



Original Article

FACTORS RELATED TO MEASLES IMMUNIZATION PROVISION IN CHILDREN AGED 10-12 MONTHS IN THE WORKING AREA OF LHOONG COMMUNITY HEALTH CENTER, ACEH BESAR REGENCY, IN 2022

Husnun Amatullah¹, Yuni Sari^{2*}, Salmiani Abdul Manaf³, Nizan Mauyah⁴.

1,2,3: Department of Midwifery, Poltekkes Kemenkes Aceh, Aceh Besar, Indonesia

*Corresponding author: yunisari@poltekkesaceh.ac.id

Abstract

Background: Measles in Indonesia is a health problem that must be addressed because the cases remain high and outbreaks of the disease (KLB). The distribution of suspected measles cases is almost in all provinces. In 2018, there were 8,429 cases, with 85 suspected measles cases, which is significantly lower than the 15,104 cases with 349 KLB reported in 2017.

Subjects and Method: This study employs a descriptive and analytical approach with a cross-sectional design. The population in this study consisted of all mothers with babies aged 10 to 12 months. Sampling was conducted using simple random sampling, involving 73 respondents. Data processing used the chi-square test.

Results; The results of the chi-square test showed that there was a relationship between knowledge (p-value = 0.000), the role of officers (p-value = 0.024) and family support (p value = 0.000) with the provision of measles immunization in the Lhoong Health Center working area, the Regency of Aceh Besar.

Conclusion: A relationship was found between knowledge, the role of officers, and family support in the provision of measles immunization.

Keywords: measles, immunization, children aged 10-12 months, Aceh Besar regency

Background

Measles is a highly contagious disease caused by the measles virus, transmitted through droplets. The measles virus belongs to the genus Morbillivirus in the family Paramyxoviridae. Symptoms of measles begin with high fever, runny nose, cough, loss of appetite, and conjunctivitis. Management is generally supportive, and vitamin A is given according to the patient's age. Prevention is done with the MMR vaccination (1). The distribution of measles cases by province in Indonesia in 2018-2020, which experienced an increase in measles cases, also experienced a rise in measles cases that were vaccinated, and there was a relationship between measles cases and measles cases that were vaccinated

according to province in Indonesia in 2018-2020 (2).

Immunization is essential because it can protect against various dangerous diseases. One of the diseases that can be prevented by immunization (PD3I) is measles. Immunization is an effort to provide immunity to infants and children by inserting vaccines into the body so that the body produces anti-substances to prevent certain diseases, while what is meant by a vaccine is a material used to stimulate the formation of anti-substances that are inserted into the body through injection (for example BCG, DPT and measles vaccines) and through the mouth (for example polio vaccine). Measles immunization is a vaccine

used to prevent measles in children, as it is a highly infectious disease. The content of the measles vaccine is a weakened form of the measles virus; measles immunization is administered subcutaneously. This immunization may cause side effects, including rashes at the injection site and fever. The incidence of measles is very high in influencing the morbidity and mortality rates of children (3).

The coverage of measles immunization in Indonesia in 2023 was 69.92%. The province with the lowest coverage is Aceh (49.72%) (4). Based on a report from the Lhoong Health Center, in 2021 there were 275 immunization targets in the Lhoong Health Center work area, it was found that the achievement of BCG was 115 babies (41.9%), polio 1 71 babies (47.8%), polio IV 95 babies (35.5%), measles 55 (20.5%), HB o 82 babies (55.2%) and DPT-HB I: 77 babies (28.8%). From the percentage above, it is clear that the provision of Measles immunization at the Lhoong Health Center remains low, at 20.5%.

According to the information obtained from the Lhoong Health Center, the low coverage of Measles immunization among babies was not entirely due to the health workers, but also to the lack of community participation. During the immunization week, officers visited residents' homes to immunize babies, but mothers still did not want their children to receive the vaccination. Those assisted in childbirth by health workers or those not assisted by health workers have the same opportunity to receive the measles immunization.

Subjects And Method

1. Study Design

This study employs a descriptive-analytical research method with a cross-sectional design. The author aims to investigate the relationship between knowledge, the role of health workers, and family support in the provision of measles immunization to children aged 10-12 months in the working area of the Lhoong Health Center, Sub-district Lhoong, Aceh Besar Regency.

2. Population and sample

The population in this study consisted of all mothers with babies aged 10 to 12 months in the Lhoong Health Center's working area, from January to December 2021, totaling 269 persons. The sample in this study consisted of 73 people selected using the simple random sampling method, specifically random sampling with specific requirements (babies

aged 10-12 months residing in the Lhoong Health Center working area in 2022). The sample was babies who had received immunization and those who had not received immunization.

3. Study Variables

The dependent variable in this study is measles immunization, and the independent variables are maternal knowledge, family support, and the role of health workers.

4. Operational Definition of Variables

- The variable of measles immunization is immunization given to children aged 10-12 months, as seen from the health card records.
- The variable of knowledge is the mother's ability to understand measles.
- The variable of the role of health workers is the provision of information by health workers to respondents in providing measles immunization.
- The variable of family support is a form of real support or action given by the family (husband, parents) to get the measles immunization.

5. Study Instruments

The data collection technique in this study used questionnaires and KIA books to determine the provision of measles immunization that had been carried out. The interview method was used to determine maternal knowledge, support from family, and health workers.

6. Data Analysis

a. Univariate Analysis:

Analysis was conducted on each variable, namely measles immunization, maternal knowledge, family support, and the role of health workers. This analysis will be presented in a frequency distribution table.

b. Bivariate Analysis

Conducted to determine the relationship between the independent variable and the dependent variable, using the chi-square statistical test. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) computer program. In the Chi-Square test, if the P value < 0.05 , there is a relationship between the independent variable and the dependent variable. Still, if the P-value alpha value is ≥ 0.05 , there is no relationship between the independent variable and the dependent variable.

Results

1. Characteristics of the sample

Based on the results of the study, it shows that the majority of mothers' ages are in the 20-35 year category, namely 58 people (79.4%), the majority of mothers' education is in the middle category, namely 49 people (67.1%), the

majority of mothers are housewives/unemployed, namely 48 people (65.8%), and the average age of children is 11 months, namely 30 people (41.1%). These results will be shown in table 1

Table 1: Characteristic of respondent

No	Characteristic of respondents	f	%
1	Age		
	19 years old	4	5,5
	20-35 years old	58	79,4
	>35 years old	11	15,1
	Total	73	100
2	Education Level		
	Higher Education	13	17,8
	Middle Education	49	67,1
	Basic Education	11	15,1
	Total	73	100
3	Occupation		
	Housewife	48	65,8
	Working	25	34,2
	Total	73	100
4	Age of Baby		
	10 Months	28	38,4
	11 Months	30	41,1
	12 Months	15	20,5
	Total	73	

a. Measles Immunization

The results of the study showed that among children aged 10-12 months, 46 babies (63.0%)

were not immunized, and 27 babies (37%) were immunized. The results of the analysis will be displayed in Table 2

Table 2: Distribution Frequency of Measles Immunization

No	Measles Vaccination	f	%
1	Vaccination	27	37,0
2	Did not vaccination	46	63,0
	Total	73	100

b. Mother's Knowledge

The results of the study showed that mothers' knowledge about measles was in the poor

category, namely 43 people (58.9%), and 30 mothers or 40.1% had good knowledge. Table 3 will show the results of the analysis.

Table 3: Frequency Distribution of Mothers' Knowledge about Measles

No	Knowledge	f	%
1	Good	30	41,1
2	Less	43	58,9
	Total	73	100

c. Role of Health Workers

The results of the analysis show that most mothers stated that there was no role for officers in providing counseling on measles

immunization, namely 46 people (63.0%). Meanwhile, 27 mothers (37%) stated that they had received counseling on measles immunization

Table 4: Role of the Health Worker

No	Role of the Health Worker	f	%
1	Receive Counselling	46	63,0
2	Did not receive counselling	27	37,0
Total		73	100

d. Family Support

The results of the analysis show that generally families do not support measles vaccination for babies, namely: 45 mothers (61.1%). Only 28

mothers (38.5%) stated that they received family support to provide measles immunization to their babies. Table 5 shows the results of the analysis.

Table 5: Family Support

No	Family Support	f	%
1	Support	28	38,4
2	Did not support	45	61,6
Total		73	100

2. Bivariate Analysis

a. Relationship between Knowledge and Measles Immunization.

Based on the results of statistical tests using the Chi-Square test, it is shown that out of 43 respondents with limited knowledge, 35 respondents (81.4%) did not receive the measles immunization. The results of the statistical test yielded a p-value of 0.000, indicating a significant relationship between knowledge and the provision of measles immunization in children aged 10-12 months.

b. Relationship between the Role of Officers and the Provision of Measles Immunization.

Based on the results of statistical tests using the Chi-Square test, it is shown that out of 43 respondents who received counseling from health workers, 24 respondents (55.8%) provided measles immunization to their babies. The results of the statistical test yielded a p-value of 0.024, indicating a significant relationship between the role of officers and the provision of measles immunization to children aged 10-12 months.

c. Relationship between Family Support and Measles Immunization

Based on the results of statistical tests, it shows that out of 45 mothers who did not receive family support, 37 mothers (82.2%) did not provide measles immunization to their babies. The results of the statistical tests yielded a p-value of 0.000, indicating a significant relationship between the role of health workers and the provision of measles immunization to children aged 10-12 months.

The study's results showed that out of 43 respondents with limited knowledge about measles immunization, 35 respondents (81.4%) had not received the measles immunization. The results of the statistical test yielded a p-value of 0.000, indicating a significant relationship between knowledge and measles immunization in children aged 10-12 months.

The results of this study align with research conducted by Wartisa et al., which found that maternal knowledge level is associated with achieving measles immunization targets ($p\text{-value} = 0.013$). The level of maternal knowledge is related to achieving measles immunization targets, so it is essential to provide counseling to mothers with babies (5). Similar research was also conducted by Zen and Ramdani, where the results showed that there was a relationship between the level of maternal knowledge about measles immunization and the achievement of measles immunization in infants at the Cipaku Health Center, Ciamis Regency, with a $p\text{-value} < \alpha$ ($0.000 < 0.05$). A mother's knowledge about immunization will affect her belief and desire to comply with her baby's immunization schedule (6).

Knowledge about immunization is essential for mothers, particularly those who have recently given birth. Immunization is the administration of vaccines to babies to increase their immunity and protect them from disease. Because when they are born, the baby's immunity is still very weak and very susceptible to various diseases, not a few of which even lead to infant death (7). Based on the results of other studies, there is a relationship between the level of knowledge and complete basic immunization at the X

Discussion

a. Relationship between Knowledge and Measles Immunization.

Health Center in Palembang City, with a p -value = 0.003. Of all the independent variables that are suspected of influencing the completeness of basic immunization, the sub variable level of knowledge is the most influential on the completeness of basic immunization with an OR value of 0.189. Strategies and innovations are needed that must be carried out by X officers so that the community becomes more aware of the importance of providing complete basic immunization to their babies for a better level of health in the future (8).

The knowledge factor plays a crucial role in providing basic immunization, as it drives the willingness and ability of the community. The results of the study also showed that mothers generally did not know that measles can be transmitted through the air from people who have measles. The lack of knowledge of respondents was also influenced by educational factors where some respondents had secondary education. The higher a person's level of education, the easier it is for someone to receive information. In addition, the lack of knowledge of mothers is also caused by mothers being less active in seeking information about basic immunization, either through print media or electronic media.

b. Relationship between the Role of Health Workers and Measles Immunization

The study's results showed that out of 46 respondents who had experienced the role of health workers in promoting measles immunization, 24 respondents (52.2%) administered measles immunization to their babies. The results of the statistical test yielded a p -value of 0.024, indicating a significant relationship between the role of health workers and the provision of measles immunization to children aged 10-12 months.

The results of this study align with those of a survey conducted by Mamonto et al., which found that 69% of respondents who believed health workers played a role in measles immunization administered measles immunization to their babies. It can be concluded that there is a relationship between the role of health workers and the coverage of immunization in babies aged 9-12 months at the Bohabak Health Center and Boroko Health Center (9).

The results of a similar study conducted by Sari, et al., showed that out of 31 respondents who felt the role of health workers well, 64.5% of respondents gave complete basic immunization to their babies. Health workers play a good role in providing information about immunization for mothers who have

babies so that many mothers want to be immunized (10).

The role of health workers is highly expected in addition to increasing immunization coverage, they also provide information and socialization about the benefits of immunization and diseases that can be prevented by immunization. To prevent measles, immunization officers can play an active role in providing measles immunization. Health workers strive and are responsible for providing health services to individuals and the community professionally so that it will affect the health status of the community. So it is hoped that mothers will want to immunize their babies (11).

The role of officers is highly expected in addition to increasing immunization coverage; they also provide information and socialization about the benefits of immunization and diseases that can be prevented by immunization. To prevent measles, immunization officers can play an active role in providing measles immunization.

c. Relationship between Family Support and Measles Immunization

The study's results showed that out of 45 respondents who did not receive family support, 37 respondents (82.2%) did not receive the measles immunization. The results of the statistical test yielded a p -value of 0.000, indicating a significant relationship between family support and measles immunization in children aged 10-12 months.

The results of this study are in line with research conducted by Septiani, et al., which stated that there is a relationship between family support and the scope of basic immunization in children with a p -value = 0.007. Mothers whose family members support immunizing their children tend to provide their children with complete basic vaccinations, indicating that family support is related to the provision of immunization (12). Research conducted by Prita Devi concluded that there is a significant relationship between family support and complete basic immunization in infants, with a p -value of 0.004 and OR 18 (13).

The family is the smallest unit in society, consisting of the head of the family and several people who live under one roof and have a sense of dependence on each other. To turn an attitude into a real action, supporting factors or conditions that enable it are needed, including facilities. Her husband must support a mother's positive attitude towards immunization, and there must be immunization facilities that are easily

accessible, so that the mother can immunize her child. In addition to facilities, support is also needed from other parties such as husband, parents, in-laws, and siblings (14). According to the researcher's assumption, the family plays an essential role if the mother is going to immunize her child. If the mother desires to immunize her child but the family does not allow or support it, this prevents her from doing so. Moreover, if the child becomes ill after being immunized, the family may blame the mother.

The results of the study also showed that some husbands did not allow their children to be immunized because they were concerned that their children might experience a fever. As a housewife who does not work, this will influence the mother in making decisions when she is going to immunize her baby

Ethics approval

The mother and witnesses (family members) signed informed consent before completing the questionnaire and interview.

Conflict of interest

There is no conflict of interest in this research

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Authors' Contribution

- 1st : Prepare research proposals, conduct research, complete final reports, prepare manuscript for publication and submit to journal
- 2nd : Guide the preparation of proposals and final reports, supervise the research, translate the manuscript into English, and revise the article
- 3-4 Guide the preparation of proposals and final reports,

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