
Relationship of Mother's Knowledge and Family Support with Basic Immunization Completeness of 12-24 Months Children in the Covid-19 Pandemic Era in UPTD Puskesmas Cibuyaya, Karawang

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ABSTRACTS

Background: Mother's knowledge and family support of immunization completeness is needed so that children get basic immunizations and as an initial step to preventing disease, especially during the Covid-19 pandemic. During the Covid-19 pandemic, the coverage of basic immunization in 2021 at the UPTD Puskesmas Cibuyaya, Karawang decreased to 50.4%. The purpose of the study was to analyze the relationship between mother's knowledge and family support with the completeness of basic immunization of children aged 12-24 months during the Covid-19 pandemic era at the UPTD Puskesmas Cibuyaya, Karawang.

Methods: This study using a quantitative method with a cross-sectional approach. The subjects of this study were 91 mothers and families who have children aged 12-24 months. The research instrument used a questionnaire. Data were analyzed using Chi-Square test.

Result: The respondents of this study were mothers aged 19-29 years (50.5%), had children aged 12-21 months (81.3%), and housewives (100%). Respondents who have good knowledge were 48 mothers (52.7%), and the rest, 43 mothers (47.3%) were not good enough. Respondents who received family support were 41 people (45.1%), while families who did not support were 50 respondents (54.9%). Respondents who gave complete immunization to their children were 47 mothers (51.6%), while those who did not complete immunizations were 44 (48.4%) respondents. There was a relationship between mother's knowledge and immunization with p-value (sig) = 0.002 < 0.05. There was no relationship between family support and basic immunization completeness (p-value= 0.234, p>0.05). Suggestions to all relevant parties of this topic to implement programs on knowledge improvement of mothers and the community about the importance of complete basic immunization.

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1. Introduction

Immunization is a global program driven by the World Health Organization (WHO) and implemented by all countries as a national program. The basic principle of immunization itself is to provide an antigen that has been turned off or inactivated so that it will not be harmful to the body. When injected into the body, the antigen enters the bloodstream and is considered a foreign substance that triggers the body's adaptive immune system, as the body's protection, the immune system will automatically fight the antigen and form antibodies. According to WHO, in 2018 there were about 20 million children in the world who did not get complete immunizations, some even did not get immunizations at all. In fact, getting community immunity (Hard Immunity) requires high immunization coverage (at least 95%) and is evenly distributed.¹

The COVID-19 pandemic has resulted in low complete routine children immunization coverage. To overcome this phenomenon, the government held a National Child Immunization Month (BIAN) in the context of world immunization week. Around 800 thousand children throughout Indonesia are at greater risk of diseases such as diphtheria, tetanus, measles, rubella, and polio. Based on the latest routine data from the Indonesian Ministry of Health, complete basic immunization coverage has decreased significantly since the beginning of the COVID-19 pandemic, from 84.2% in 2020 to 79.6% in 2021. This decline in routine immunization coverage is caused by various factors including regulations activity restrictions and reduced availability of health workers, which led to the cessation of some vaccination services at the height of the COVID-19 pandemic.²

Basic Health Research (Riskesmas) 2018, showed that complete basic immunization coverage in Indonesia for children aged 12-24 months only reached 50% of the supposed target of 93%. The common reason why children do not receive immunizations was families do not allow children to be immunized. Besides, less knowledge of mothers, distant locations, children are often sick and do not know where to get immunizations.³ Data in 2019 showed unsatisfactory, where basic immunization coverage such as DPT-3 and MR does not reach 90% of the target. Whereas the basic immunization program is provided free of charge by the government at the Puskesmas and Posyandu.³

Immunization coverage is currently still being developed comprehensively, but it does not run optimally without awareness from parents or families to actively participate. Especially during the COVID-19 pandemic, the limited number of health workers will find it difficult to reach door-to-door every toddler.⁴

Knowledge is the result of human sensing, or the result of someone knowing about an object through the senses he has (eyes, nose, ears, etc.). Most human knowledge is obtained through the eyes and ears.⁵ Mother's knowledge about immunization is needed so that children get complete basic immunizations to avoid disease. The role of a mother in the immunization program is very important. Understanding about benefits of immunization is very necessary, especially to improve the health of children.⁶ Notoatmodjo (2012) states that knowledge or cognition is a very important domain for the formation of one's actions.⁷ Lack of knowledge about immunization will affect the families or mothers to be passive about the schedule. It could even have implications for overall family support.⁶

Family support is a process that occurs throughout life. Support is given at every cycle of life development. With the support provided by the family, the members could improve the health and adaptation of the family.⁸ Family support is one of the important factors for complete immunization because will encourage parents to carry out immunizations to protect children or adults against infectious diseases. The family functions as a disseminator of information, including giving advice, hints, suggestions, and feedback. Form of family support could be given by giving encouragement, advice, or supervising daily eating patterns and medication.⁹

The COVID-19 pandemic situation has had an impact on several sectors, including the health sector. One of the impacts of the COVID-19 pandemic on the health sector is the disruption of basic health services such as routine immunization services. Parents' concern about the risk of being infected with the COVID-19 virus causes the demand for immunization services to decrease and the doubts of healthcare workers in providing immunization services during the COVID-19 pandemic due to resource constraints that are more focused on handling COVID-19 are the main factors affecting immunization services.¹⁰

The high number of COVID-19 cases is an obstacle to health services implementation, resulting in a decrease in the utilization of posyandu services in various regions which affect basic immunization targets. This condition also happened in UPTD Puskesmas Cibuaya, Karawang. In 2021, the coverage of immunization completeness did not reach the target. In addition, one of the phenomena is about the mother's knowledge and family support that correlate with the completeness of immunization. Not a few families are afraid and thought that being immunized could cause the side effect of immunization and sick.

The coverage of basic immunization at the UPTD Puskesmas Cibuaya, Karawang Regency, the achievement of complete immunization in 2021 only reached 50.4%, while the achievement of Universal Child Immunization (UCI) per year was 80%. To overcome this, the Cibuaya Health Center health workers conducted counseling about basic immunization to mothers who have babies and toddlers, also carried out door-to-door activities to every house to carry out immunization services in order to maximize immunization achievement in the work area of the Cibuaya Health Center UPTD, but in fact, there are still many mothers who are not on time in giving immunizations to their babies. This is associated with the impact of the Covid-19 pandemic and there are still many prohibitions from families related to the effects that arise directly after injection, such as swelling and fever, with the information obtained, researchers assume that maternal knowledge and family support are very important in the implementation of immunization in children, infants, and toddlers in the era of the Covid-19 pandemic.

Based on the phenomena that have been described, the authors are interested in conducting a study to analyze the relationship between maternal knowledge and family support with the completeness of basic immunization for children aged 12-24 months during the COVID-19 pandemic era at the UPTD Puskesmas Cibuaya, Karawang.

2. Methods

This study was descriptive correlative research using cross-sectional approach. Collecting data using a questionnaire to determine the relationship between mother's knowledge and family support with the completeness of basic immunization for children aged 12-24 months during the Covid-19 pandemic era at the UPTD Puskesmas Cibuaya, Karawang. The population in this study were mothers and families who have children aged 12-24 months at the UPTD Puskesmas Cibuaya, Karawang. The total number of subjects in this study was 91 respondents using a non-probability technique with consecutive sampling. Data analysis used univariate and bivariate analysis using Chi-Square test with a significance level of <0.05. This research was conducted in July-August 2022.

The procedure for this study was to conduct a permit and preliminary study to apply an ethical license. The second is to prepare the instrument used for data collection in the form of a questionnaire on maternal knowledge, family support, and completeness of basic immunization. Third, the researcher asked for approval by using informed consent and then the researcher explained the intent and purpose as well as how to fill out the questionnaire. After the data is collected, then data management is carried out using computerized programs and data analysis is carried out by researchers.

3. Results and Discussion

This study describes the characteristics and frequency distribution of the variables studied as shown in table 1 below:

Table 1. Frequency distribution of variables and respondent characteristics

No	Variables	Respondents (N=91)	
		frequency (f)	Percentage (%)
1.	Mother's age (y.o)		
	–19-29	46	50.5
	–30-40	43	47.3
	–41-45	1	2.2
2.	Children's age (months)		
	–12-21	74	81.3
	–22-24	17	18.7
3.	occupations		
	–Housewife	91	100
4.	Mother's knowledge		
	–Good	48	52.7
	–Less	43	47.3
5.	Family support		
	–Support	41	45.1
	–Unsupported	50	54.9
6.	Basic immunization		
	–Complete	47	51.6
	–Incomplete	44	48.4

Based on Table 1, it was found that some of the respondents were mothers aged 19-29 years (50.5%), had children aged 12-21 months (81.3%), and were housewives (100%). Respondents who have good knowledge were 48 mothers (52.7%), and the rest, 43 mothers (47.3%) were not good enough. Respondents who received family support were 41 people (45.1%), while families who did not support were 50 respondents (54.9%). Respondents who gave complete immunization to their children were 47 mothers (51.6 %), while those who did not complete immunizations were 44 (48.4%) respondents.

The results of the univariate analysis showed that the dominant respondent's level of knowledge was good. Knowledge is obtained from facts or from reality by watching and listening to television, telephone and so on as well as activities carried out by health workers at UPTD Puskesmas Cibuaya through counseling activities and disseminating information about the completeness of basic immunization.

This varying level of mother's knowledge can be influenced by internal and external factors. Internal factors are the characteristics of the person concerned which consists of: education, perception, motivation, and experience. External factors include environment, culture, and information. External factors are the more dominant factors in influencing knowledge.⁷

Knowledge will raise awareness and lead to changes in behavior in accordance with the knowledge it has. Limited knowledge will make it difficult for a person to understand the importance of maintaining health and changing one's attitudes and behavior in a direction that benefits health.⁷ The knowledge that most respondents know is what diseases can be prevented by immunization, namely polio, measles, hepatitis B, tuberculosis, diphtheria, parturition, and tetanus. All respondents can answer this question. Meanwhile, the most difficult question is

how many times the DPT immunization is given. Only 61 respondents (67.0%) could answer correctly.

The data in table 1 showed that more mothers do not get family support. Family support is the attitude, action, and acceptance of the family towards their supportive family members who are always ready to provide help and assistance if needed. In this case, the recipient, namely the mother who gets family support, will know that there are others who care, respect, and love her.⁸

Researchers analyzed that there were still children who did not receive complete immunization as many as 44 people. The reasons given by the mother were not knowing the immunization schedule, being afraid of side effects, forgetting, being sick, and the distance from home to service facilities. The most common reason given was that they did not know the immunization schedule. According to Notoatmodjo (2012), based on Lawrence Green's theory, predisposing factors that affect the completeness of basic immunization are maternal education, the mother's knowledge, employment status, family income, and the number of children.⁷ Mother's ignorance about immunization schedules is one example of mother's knowledge.

Table 2 describes the relationship between mother's knowledge and family support with children's basic immunization completeness in UPTD Puskesmas Cibuaya Karawang.

Table 2. The Relationship between mother's knowledge and family support with children basic immunization completeness in UPTD Puskesmas Cibuaya Karawang

No	variables	Basic immunization completeness				p	OR
		Complete		uncomplete			
		f	%	f	%		
1	Mother's knowledge					0.002	1.479
	–Good	27	29.7	21	23.0		
	–Less	20	22.0	23	25.3		
2	Family support					0.234	1.657
	–Support	24	26.4	17	18.7		
	–unsupported	23	25.3	27	29.7		

Table 2 shows that the group that has good knowledge about immunization will provide complete basic immunization (29.7%). Although, there are still many mothers who already have knowledge but do not provide complete immunization (23%). As many as 22% of mothers who do not have good knowledge, continue to provide complete basic immunization, and the rest 25.3% do not have knowledge and do not provide complete basic immunization.

Knowledge is one of the factors that could lead to intrinsic motivation. Individuals who have knowledge in a particular field will have an interest in matters related to that field.⁷ A person's knowledge will increase due to several factors, one of which is the provision of information. One form of providing the information is through health education. Health education can encourage people to understand what is conveyed and could increase one's knowledge.¹¹ Mother's knowledge about complete basic immunization is one of the factors that can affect the completeness of basic immunization for her child.

The results of the chi-square test showed that the p-value = 0.002 or $p < 0.05$. This proves that the mother's knowledge has a relationship with the completeness of basic immunization in children aged 12-24 months at UPTD Puskesmas Cibuaya Karawang. The Odds Ratio value of knowledge with immunization completeness is 1.479, which means that respondents with good knowledge have a 1.479 times greater chance of providing complete basic immunizations compared to respondents with less knowledge.

This study is in line with research conducted by Septiani (2020) in Songso Village, Samalangka District, Bireuen Regency which showed that there was a significant relationship

between mother's knowledge and coverage of basic immunization for toddlers ($p=0.001$, $p<0.05$).¹² This study is also in line with a study conducted by Widia Wati (2022) which states that there is a significant relationship between maternal knowledge and the completeness of basic immunization.¹³

Most of the mother's knowledge was in a good category and provided complete immunization. Mothers are aware that complete basic immunizations need to be given to children. In addition, there are mothers who say that there is no difference between complete or incomplete immunizations because their children are still sick. Thus, it requires the promotion of health workers to provide counseling related to the side effects of immunization, immunization interventions, immunization schedules, and ways of giving immunizations that have an impact on the completeness of basic immunizations.⁶

The next variable is family support. Table 2 shows that more mothers did not receive family support and did not provide complete basic immunization (29.7%). Meanwhile, mothers who received family support and provided complete immunization were 26.4%. Mothers who did not receive family support but provided complete immunization were 25.3% and mothers who received support but did not provide complete immunization were 18.7%.

The highest family support is information support, namely the family (husband, in-laws, and relatives) always remind the mother when the immunization schedule is scheduled. Meanwhile, the lowest support is instrumental support, namely the family (husband, in-laws, and relatives) providing transportation for the mother so that she can go to the immunization service. Family instrumental support is practical and concrete help, which can be in the form of goods, services, finance, providing the necessary equipment, providing assistance and carrying out activities, giving time, and modifying the environment.

Respondents who have good family support and provide complete immunizations for their children show that family (husband, in-laws, and relatives) provide an important role and support so that immunization is given to children according to schedule. However, there were also respondents who received family support but did not have good motivation, so they did not provide complete immunizations. This is caused by cultural factors and misinformation about sick children after being given immunizations. In addition, it can be caused by a lack of knowledge and information about the immunization schedule, so the implementation of immunization is missed.

The results of chi-square statistical test obtained $p\text{-value}=0.234$, $p>0.05$, means there is no significant relationship between family support and completeness of basic immunization. This study is in line with the research of Widia Wati (2022) which states that there is no significant relationship between family support and completeness of basic immunization.¹³ Most respondents said that their families did not facilitate access to immunization services. Respondents who did not receive family support, but provided complete immunizations because respondents understood and received the information provided by health workers regarding the importance of completeness of basic immunization.

Respondents who do not receive family support and do not provide immunizations do this to follow the wishes of their husbands or families for fear of post-immunization events and mothers feel unable to take care of their own children if a fever occurs after immunization. This is in line with Lawrence Green's theory which says that family support is a reinforcing factor that encourages mothers to be able to provide basic immunizations to children.

This study is not in line with the opinion of Septiani (2020) who states that the completeness of basic immunization is influenced by education, income, knowledge, attitudes, motives, work, family support, posyandu facilities, and the environment.¹² Everyone learns from the environment where they live. The influence of the family on the formation of attitudes is very large because the family is the closest person to other family members. If the family's

attitude towards immunization is not good, then so is the attitude of the mother not to give complete immunization because there is no support from the family.

The results of this study are also in accordance with the theory which says that adequate family social support has a positive influence on family health/welfare (Setiadi, 2015).¹⁴ Family support is one of the factors that influence a person's positive behavior. However, someone who gets information from his own experience and the experience of others, then that person will take action according to his needs (Notoatmodjo, 2012).⁷

Lack of family support can be intervened by providing education to the community about the importance of family support in immunization activities. Appropriate persuasion, promotion, and education can provide knowledge about the benefits of immunization. Parents and families also need to be given an understanding of Adverse Events Following Immunization (AEFI) that may appear after immunization, such as fever, fussiness, and so on. Good knowledge and handling of AEFI can reduce family worries and misperceptions about immunization.

4. Conclusion

This study conducted at the UPTD of the Cibuyaya Health Center, Karawang Regency, showed that there was a relationship between mother's knowledge and the completeness of basic immunization during the Covid-19 pandemic era at the UPTD of the Cibuyaya Health Center, Karawang. Respondents who have good knowledge have 1.479 times greater to provide complete basic immunization compared to respondents who have less knowledge.

The results showed that there was no relationship between family support and the completeness of basic immunization in the era of the Covid-19 pandemic at the UPTD Puskesmas Cibuyaya, Karawang. Empowerment of families regarding the importance of immunization for children under two years must continue to be carried out so that the target for complete basic immunization could be achieved.

5. References

- ¹ Kemenkes RI. (2020). *Buletin Surveilans Pd3I & Imunisasi - Bersama Mencapai Eliminasi Syndrome(Crs) Congenitalrubella Campak-Rubela Pada Tahun 2023*. 1–10.
- ² UNICEF. (2022). 'Cakupan Imunisasi Anak Rendah Akibat Covid-19 Pemerintah atasi Dengan Bulan Imunisasi Anak Nasional' <https://www.unicef.org/indonesia/id/press-releases/cakupan-imunisasi-anak-rendah-akibat-covid-19-pemerintah-atasi-dengan-bulan>. Accessed on September 13, 2022
- ³ Kemenkes, R. I. (2018). Riset kesehatan dasar tahun 2013. Jakarta: Kemenkes RI
- ⁴ Nauli, F.A. (2014). *Hubungan pengetahuan ibu tentang imunisasi terhadap kelengkapan imunisasi dasar pada balita di wilayah kerja Puskesmas Dumai Kota Kelurahan Dumai kota* (dissertation, Universitas Riau).
- ⁵ Adiputra, I. M. S., Trisnadewi, N. W., Oktaviani, N. P.W., Munthe, S. A., Hulu, V. T., Budiastutik, I. (2021). *Metodologi Penelitian Kesehatan*. Medan: Yayasan Kita Menulis
- ⁶ Fitriani Sahiq, P. (2018). Hubungan Pengetahuan dan Dekungan Keluarga Dengan Ketepatan Waktu Pemberian Imunisasi BCG Pada Bayi Di Wilayah Kerja Puskesmas Maligano Kabupaten Munatahun 2018 (Doctoral dissertation, Poltekkes Kemenkes Kendari).
- ⁷ Notoatmodjo, S. (2012). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- ⁸ Kholifah, S. N., & Widagdo, NS. W. (2016). *Keperawatan Keluarga Dan Komunitas*. Jakarta: Kementrian Kesehatan Republik Indonesia
- ⁹ Iswanti, T., & Tansah, A. (2019). Hubungan Antara Dukungan Keluarga Dengan Kelengkapan Imunisasi Dasar Di Wilayah Kerja Puskesmas Rangkasbitung Desa Cijoro Lebak Tahun 2018. *Jurnal Medikes (Media Informasi Kesehatan)*, 6(2), 265-272.

10. Indahsari, R. (2021). Pengaruh Pandemi Covid-19 terhadap Pelayanan Imunisasi Rutin pada Anak: Kajian Literatur. *Media Kesehatan Masyarakat Indonesia*, 20(5), 365-371
11. Budiman & Riyanto A. (2013). *Kapita Selekta Kuisisioner Pengetahuan Dan Sikap Dalam Penelitian Kesehatan*. Jakarta : Salemba Medika.
12. Septiani, M., & Mita, Z. (2020). Hubungan Penegtahuan Ibu Dan Dukungan Keluarga Dengan Cakupan Pemberian Imunisasi Dasar Pada Batita Di Desa Sangso Kecamatan Samalangka Kabupaten Bireuen. *Journal Of Healthcare Technologi And Medicine*, 6(2), 911-922.
13. Wati, W., Sari, E. P., Ramadanti, A., & Sukarni, D. (2022). Hubungan Pengetahuan, Sikap dan dukungan Keluarga dengan Imunisasi Dasar pada Bayi. *Jurnal'Aisyiyah Medika*, 7(1).
14. Setiadi. (2015). *Konsep dan Proses Keperawatan Keluarga*. Yogyakarta : Graha Ilmu. Hal. 13. 20-23, 96-97