measures against the Coronavirus and whether they supported or opposed their Children's receiving the Corona vaccine, with mention of the reasons and if, their children had received the vaccine, what are the side effects that appeared and the percentage of their fear of the vaccine towards children.

2.1 Outcome of the study

The main outcome of the study was 1) the family's acceptance toward the uptake of the COVID-19 vaccine on children under 12 years old, 2) To what degree they are hesitant about getting the vaccine of their children, 3) to determine what is the most side effect appears on their children from the vaccine.

3. STATISTICAL ANALYSIS

The data was collected, organized by and saved into an excel sheet, then converted and coded using a statistical package for social sciences (SPSS, Inc. Chicago, IL). A p-value below 0.05 was determined statistically significant.

4. RESULTS

A total of 250 respondents were included in the analysis, of which, 78% were female and 22% male aged between 21 to 78 years old. 88% had a university education and 40% received 3 doses of COVID vaccine, 55.5% received two doses of vaccine, 4% received only one dose and 1% not vaccinated. The results also showed that 76% of the parents require their children to take precautionary measures and wear a mask, 15% not always, and 9% do not require them to follow the precautionary measures. 64% of parents do not support their children receiving the Corona vaccine, while 36% are supportive of it.

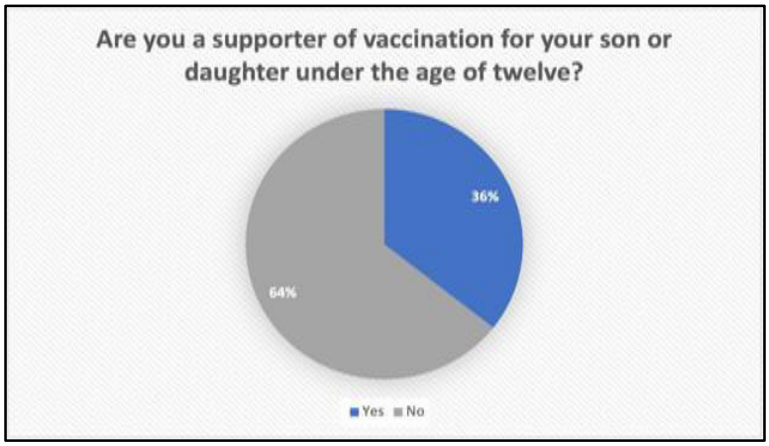

Fig 1 demonstrates participants support towards vaccination of their children, almost 36% agreed and the 64% denied.

Fig 1: Participant support towards vaccination of their children. N=250

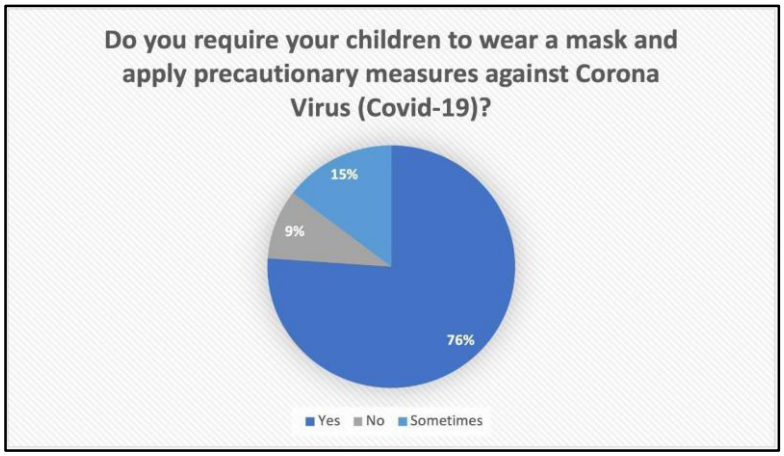

Fig 2 demonstrate the protective measures done by parents as wearing masks 76% of the parent confirmed doing this and 9 % denied it.

Fig 2: Protective measures parents provide to their children. N=250

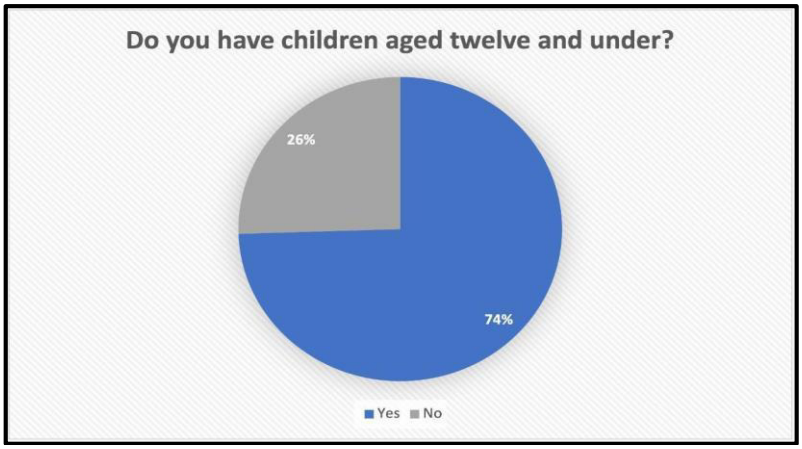

Fig 3 showed how many children did the parent had under the age of 12 years of 74% of the respondent had children under the age of 12 years old.

Figure 3: Number of children underage of 12 in the study respondents. N=250

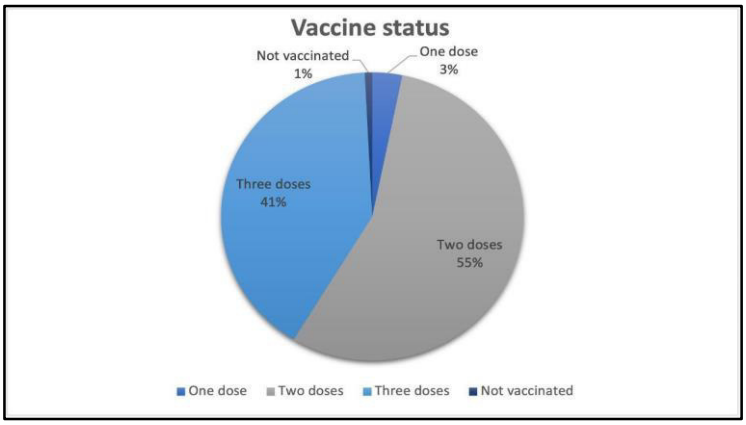

Fig 4 demonstrate the status of parents vaccine, around 55% of them took two doses of Covid-19 vaccine, 41% took the three doses and only 3% took One dose.

Figure 4: Vaccine status of the respondents. N=250

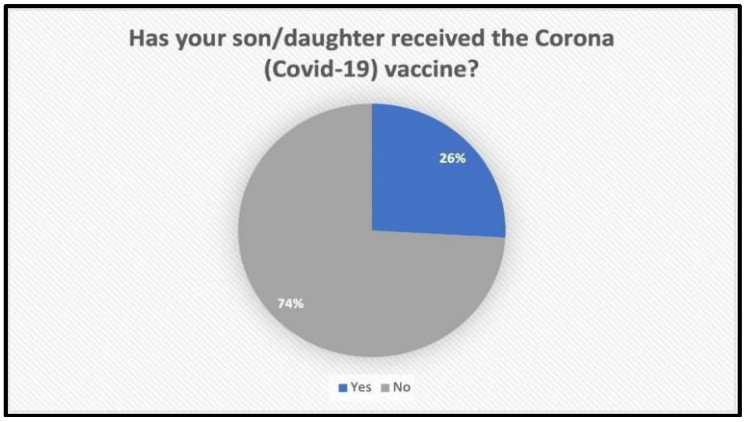

Fig 5 demonstrate the vaccination status of the children, only 26 % of them were vaccinated.

Fig 5: Vaccine status of the children. N=250

5. DISCUSSION

Our main aim of the study was to investigate families' acceptance, concerns, and obstacles related to COVID-19 vaccine among children in Saudi Arabia. This study provides early insight into the Saudi population's knowledge, acceptability and perception regarding COVID-19 vaccines to their children. Parents' concern for their children has led to an increase in demand, awareness that is associated with better acceptance towards COVID-19 vaccine. This study observed the worries among the participants regarding the safety and efficacy of COVID-19 vaccines for children. This finding can help the Ministry of Health to plan for future efforts to increase vaccine uptake that may eventually lead to herd immunity against SARS-CoV-2 to the children. We saw similar findings reported in Ireland and the UK where individuals belonging to the age group 18–24 years were more hesitant to receive the COVID-19 vaccine[16]. Another study in Jordan and Kuwait informed that the acceptance of the COVID-19 vaccine was higher among males and people that resulted in their higher educational status[17]. We found that people who were previously infected with COVID-19 were more likely to receive the vaccine than those who were not infected, this was clearly shown in a study done in Saudi Arabia[18] and France[19]. In other countries, they believe that when you are vaccinated the possibility of less infection rate will happen[20-23]. One of the reasons for rejection was that they believed that children have strong immunity against viruses & diseases and there is no need to receive the vaccine. They are also afraid because there are not enough studies that support the effectiveness of vaccination for children and that studies are under construction & development. Some of the reasons for rejection are also their fear of long-term side effects, such as their lack of immunity and the impact on growth and their feeling that it is not safe for their children and also their lack of confidence in it. The reasons for the support were their confidence in everything that the Saudi Ministry of Health offers, to prevent them from contacting the disease, to return life to normal, to protect their children, and to build immunity against the virus. We found one of the odd objections was that they were afraid of the content of the vaccine [24,-26]. Among the side effects that appeared is a rise in temperature, severe pain at the place of receiving the vaccine which is normal among all other vaccines, headache, lethargy, nausea, cramps and vomiting. There are also those who appeared to have chest pains when breathing and movement, which necessitated the taking of oxygen. This present study had some limitations, as the study was an online survey rather than face to face interview. In addition to the small sample size, future recommendation to include larger numbers of participants should be considered. Moreover, researchers such as Van Der Linden et al. (2021) suggested that to combat vaccine misinformation, the public should be immunized against misinformation, which is a process that could draw on the concept of psychological inoculation and objection [22, 27].

6. CONCLUSION

This study revealed that many parents were hesitant to give immunity against SARS-CoV-2 to their children. This is a huge obstacle towards health and safety of children. Therefore, our study enlightens the necessity to educate parents & the community towards vaccination of children and their health support. For future recommendation it is indeed great to have multiple sessions with community and parents to emphasize on the benefits of vaccine and their safety and efficacy towards children protection and immunity.

7. AUTHOR CONTRIBUTION STATEMENT

Mohammed Simsim, Refal Fagieha, Lamya Almatrafi and Yosra Alhindi, studied conception, supervision, project administration, and revision. Mohammed Simsim, Refal Fagieha, Lamya Almatrafi, Alaa Falemban Deena Bukhary and Safaa Alsanosi contributed to the literature review and writing/ manuscript preparation such as writing the initial draft, data collection, formal analysis and data presentation, data collection.

7.1 Ethical approval

The Medical Ethics Committee of Umm Al-Qura University, Saudi Arabia, approved the study ethical approval number: (HAPO-02-K-012-2022-05-1107). Furthermore, electronic informed consent was obtained from each participant to submit their answers, and they can withdraw at any time.

7.2 Data and materials availability

All data associated with this study are presented in the paper.

8. CONFLICT OF INTEREST

Conflict of interest declared none.

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