



Original Research

PARENTS' KNOWLEDGE AND ANXIETY LEVELS IN COVID-19 VACCINATION PROGRAM IN CHILDREN AGED 6 – 11 YEARS IN LAMONGAN

Masunatul Ubudiyah*^{ORCID}, Siti Sholikhah, Moh Syaifudin, Dita Elma Mei Fita Nur Rahmawati, Arifal Aris

Nursing Department, Faculty of Health Sciences, Universitas Muhammadiyah Lamongan, East Java, Indonesia

ARTICLE HISTORY

Received: December 9, 2023

Revised: March 5, 2023

Accepted: March 25, 2022

Available online: March 26, 2023

CORRESPONDING AUTHOR

Masunatul Ubudiyah
masunatulubudiyah@umla.ac.id
Nursing Department, Faculty of
Health Sciences, Universitas
Muhammadiyah Lamongan, East
Java, Indonesia

ABSTRACT

Introduction: COVID-19 prevention is currently a major concern for WHO, especially administering the COVID-19 vaccine. However, there are still several problems underlying the achievements of the vaccine administration program in Indonesia, especially the administration of the COVID-19 vaccine to children aged 6-11 years. This study aimed to the relationship between parental knowledge and anxiety levels in implementing the COVID-19 vaccination program for children aged 6-11 years in Lamongan, Indonesia.

Method: This study used a cross-sectional design involving a total of 195 respondents. The research was conducted in Lamongan by measuring the level of knowledge and anxiety level of parents in administering the COVID-19 vaccine. The researcher used an instrument of a knowledge level questionnaire and the Hamilton Anxiety Rating Scale (HARS) which had been tested for validity and reliability, Data were analyzed using pearson correlation test with SPSS.

Results: The results showed that 42.6% had sufficient knowledge and only a small proportion of 24.6% had good knowledge. The level of anxiety shows that 49.7% is in the level of severe anxiety and 4.6% is in the level of mild anxiety. Parents with low levels of knowledge also have an impact on severe levels of anxiety. The results of the Pearson correlation test analysis show of sig 2-tailed = 0.002, which means that between the variable parental knowledge and the variable level of anxiety has a significant relationship with the value of the correlation coefficient = 0.223.

Conclusions: There is a relationship between the level of knowledge and the anxiety level of parents in administering the COVID-19 vaccine to children aged 6-11 years. Health education related about the benefits and impacts of giving the COVID-19 vaccine needs to be conveyed clearly to the public.

Keyword: anxiety level; children; COVID-19; knowledge; vaccine

Cite this as:

Ubudiyah, M., Sholikhah, S., Syaifudin M., Rahmawati D.E.M.F.N., Aris, A. (2023). Parent's Knowledge and Anxiety Levels in Covid-19 Vaccination Program in Children Aged 6-11 Years in Lamongan.. *Nurs. J.*, 5(1). 23-27. doi.org/ 10.20473/pnj.v5i1.43325

1. INTRODUCTION

Coronavirus (COVID-19) is a group of viruses that started in China in 2019, until now this virus causes respiratory infections to death (Shereen et al., 2020). The disease is mainly spread between people through breathing or also from coughing and sneezing. The virus can remain viable for up to three days on SARS CoV-2 plastic and stainless steel or in aerosols for three hours (Kemendagri, 2020). Th World Health

Organization (WHO) recommends that in order to reduce the incidence of COVID-19, strategic actions are needed to prevent the spread of COVID-19, including by carrying out hand hygiene, social distancing, wearing masks, vaccinations and increasing body immunity. (World Health Organization (WHO), 2022a). Many things can be done to increase endurance, one of which is consuming nutritious food, exercising, avoiding

stress, and taking health supplements. (Izazi & Kusuma, 2020).

Data shows that 500,000 new cases and 83,400 deaths were reported in the past week from various countries in Southeast Asia, including Indonesia. Since the start of the outbreak in Indonesia in March 2020 until the end of November 2021, the Task Force for Handling COVID-19 has reported nearly 4,239,396 cases and 143,455 deaths due to COVID-19. The city of Surabaya is the area that has the highest number of cases with 1,109 positive cases of the Corona virus. Meanwhile, Lamongan Regency followed with 65 positive cases of COVID-19, with 17 recovered and 10 died. From the results of the report, Lamongan Regency was once ranked as the 3rd highest positive case in East Java (Peta sebaran covid-19, 2021). In connection with this problem, a new problem has emerged for the community that is anxiety or refusal to administer vaccines, while vaccines have been required by the Indonesian government. Based on an initial survey from 1 to 7 December 2021 through interviews with 20 parents who have children aged 6-11 years, it was found that 75% experienced anxiety if their children were to be vaccinated against COVID-19, while only 25% said they would not experience stress if their children were to be vaccinated.

Getting vaccinated is one of the most important things to protect yourself against COVID-19, help end the pandemic and stop new variants emerging (World Health Organization (WHO), 2022b). Vaccines are considered the most ideal intervention to carry out in this urgent situation, but several parties or institutions say that the vaccination process takes a lot of time and hundreds of global agencies are involved in accelerating development. (Chakraborty et al., 2020). Apart from that, doubts about vaccines are increasing, this is also happening in various countries, the doubts that have been built by the public are associated with a conspiratorial worldview about COVID-19 (Razai et al., 2021; World Health Organization (WHO), 2022c). Vaccine hesitancy can harm individuals, namely a greater risk of disease and the potential for wider transmission to the community. In addition, the government or the state also gets direct and indirect impacts from not achieving the vaccination target.

The circulation of wrong information is increasingly triggering levels of anxiety from various groups, especially parents in making decisions to vaccinate children aged 6-11 years, this situation is increasingly triggering the emergence of mental health problems (Zulva, 2020). The experience of parents who have previously received vaccinations against Adverse Events Following Immunization (AEFI) with the COVID-19 vaccine triggers stress and anxiety. This anxiety arises because of concerns about AEFI in children and the level of effectiveness of the COVID-19 vaccine. Increasing knowledge about the COVID-19 vaccine by providing Health Education to parents, listening to reliable information and trying to be up to date is very important to do to reduce this

anxiety (Putri, 2021). Based on the description above, the researcher is interested in assessing the relationship between the level of parental knowledge and anxiety about the COVID-19 vaccination program for children aged 6-11 years in the Lamongan district, Indonesia.

2. MATERIALS AND METHODS

2.1 Design

The research design in this study was to use analytic with a cross sectional approach. This study aims to determine the relationship between parental knowledge and anxiety levels in implementing the COVID-19 vaccination program for children aged 6-11 years at the Sambeng Health Center in 2022.

2.2 Population and sampling

The population in this study were all parents who had children aged 6-11 years who were the target of the government's COVID-19 vaccination in the working area of the Sambeng Health Center, Lamongan. This research was conducted from December 2021 to May 2022 and data was collected from March 10 to April 8 2022 using a purposive sampling technique. The total sample in this study was 195 people who fit the inclusion and exclusion criteria of the study. The inclusion criteria were parents with children aged 6-11 years who were able to read and write well, agreed as respondents and had concerns or doubts about vaccines, while the exclusion criteria were parents with mental disorders or disabilities so they could not read and write well.

2.3 Variable

The independent variable in this study is parents' knowledge, while the dependent variable in this study is the level of anxiety.

2.4 Instrument

Researchers use several instru inclusion ments that are used to measure the dependent and independent variables of the study. The research instrument used a questionnaire sheet which included demographic data, knowledge about the COVID-19 vaccine and the HARS anxiety questionnaire to assess the level of parental anxiety. Demographic data includes age, gender, education, occupation, and monthly income. The knowledge questionnaire consists of 10 question items with the answer options Yes = 1, No = 0. Knowledge level categories are divided into three, namely good, sufficient, and insufficient knowledge. The assessment of the dependent variable is the level of anxiety using the Hamilton Anxiety Rating Scale (HARS), which consists of 14 question items with code 0 = No Anxiety, 1 = Mild Anxiety, 2 = Moderate Anxiety, 3 = Severe Anxiety, 4 = Very Severe Anxiety. The minimum score for anxiety level is 0 and the maximum score is 56. The five categories of anxiety in this study are not experiencing anxiety, mild, moderate, severe and very severe anxiety. All questionnaires have been valid and reliable.

2.5 Procedure and Analysis

The research began with the declaration that the research was worthy of ethical testing and obtaining research permits from the National Unity and Political Agency of Lamongan Regency and the Sambeng Health Center, Lamongan. The researcher explained the purpose of the research and asked for approval to become a respondent. After the respondent agreed, the respondent could fill out a questionnaire. Furthermore, the researchers collected data using a questionnaire that had been tested for validity and reliability and the last step was the process of data analysis. The results of the validity test of the questionnaire showed that it was valid with a significance result of <0.05, while the reliability test showed the results of Cronbach alpha 0.79 which indicated that the questionnaire used was reliable. Data analysis was carried out using the Pearson test to see the relationship between knowledge level and anxiety status. Taking the research hypothesis is based on a significant level with a degree of confidence (alpha 0.05), the relationship is said to be meaningful if the p value <0.05.s

2.6 Ethical Clearance

This research has been declared ethically passed from Universitas Muhammadiyah Lamongan with ethics number 24/EC/KEPK-S2/03/2022 Some of the ethical principles applied in this study are that all data

is confidential, and will not be disseminated to any party except when it is carried out or requested by the authorities, does not publish the attachment of information provided to the identity of the respondent and the respondent gets the same treatment by the researcher.

3. RESULTS

Table 1 shows the demographic data of respondents. Most of the parents are 31-40 years old (68.2%) with more than 75% being dominated by women. Judging from the level of education most (61%) with high school education and the least is at the elementary school level (5.1%). Because Lamongan district is a rice field area, most of the respondents in this study were farmers (64.1%) with an income of <1 million for one month.

Table 2 shows that most of the parents (42.6%) have sufficient knowledge and a small proportion (24.6%) have good knowledge. Meanwhile, the level of anxiety shows as many as 97 people in the level of severe anxiety and a small proportion (4.6%) in the level of mild anxiety. Most of them show that parents' anxiety levels are at a severe level (49.7%). Parents with low levels of knowledge also have an impact on severe levels of anxiety. The results of the Pearson correlation test analysis show of sig 2-tailed = 0.002, which means that between the variable parental knowledge and the variable level of anxiety has a

Table 1. Data Demographic (n=195)

Variable	Frequency	%
Age		
≤ 30 y.o	20	10,3
31-40 y.o	133	68,2
41-50 y.o	26	13,3
> 50 y.o	16	8,2
Gender		
Male	31	15,9
Female	164	84,1
Education Level		
elementary school	10	5,1
Junior High School	34	17,4
Senior High School	119	61,0
Bachelor	32	16,4
Employment		
Indonesian national army / Police	6	3,1
Civil Service	14	7,2
Private Employees	50	25,6
Farmer	125	64,1
Income		
<1 Million	129	66,2
2-3 Million	44	22,6
>3 Million	22	11,3

Table 2. Analysis of the relationship of parental knowledge with anxiety levels (n=195)

Family knowledge	Anxiety Level								Total	
	Mild		Moderate		Severe		Panic Level			
	N	%	N	%	N	%	N	%	N	%
Low	9	4,6	15	7,7	29	14,9	11	5,6	64	32,8
Moderate	0	0,0	25	12,8	42	21,5	16	8,2	83	42,6
Good	0	0,0	8	4,1	26	13,3	14	7,2	48	24,6
Total	9	4,6	48	24,6	97	49,7	41	21,0	195	100

Correlation Coefficient (r) = 0,223

significant relationship with the value of the correlation coefficient = 0.223. Thus, it can be concluded that there is a relationship between parental knowledge and anxiety levels in implementing the Covid-19 vaccination program for children aged 6-11 years at the Sambeng Health Center.

4. DISCUSSION

The COVID-19 pandemic, which was discovered for the first time in China in 2019, is still ongoing, making it a challenge for all aspects, especially in the health sector. The results of reviews from the last few years have become a global problem and require serious handling and require a lot of involvement from all parties (Gao et al., 2022). Currently there are still many programs that have been evaluated by WHO in handling and preventing spikes in COVID-19 cases in various countries, to see the positive and negative impacts that each program has, so that it can determine program effectiveness. One of the programs that are being developed and globalized is the provision of covid vaccinations from the ages of children, adults, and the elderly (Sadarangani et al., 2021). However, there are still many things that underlie the achievement of vaccine administration in Indonesia, especially in Lamongan district as a prevention program that has been approved by the government.

The results show that there are many factors behind the willingness to get a vaccine, including the level of knowledge about the impact and benefits of administering the COVID-19 vaccine. The results show that the level of knowledge of the respondents is in the sufficient category related to the level of education that underlies the respondents. This is in accordance with the statement from Notoatmodjo (2014) that the wider a person's knowledge, the easier it is for people to change their actions. A higher level of education will affect knowledge insight, it will increase and it will be easier to realize that health is so important for life that parents are motivated to take part in the COVID-19 vaccination program for their children (Notoatmojo, 2014).

Other findings show that the level of parental anxiety is influenced by several factors, one of the factors that affect the level of parental anxiety in the COVID-19 vaccination program is the lack of information and knowledge of parents and also unpleasant experiences in the past. Previous studies have shown that people with high levels of knowledge have better acceptance (Goldman et al., 2020). As stated by Ruskandi who explored the level of anxiety felt by parents of students during the COVID-19 pandemic, the causes of the greatest anxiety were the environment and a person's level of knowledge about the COVID-19 virus (Ruskandi, 2021). The approach strategy that can be taken by health workers to overcome parental anxiety is to provide a detailed explanation of the type of vaccine, dosage, benefits, method of administration of the vaccine, side effects

and basic treatment that can be done if an adverse event occurs after administration of the vaccine, such as consumption nutritional intake and bring to the nearest medical service.

The findings show that the anxiety level of parents is relatively high when their children are given the COVID-19 vaccine in Lamongan Regency. Doubts in participating in vaccination programs are more common in developing countries than in developed countries, this is associated with a level of anxiety (Joshi et al., 2021; Murphy et al., 2021; Sallam, 2021). Anxiety is a feeling of fear or worry about certain situations that are very threatening which can cause anxiety because of the uncertainty in the future and the fear that something bad will happen, so that this can be debilitating like the impact of depression or actually cause intense panic (Quek et al., 2019; Rynn & Brawman-Mintzer, 2004). The efforts that can be made to reduce parents' anxiety about vaccinating their children are to provide clear information about perceptions of the disease, the impact of COVID-19 vaccination and provide a basic understanding that vaccines are an effective strategy associated with increasing vaccination uptake. COVID-19 (Rubin, G.J., Potts, H.W., & Michie, 2011; Setbon & Raude, 2010).

5. CONCLUSION

The results of research on the relationship between parental knowledge and anxiety levels in implementing the COVID-19 vaccination program for children aged 6-11 years at the Sambeng Health Center can be concluded that the level of parental knowledge is in the sufficient category while the level of anxiety when their child is vaccinated is severe. The results of the subsequent analysis show that there is a relationship between the level of parental knowledge and the level of anxiety about the COVID-19 vaccination program. The role of policy makers includes making decisions that every child must follow the vaccination schedule and get some protection if they have been vaccinated, this will strengthen further interventions to increase knowledge and understanding about the importance of the COVID-19 vaccine in order to achieve government programs to create a healthy Indonesia.

6. REFERENCES

- Chakraborty, C., Sharma, R., Sharma, G., & Bhattacharya, M. (2020). Extensive Partnership, Collaboration, and Teamwork is Required to Stop the COVID-19 Outbreak. *Archives of Medical Research*, 51(January), 728-730. <https://doi.org/10.1016/j.arcmed.2020.05.021>
- Gao, S. J., Guo, H., & Luo, G. (2022). Omicron variant (B.1.1.529) of SARS-CoV-2, a global urgent public health alert! *Journal of Medical Virology*, 94(4), 1255-1256. <https://doi.org/10.1002/jmv.27491>
- Goldman, R. D., Yan, T. D., Seiler, M., Parra, C., Brown, J. C., Klein, E. J., Hoeffe, J., Gelernter, R., Hall, J. E., Davis, A. L., Griffiths, M. A., Mater, A., Manzano,

- S., Gualco, G., Shimizu, N., Hurt, T. L., Ahmed, S., Hansen, M., Sheridan, D., ... Staubli, G. (2020). Caregiver willingness to vaccinate their children against COVID-19: Cross sectional survey. *Vaccine*, *38*(January), 7668–7673. <https://doi.org/https://doi.org/10.1016/j.vaccine.2020.09.084>
- Joshi, A., Kaur, M., Kaur, R., Grover, A., Nash, D., & El-Mohandes, A. (2021). Predictors of COVID-19 Vaccine Acceptance, Intention, and Hesitancy: A Scoping Review. *Frontiers in Public Health*, *9*(August). <https://doi.org/10.3389/fpubh.2021.698111>
- Murphy, J., Vallières, F., Bentall, R. P., Shevlin, M., McBride, O., Hartman, T. K., McKay, R., Bennett, K., Mason, L., Gibson-Miller, J., Levita, L., Martinez, A. P., Stocks, T. V. A., Karatzias, T., & Hyland, P. (2021). Psychological characteristics associated with COVID-19 vaccine hesitancy and resistance in Ireland and the United Kingdom. *Nature Communications*, *12*(1), 1–15. <https://doi.org/10.1038/s41467-020-20226-9>
- Notoatmojo, S. (2014). *Pendidikan dan Perilaku Kesehatan*. Rineka Cipta.
- Putri, Z. B. (2021). Pengaruh Model Kooperatif Tipe Think Pair Share Terhadap Motivasi dan Kemampuan Komunikasi Matematis Siswa Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 1–9.
- Quek, T. T. C., Tam, W. W. S., Tran, B. X., Zhang, M., Zhang, Z., Ho, C. S. H., & Ho, R. C. M. (2019). The global prevalence of anxiety among medical students: A meta-analysis. *International Journal of Environmental Research and Public Health*, *16*(15). <https://doi.org/10.3390/ijerph16152735>
- Razai, M. S., Chaudhry, U. A. R., Doerholt, K., Bauld, L., & Majeed, A. (2021). Covid-19 Vaccination Hesitancy. *The BMJ*, *373*(n1), 138. <https://doi.org/https://doi.org/10.1136/bmj.n1138>
- Rubin, G.J., Potts, H.W., & Michie, S. (2011). Likely uptake of swine and seasonal flu vaccines among healthcare workers. A cross-sectional analysis of UK telephone survey data. *Vaccine*, *29*(13), 2421–2428.
- Ruskandi, J. (2021). Kecemasan Remaja pada Masa Pandemi COVID-19. *Jurnal Penelitian Perawat Profesional*, *3*(3), 1–10.
- Rynn, M. A., & Brawman-Mintzer, O. (2004). Generalized anxiety disorder: acute and chronic treatment. *CNS Spectr*, *10*(Oct), 716–723. <https://doi.org/doi:10.1017/s1092852900022367>.
- Sadarangani, M., Marchant, A., & Kollmann, T. R. (2021). Immunological mechanisms of vaccine-induced protection against COVID-19 in humans. *Nature Reviews Immunology*, *21*(8), 475–484. <https://doi.org/10.1038/s41577-021-00578-z>
- Sallam, M. (2021). Covid-19 vaccine hesitancy worldwide: A concise systematic review of vaccine acceptance rates. *Vaccines*, *9*(2), 1–15. <https://doi.org/10.3390/vaccines9020160>
- Setbon, M., & Raude, J. (2010). Factors in vaccination intention against the pandemic influenza A/H1N1. *European Journal of Public Health*, *20*(5), 490–494. <https://doi.org/10.1093/eurpub/ckq054>
- Shereen, M. A., Khan, S., Kazmi, A., Bashir, N., & Siddique, R. (2020). COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. *Journal of Advanced Research*, *24*, 91–98. <https://doi.org/10.1016/j.jare.2020.03.005>
- World Health Organization (WHO). (2022a). *Advice for the public: Coronavirus disease (COVID-19)*. WHO. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>
- World Health Organization (WHO). (2022b). *COVID-19 advice for the public: Getting vaccinated*. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines/advice>
- World Health Organization (WHO). (2022c). *Vaccine hesitancy: A growing challenge for immunization programmes*. <https://www.who.int/news/item/18-08-2015-vaccine-hesitancy-a-growing-challenge-for-immunization-programmes>
- Zulva, T. N. I. (2020). Covid-19 dan Kecenderungan psikosomatis. *J. Chem. Inf. Model*, 1–4.