

Factors Affecting Mothers' Compliance in Administering Basic Immunization for Infants in Kuta Padang Village, Johan Pahlawan Subdistrict, West Aceh Regency

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Abstract

Immunization is an effort to prevent certain diseases in children through vaccines to increase the body's immunity to a diseases. In Kuta Padang Village, Johan Pahlawan District, West Aceh Regency, the coverage of complete basic immunization in 2024 was 27 infants. The purpose of this study was to determine the factors that influence mothers' compliance in providing basic immunization to infants in Kuta Padang Village, Johan Pahlawan District, West Aceh Regency. This research method used an analytical quantitative study design with a *cross-sectional* research design. The population in this study consisted of all mothers with children aged 9-11. The sample size in this study was 33 respondents using total sampling technique. The results of this study indicate a relationship between mothers' level of knowledge and their compliance in providing basic immunizations to infants, with a p-value of 0.001 ($p < 0.05$). The results of the study obtained a p-value of 0.009 ($p < 0.05$), meaning that there is a significant relationship between mothers' attitudes towards basic immunizations and their compliance in administering basic immunizations to infants. The results of the study obtained a p-value of 0.000 ($p < 0.05$), meaning that there is a relationship between family support and mothers' compliance in administering basic immunizations to infants.

Keywords: Immunization; Maternal compliance; Knowledge; Attitude; Family support

Introduction

Immunization is an effort to prevent vaccine-preventable diseases by boosting the body's immune system (Balqis et al., 2023). Immunization is very important because a baby's immune system is still developing. The purpose of immunization is to prevent infection and protect children from various dangerous diseases that can cause death. According to the WHO and the Indonesian Ministry of Health, the immunization development program stipulates that basic immunization coverage consists of Hepatitis B, BCG, DPT (Diphtheria, Tetanus, Pertussis), Polio, and Measles (Handayani et al., 2024).

According to UNICEF (2023), the number of children who did not receive any vaccinations in 2022 was 13.9 million, and there was an increase in 2023 to 14.5 million children in countries with weak health systems. This shows that, in general, the world still faces challenges in achieving equitable immunization coverage. (Amalia et al., 2025). According to data from the 2020 Indonesian Health Profile Report survey, the national coverage of basic immunizations was 83.3%. However, this figure did not meet the 2020 Strategic Plan target of 92.9% (Kementerian Kesehatan Republik Indonesia, 2021).

Data from the Aceh Provincial Health Office shows that complete basic immunization coverage in 2021 was 42.7% and decreased to 38.4% in 2022. Based on this data, the target of 90% complete basic immunization set by the government has not yet been achieved (Handayani et al., 2024). Based on data from the West Aceh District Health Office in 2024, 911 infants, or 23.5%, have received complete basic immunizations, with a target of 100% for the Complete Basic Immunization (IDL) indicator. The achievement of complete basic immunization from the immunization data at the Suak Ribee Community Health Center in West Aceh Regency in 2024 was 108 infants or 34.8% who had received complete basic immunization, with a Complete Basic Immunization (IDL) target indicator of 100%. In Kuta Padang Village, Johan Pahlawan Subdistrict, West Aceh Regency, the coverage of complete basic immunization in 2024 was 27 infants, while the target number of infants who should receive complete immunization was 93 infants.

Several factors that can influence mothers' compliance in providing complete basic immunizations for infants need to be thoroughly understood in order to increase immunization coverage. Lawrence Green states that human behavior is influenced by predisposing factors, which are factors within humans that can encourage or facilitate a person to act in a certain way, such as the mother's age, level of knowledge, level of education, and attitude. Enabling factors are factors that enable or facilitate certain behaviors and actions, such as the distance to health facilities, facilities, and infrastructure. Finally, reinforcing factors are factors that reinforce or support behavior that has already been performed, such as family support (Janatri et al., 2022).

Maternal knowledge is one of the driving factors whereby knowledge can influence a person's behavior in providing basic immunizations to infants. Mothers' lack of knowledge about immunization can result in them not giving their children basic immunizations, which affects the completeness of infant immunizations (Putri & Hamamah, 2021). Immunization coverage is also influenced by the mother's attitude. Mothers' attitudes toward immunization can shape supportive behaviors toward immunization activities, thereby influencing infants' immunization status. Mothers who are aware of the importance of immunization understand the benefits of protection provided through immunization, which encourages them to actively seek information related to immunization (Lila Apriani et al., 2024). Furthermore, family support is another factor, as good support from the family can shape the mother's behavior in providing immunizations for her children. Good support for health is essential in immunization activities (Santoso, 2021). In addition, parental noncompliance with immunization schedules is one reason why children do not receive complete immunizations. Mothers who understand the importance of complete basic immunization as a form of prevention to avoid disease tend to behave well in bringing their children to health centers (Novembriany & Fahiroh, 2023).

Although many studies have examined the factors that influence mothers' compliance in providing basic immunizations to infants, there is still a gap regarding the integration of the influence of mothers' knowledge, attitudes, and family support simultaneously. In addition, research on the role of mothers' knowledge, attitudes, and family support in the context of Kuta Padang Village, Johan Pahlawan District, West Aceh Regency is still very limited.

Complete basic immunization for infants is an important measure in preventing infectious diseases that can endanger children's health. However, given the low coverage of complete basic immunization for infants, especially in Kuta Padang Village, Johan Pahlawan Subdistrict, West Aceh Regency, there is a potential increase in the risk of diseases that can be prevented through immunization. Therefore, this study is important in order to increase



immunization coverage more effectively. The results of this study are expected to be used as evaluation material or reference for health workers in Kuta Padang village and Suak Ribee Community Health Center in following up on low basic immunization coverage and can be used as a basis for the government in making health policies on strategies to increase compliance with complete basic immunization in order to achieve optimal immunization coverage.

Methods

This research method used an analytical quantitative study design with a *cross-sectional* research design. This study was conducted at the Kuta Padang Village Health Center in Johan Pahlawan District, West Aceh Regency, from September 12 to 19, 2025. The population in this study consisted of all mothers with children aged 9-11 months. The sample size in this study was 33 respondents. The sampling technique used in this study was total sampling, which is a sampling method that takes the entire population as the research sample. The sampling technique used in this study was *Total Sampling*, which is a sampling method that takes the entire population as the research sample.

The dependent variable of this study is maternal compliance in administering basic immunizations to infants, and the independent variables of this study are Maternal Knowledge Level, Maternal Attitude, and Family Support. The technique used in data collection was interviews, and the measurement tool used in this study was a questionnaire. The data analysis used was univariate to describe the characteristics of the variables studied and bivariate analysis with the chi-square test to determine the relationship between two variables.

Results

1. Univariate Analysis

Respondent characteristics based on age, education, occupation, knowledge, attitude, family support, and maternal compliance with immunization (Table 1).

Table 1. Univariate analysis of respondent characteristics

	Characteristics	n	%
Age	25-30 years	27	81,8%
	31-35 years	6	18,2%
Education	Junior High School	3	9,1%
	High School	22	66,7%
	Higher Education	8	24,2%
Occupation	Civil Servant	2	6,1%
	Housewife	31	93,9%
Mother Knowledge	Good	13	39,4%
	Poor	20	60,6%
Attitude	Positive	18	54,5%
	Negative	15	45,5%
Family Support	Support	12	36,4%
	Doesn't Support	21	63,6%
Maternal Compliance	Compliant	11	33,3%
	Non-Compliant	22	66,7%

Total	33	100,00%
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From the results above, The majority of respondents had low levels of knowledge, with 20 respondents (60.6%) having low levels of knowledge. Most mothers had a positive attitude, with 18 respondents (54.5%). Most respondents did not receive family support, with 21 respondents (63.6%). And most respondents did not comply with basic immunizations, with 22 respondents (66.7%) residing in Kuta Padang Village, Johan Pahlawan Subdistrict, West Aceh Regency.

2. Bivariate Analysis

Variable factors of knowledge, attitude, and family support on maternal compliance in infant immunization. (Table 2).

Table 2. Bivariate Analysis of Factors Affecting Maternal Compliance

Variabel	Administration Of Basic Immunizations				Total	<i>p-value</i>
	Compliant		Non-Compliant			
	n	%	n	%		
Mother Knowledge						
Good	9	62,2%	4	30,8%	13	0.001
Poor	2	10,0%	18	90,0%	20	
Attitude						
Positive	10	55,6%	8	44,4%	18	0.009
Negative	1	6,7%	14	93,3%	15	
Family Support						
Support	11	91,7%	1	8,3%	12	0.000
Doesn't Support	0	0%	21	100,0%	21	

From the results of the above analysis, most respondents who had inadequate knowledge were those who did not comply with complete basic immunization, totaling 18 respondents (90,0%). The chi-square test resulted in a p-value of 0.001 ($p < 0.05$). Respondents with negative attitudes included 14 respondents (93,3%) who did not comply with complete basic immunization. The chi-square test resulted in a p-value of 0.009 ($p < 0.05$). And the majority of respondents who had unsupportive families included 21 respondents (100,0%) who did not comply with complete immunization. The chi-square test resulted in a p-value of 0.000 ($p < 0.05$).

Discussion

1. The Relationship between Knowledge Level and Maternal compliance in Administering Basic Immunizations

Based on this study, it was found that of the 33 respondents with a good level of knowledge, 13 respondents had good knowledge, of which 9 respondents (62,2%) were compliant in providing complete immunizations and 4 respondents (30,8%) were non-compliant in providing complete basic immunizations. Meanwhile, of the 20 respondents who had insufficient knowledge, 2 respondents (10,0%) were non-compliant in providing complete immunizations, while 18 respondents (90,0%) were non-compliant. The chi-square statistical test yielded a p-value of 0.001 ($p < 0.05$).

This indicates that there is a significant relationship between mothers' knowledge of basic immunization and their compliance with basic immunization for infants.

This is in line with the research by Hasanah et al., the results obtained with a p-value of 0.000 ($p < 0.05$) indicate that there is a relationship between mothers' knowledge of basic immunization and their compliance in administering basic immunization to infants in the working area of the Madurejo Pangkalan Bun Community Health Center (Hasanah et al., 2021).

The relationship between mothers' level of knowledge and complete immunization in children is very important for maintaining health and improving children's immune systems. Mothers' knowledge about immunization is a key factor in ensuring that children receive the correct and complete vaccines according to schedule. Mothers who are aware of the dangers of diseases that can be prevented by immunization tend to be more proactive in maintaining their children's health by providing vaccines. With adequate knowledge, mothers can follow the immunization schedule correctly and avoid delays or overdoses that can affect their children's immunity (Zahra et al., 2023).

2. The Relationship between Mothers' Attitudes and Maternal Compliance in Administering Basic Immunization

Based on the results of a study conducted on 33 respondents, 18 respondents had a positive attitude, of which 10 respondents (55,6%) were compliant in providing complete basic immunizations and 8 respondents (44,4%) were non-compliant in providing complete basic immunizations. Meanwhile, of the 15 respondents who had a negative attitude, 1 respondent (6,7%) was non-compliant in providing complete basic immunizations, while 14 respondents (93,3%) were non-compliant. The statistical test results obtained a p-value of 0.009 ($p < 0.05$). This indicates that there is a significant relationship between mothers' attitudes toward basic immunization and their compliance in administering basic immunization to their infants.

The results of this study are in line with the research by Zamli et al., which obtained a p-value of 0.014 ($p < 0.05$), indicating that there is a relationship between mothers' attitudes and their compliance with immunization (Zamli et al., 2020).

Attitude is an important concept in social psychology that discusses the elements of attitude both as individuals and as groups. Attitude is an action that a person may take in their life. Having this attitude can encourage someone to behave positively when receiving health services. A person with a positive attitude will demonstrate good behavior by bringing their baby to receive a full set of basic immunizations. The more positive a mother's attitude toward basic immunization, the more likely she is to have her child receive basic immunization. Conversely, the more negative a mother's attitude toward basic immunization, the more likely she is to not have her child receive complete basic immunization (Kaminyia Zai & Elvipson Sinaga, 2024).

3. The Relationship between Family Support and Maternal Compliance in Administering Basic Immunization

Based on the results of a study conducted on 33 respondents, 12 respondents had supportive families, of which 11 respondents (91,7%) were compliant in providing complete basic immunizations and 1 respondent (8,3%) was non-compliant in providing complete basic immunizations. Meanwhile, of the 21 respondents who had unsupportive



families, 0 respondents (0%) did not comply with complete immunization, while 21 respondents (100,0%) did comply. The statistical test results obtained a p-value of 0.000 ($p < 0.05$). This indicates that there is a significant relationship between the level of family support and maternal compliance in providing basic immunizations to infants.

This is in line with Saudah's (2022) research, which obtained a p-value of 0.022 ($p < 0.05$), indicating that there is a relationship between family support and maternal compliance in administering basic immunizations to infants aged 0-12 months in Kampong Blang Village and Bung Pageu Village, Blang Bintang District, Aceh Besar Regency (Saudah, 2022).

Family support plays an important role in shaping compliance in mothers because support can help mothers feel confident, focused, and maintain their commitment to immunizing their children according to the specified requirements (Janatri et al., 2022). One of the keys to successful immunization in children lies in families agreeing and providing support for the decision to immunize their children so that they can avoid disease (Nurlaelasari, 2024).

Conclusion

Based on the results of the research conducted, it can be concluded that there is a significant relationship between mothers' knowledge, attitudes, and family support and their compliance in providing basic immunizations to infants in Kuta Padang Village, Johan Pahlawan District, West Aceh Regency.

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