



A Cross-Sectional Study of Parents' Attitudes towards Children Vaccination against COVID-19

Qaisar Khalid Mahmood	Assistant Professor, Department of Gender Studies, University of the Punjab, Lahore, Punjab, Pakistan.
Muhammad Farooq	Senior Lecturer, Faculty of Humanities and Social Sciences, University of Central Punjab, Lahore, Punjab, Pakistan.
Muhammad Uzair	Research Officer, Department of Gender Studies, University of the Punjab, Lahore, Punjab, Pakistan.

Vol. 2, No. 4 (Fall 2022)

Pages: 193 – 199

ISSN (Print): 2789-441X

ISSN (Online): 2789-4428

Key Words

COVID-19, Vaccination, Children, Parents

Corresponding Author:

Qaisar Khalid Mahmood

Email: qaisar.dgs@pu.edu.pk

Abstract: COVID-19 vaccine has recently been approved for Pakistani children. Understanding parental intentions to vaccinate children against COVID-19 is important to the development of an effective COVID-19 vaccine campaign. This study was conducted to analyze parents' attitudes towards their children's vaccination against COVID-19 and their knowledge about the vaccination campaign for children younger than 12 years. An online survey was conducted, and five hundred and twenty-three parents participated in the survey. Findings indicate that majority of the parents had the knowledge of the vaccination campaign for the children. They got this information through television and social media platforms. Overall, parents' attitudes towards their children's vaccination against COVID-19 were positive, and they were willing to vaccinate their children. Most of the parents rejected the stereotypical reasons for not vaccinating their children. There is a need to expand this vaccination campaign all over the country.

Introduction

After the initial coronavirus outbreak in China, the virus rapidly spread throughout the world, causing widespread morbidity and mortality (Zylke & Bauchner, 2020). Uncertainty about when the pandemic would end and its impact on individual lives had significant economic, social, and psychological consequences for all societies (Mahmood et al., 2022; Nicomedes & Avila, 2020). According to the World Health Organization (2022), more than 627 million people have been infected with coronavirus, and more than 6.57 million have died as a result. The first coronavirus case was reported in Pakistan on February 26, 2020 (Salman et al., 2020), and by February 2021, more than half a million people had been diagnosed with COVID-19. In 2022, the reported cases increased to 1.5 million. Like all other

developed and developing countries, Pakistan initiated its national COVID-19 vaccination drive in 2021 to control the outbreak of this virus. Initially, healthcare workers and senior citizens got the vaccination. Later, the government made vaccinations available for free to all adults. Currently, more than 300 million COVID-19 vaccination doses have been administered, and 59 percent of the total population has been covered (World Health Organization, 2022a). However, a considerable portion of the population still needs to get vaccinated. For this purpose, there is a need to implement additional strategic measures to reduce vaccination hesitancy.

Getting the COVID-19 vaccine is a safer and more dependable method of protection than contracting COVID-19. The COVID-19 vaccination

protects individuals by eliciting an immune response in the absence of the potentially severe illness and post-COVID conditions that can accompany COVID-19 infection. For this purpose, people all around the world are required to get vaccinated in order to control this pandemic (Galanis et al., [2022](#)). This vaccination campaign requires adequate vaccine production, equitable distribution, and widespread public acceptance (Neumann-Bohme et al., [2020](#)). Alongside the rapid development and timely distribution of vaccines, the population's willingness to be vaccinated is a crucial factor. Any kind of delay in accepting or rejecting vaccines despite their availability poses a significant threat to mass immunization, which is a highly relied-upon method for preventing the spread of coronavirus (Ali et al., [2022](#); Hodgson et al., [2021](#)). However, as of September 2022, an estimated 69.7% of the world's population, or approximately 5.35 billion individuals, have received the COVID-19 vaccine. This indicates that a sizeable portion of the global population still lacks access to COVID-19 vaccines and is delaying or refusing vaccination. COVID-19 vaccine hesitancy is a significant barrier to reaching a sufficient number of individuals to achieve SARS-CoV-2 herd immunity.

In light of the fact that efforts to vaccinate adults are currently under way, it is of the utmost importance to acknowledge the significance of the COVID-19 vaccination for children, despite the fact that many adults are unwilling to vaccinate their own children. Thus, a comprehensive child vaccination program can be advantageous and will aid in enhancing community safety (Lecce et al., [2022](#)). It is essential for the development of an efficient COVID-19 vaccine campaign to gain an understanding of parental intentions regarding the vaccination of their children against COVID-19 (Szilagyi et al., [2021](#); Evans et al., [2021](#)). Previous research indicates that the willingness of parents to vaccinate their children varies greatly from country to country (Goldman et al., [2020](#); Humble et al., [2021](#)). Thus, the investigation of factors influencing parents' reluctance to

vaccinate their children against COVID-19 is extremely useful for comprehending immunization barriers. The sources of vaccination information can also play an important role in the acceptance of vaccines (Bendau et al., [2021](#)). People who obtain their information from unreliable sources are susceptible to misinformation and disinformation. Appropriate public communication and public health interventions can aid in diminishing parental reluctance (Bianco et al., [2022](#)). Keeping in view the limited number and quality of studies on parental vaccine hesitancy, there is an urgent need to conduct additional rigorous research on the topic (Bianco et al., [2022](#); Chen, He, and Shi, 2022). In addition, even less is understood about parental vaccine hesitancy in the Pakistani population.

Rationale of Current Study

Through the Expanded Program on Immunization (EPI) of Punjab, the government of Punjab launched the first and second rounds of the COVID-19 vaccination campaign in five districts where children aged five to twelve had received the first and second doses of the vaccine. The initial dose was administered in September, followed by the second dose in October and November. This vaccination campaign was conducted in Lahore, Multan, Rawalpindi, Bahawalpur, and Okara, five districts of the Punjab. During this campaign, an estimated 4.6 million children were vaccinated. However, this was a targeted effort and did not cover the total population of the province. More efforts are required to vaccinate our children against COVID-19. Pakistan has a track record of slow immunization for other lethal diseases such as HBV and polio (Khan, 2021). In this regard, it is important to understand Pakistani parents' attitudes towards their children's vaccination against COVID-19 and the possible reasons for their lack of willingness to vaccinate. To date, no such studies are available with respect to Pakistani society focusing on parental attitudes towards children's vaccination against COVID-19.

This study aims to fill this research gap and to provide empirical data for the policy makers to launch effective campaign of COVID-19 vaccination for the children.

Methodology

The researchers collected data from the Punjab, Pakistan's most populous province, using a cross-sectional online survey. The information was gathered in October 2022. The researchers used Google Forms to create an e-link for the questionnaire, which they then shared on social media platforms such as Facebook, LinkedIn, and WhatsApp. The objectives of the study were clearly explained to the respondents, and informed consent was obtained electronically. The researchers made certain that all participants were aware of their data's anonymity and confidentiality. A survey could not be submitted unless all questions were answered. This survey had 523 respondents who completed it successfully. There were no incentives offered to participants in this study. In order to see the effect of socio-demographic variables, the survey included questions related to relationship with

children, gender, educational status, current place of residence, income and marital status of the parents. To measure parents' attitude towards COVID-19 vaccination of their children, six items scale were created. The response was measured on four point Likert Scale (great extent to not at all). Five items were generated to assess the reasons of parental unwillingness to vaccinate their children against COVID-19. The response was measured on five point Likert Scale (strongly agree to strongly disagree).

Findings

Of the 523 respondents, 192 (36.7%) were father and 331 (63.3%) were male, with approximately 75.7% living in urban areas (Table 1). The majority of the participants (94.3%) were married. Most of the respondents were either graduates (51.2%) or postgraduates (21.2%). The majority of the participant's monthly family income (43.4%) lies up to PKR. 50,000, followed by 25%, whose income falls between PKR. 51,000–100,000. More than 90 percent of the parent also knew that government initiated free vaccination drive for the children.

Table 1. Socio-economic characteristics of the respondents (n=523)

Variables	f	%
Relationship with child		
Father	192	36.7
Mother	331	63.3
Marital Status		
Married	493	94.3
Separated / Widow	30	5.7
Area of Living		
Urban	396	75.7
Rural	127	24.3
Education		
Below Matric	57	10.9
Intermediate	87	16.6
Graduation (BS/LLB/MSc, etc.)	268	51.2
Post-Graduation (MS/MPhil/ PhD)	111	21.2
Family Monthly Income		
Up to 50,000	227	43.4
51000 to 100,000	131	25.0

10100 to 150,000	67	12.8
151000 to 200,000	30	5.7
201000 to 250,000	18	3.4
Above than 251,000	50	9.6
Knowledge about COVID-19 vaccination for children		
No	90	17.2
Yes	433	82.8

Table 2 shows that television was the primary source of information for parents seeking information about the government's drive to vaccinate their children against COVID-19. For the Pakistani parents, social media was their

second source of information. Friends and family members were the parents' third and fourth sources of information. According to the findings, Pakistani parents reported radio as the least-consulted information source.

Table 2. Parent's sources of information about COVID-19 vaccination for the children (n=523)

Sources of Information	Yes		No	
	f	%	f	%
Television	238	45.5	285	54.5
Newspaper	46	8.8	477	91.2
Radio	14	2.7	509	97.3
Social Media	244	46.7	279	53.3
Family	83	15.9	440	84.1
Friends	126	24.1	397	75.9

Table 3 indicates that Pakistani parents have a positive attitude towards COVID-19 vaccination. The majority of the parents agreed to a great extent that the COVID-19 vaccine is necessary for their child's health. They also agreed that the COVID-19 vaccine is equally effective for children. They were of the view that the vaccination of the children against COVID-19 is important for the

health of others in the community. They believed that the COVID-19 vaccine could protect their child from coronavirus. They also had trust in the government's vaccination program, as this vaccination is beneficial for their children's health. However, they showed their concern that COVID-19 vaccine have some risks.

Table 3. Parental attitude towards children vaccination against COVID-19

Statements	Not At All		To Little Extent		To Some Extent		To Great Extent	
	f	%	f	%	f	%	f	%
COVID-19 vaccine is necessary for my child's health.	36	6.9	52	9.9	172	32.9	263	50.3
COVID-19 vaccine is equally effective for children.	35	6.7	62	11.9	161	30.8	265	50.7
Vaccination of child for COVID-19 is important for health of others in community.	43	8.2	47	9.0	141	27.0	292	55.8
Getting COVID-19 vaccine is a good way to protect my child from coronavirus.	29	5.5	60	11.5	170	32.5	264	50.5

All childhood vaccines offered by the government are beneficial for their health.	35	6.7	50	9.6	159	30.4	279	53.3
COVID-19 vaccine do not carry serious risks.	62	11.9	100	19.1	210	40.2	151	28.9

Table 4 discusses possible reasons for parents' refusal to vaccinate their children against COVID-19. The majority of Pakistani parents (n = 164, 31.3%) disagreed that the spread of coronavirus had stopped. They also disagreed (n = 182, 34.8%) with the claim that the coronavirus vaccine is unsafe. They were, however, of the opinion (n = 272, 53.2%) that their children were infected by

the coronavirus despite being vaccinated. The vast majority of those parents (n = 217, 41.5%) disagreed that the coronavirus vaccine is unnecessary for their children. Moreover, the majority of them (n = 183, 35%) were still undecided about the safety of vaccines for children.

Table 4. Reasons for parental unwillingness to vaccinate their children against COVID-19

Statements	Strongly Disagree		Disagree		Don't Know		Agree		Strongly Agree	
	f	%	f	%	f	%	f	%	f	%
The spread of coronavirus has ended.	30	5.7	164	31.4	143	27.3	143	27.3	43	8.2
The coronavirus vaccine is not that safe.	36	6.9	182	34.8	152	29.1	132	25.2	21	4.0
Even after getting corona vaccine you can get infected from corona virus.	15	2.9	51	9.8	102	19.5	278	53.2	77	14.7
Coronavirus vaccine is unnecessary for children.	55	10.5	217	41.5	136	26.0	83	15.9	32	6.1
The coronavirus vaccine may be harmful to kids.	33	6.3	140	26.8	183	35.0	123	23.5	44	8.4

A Pearson r correlation test was conducted to determine the relationship between parental attitude toward the COVID-19 vaccination of their children and parental reasons for refusing to vaccinate their children against COVID-19. There is a statistically significant negative correlation (r

= -0.128, p < .01) between parental attitude and reasons for parental refusal to vaccinate their child against COVID-19. This suggests that the reasons for not vaccinating their children against COVID-19 had a negative effect on the attitudes of Pakistani parents.

Table 4. Pearson r correlational analysis between the study variables

	Reasons for parental unwillingness to vaccinate the child against COVID-19
Parental attitudes towards children vaccination against COVID-19	-.128**

**p<.01

Conclusion

This study assessed parental attitudes toward COVID-19 vaccination for children and the reasons for parental reluctance to vaccinate their children. In Pakistan, empirical evidence

regarding parental attitudes toward the COVID-19 vaccine is relatively limited. The present study is one of the first to be conducted in Pakistan to understand parents' willingness and attitudes

toward vaccinating young children against COVID-19, and it provides invaluable insight for addressing challenges associated with the introduction of new vaccination plans for children in the future.

In the present study, the majority of Pakistani parents were in favor of vaccinating their children against COVID-19. Almost 75 percent of parents believe that the COVID-19 vaccination is essential for the health of their children. Over eighty percent of parents acknowledged the effectiveness of COVID-19 for their children. The majority of them also recognized the significance of COVID-19 vaccination for the community's health and had confidence in the government-supplied vaccine. Pakistani parents are willing to vaccinate their children against COVID-19. Punjab has over 22 million children between the ages of 5 and 16 years (Humqadam, 2022). There is need to launch provincial level campaign for the vaccination of these children in order to protect them from this viral disease.

References

- Ali, M., Ahmed, S., Bonna, A. S., Sarkar, A. S., Islam, M. A., Urmi, T. A., & Proma, T. S. (2022). Parental coronavirus disease vaccine hesitancy for children in Bangladesh: a cross-sectional study
- Bendau, A., Plag, J., Petzold, M. B., & Ströhle, A. (2021). COVID-19 vaccine hesitancy and related fears and anxiety. *International immunopharmacology*, 97, 107724.
- Bianco, A., Della Polla, G., Angelillo, S., Pelullo, C. P., Licata, F., & Angelillo, I. F. (2022). Parental COVID-19 vaccine hesitancy: A cross-sectional survey in Italy. *Expert review of vaccines*, 21(4), 541-547.
- Evans, S., Klas, A., Mikocka-Walus, A., German, B., Rogers, G. D., Ling, M., ... & Westrupp, E. M. (2021). "Poison" or "protection"? A mixed methods exploration of Australian parents' COVID-19 vaccination intentions. *Journal of Psychosomatic Research*, 150, 110626.
- Galanis, P., Vraha, I., Katsiroumpa, A., Siskou, O., Konstantakopoulou, O., Katsoulas, T., ... & Kaitelidou, D. (2022). First COVID-19 Booster Dose in the General Population: A Systematic Review and Meta-Analysis of Willingness and Its Predictors. *Vaccines*, 10(7), 1097.
- Goldman, R. D., Yan, T. D., Seiler, M., Cotanda, C. P., Brown, J. C., Klein, E. J., ... & Staubli, G. (2020). Caregiver willingness to vaccinate their children against COVID-19: Cross sectional survey. *Vaccine*, 38(48), 7668-7673.
- Hodgson, S. H., Mansatta, K., Mallett, G., Harris, V., Emary, K. R., & Pollard, A. J. (2021). What defines an efficacious COVID-19 vaccine? A review of the challenges assessing the clinical efficacy of vaccines against SARS-CoV-2. *The Lancet Infectious Diseases*, 21(2), e26-e35.
- https://covid19.who.int/?adgroupsurvey={adgroupsurvey}&gclid=CjwKCAiA2fmdBhBpEiwA4CcHzcoYT7d-eM_Q7O8-V6magzIZFwyxdDC9VmZonVsj4OCiRqpe7UdRUBoCpLMQAvD_BwE.
- Humble, R. M., Sell, H., Dubé, E., MacDonald, N. E., Robinson, J., Driedger, S. M., ... & MacDonald, S. E. (2021). Canadian parents' perceptions of COVID-19 vaccination and intention to vaccinate their children: Results from a cross-sectional national survey. *Vaccine*, 39(52), 7669-7676.
- Lecce, M., Milani, G. P., Agostoni, C., D'Auria, E., Banderali, G., Biganzoli, G., ... & Castaldi, S. (2022). Caregivers' Intention to Vaccinate Their Children Under 12 Years of Age Against COVID-19: A Cross-Sectional Multi-Center Study in Milan, Italy. *Frontiers in Pediatrics*, 10, 834363.
- Mahmood, Q.K., Jafree, S.R. & Qureshi, W.A (2022). The Psychometric Validation of FCV19S in Urdu and Socio-Demographic Association with Fear in the People of the Khyber Pakhtunkhwa (KPK) Province in Pakistan. *International Journal of Mental Health and Addiction* 20, 426-436 .

<https://doi.org/10.1007/s11469-020-00371-4>

- Neumann-Böhme, S., Varghese, N. E., Sabat, I., Barros, P. P., Brouwer, W., van Exel, J., ... & Stargardt, T. (2020). Once we have it, will we use it? A European survey on willingness to be vaccinated against COVID-19. *The European Journal of Health Economics*, 21(7), 977-982.
- Nicomedes, C. J. C., & Avila, R. M. A. (2020). An analysis on the panic during COVID-19 pandemic through an online form. *Journal of Affective Disorders*, 276, 14-22.
- Salman, M., Mustafa, Z., Asif, N., Zaidi, H. A., Shehzadi, N., Khan, T. M., ... & Hussain, K. (2020). Knowledge, attitude and preventive practices related to COVID-19 among health professionals of Punjab province of Pakistan. *The Journal of Infection in Developing Countries*, 14(07), 707-712.
- Szilagyi, P. G., Shah, M. D., Delgado, J. R., Thomas, K., Vizueta, N., Cui, Y., ... & Kapteyn, A. (2021). Parents' intentions and perceptions about COVID-19 vaccination for their children: Results from a national survey. *Pediatrics*, 148(4).
- World Health Organization (2022). *WHO Coronavirus (COVID-19) Dashboard*. Retrieved from
- World Health Organization (2022a). Pakistan data on COVID-19. Retrieved from <https://covid19.who.int/region/emro/country/pk>.
- Zylke, J. W., & Bauchner, H. (2020). Mortality and morbidity: the measure of a pandemic. *JAMA*, 324(5), 458-459.