

# Factors Related to the Completeness of Immunization in Public Health Center Ladja, Ngada 2019

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## ABSTRACT

The UCI coverage of the Indonesian villages' in 2016 was at 66%. Immunization is one of the most effective health effort to reduce the mortality rate of infants and toddlers. This study aimed to determine the factors related to the completeness of immunization in public health center Ladja, Ngada. The research used cross sectional design with accidental sampling. The population in this study were 197 respondents and the sample involved was of 132 respondents. The data was collected by using questionnaires as the primary data. The analysis was conducted by using univariate and bivariate with Phi test. The results showed that maternal education factors (p-value = 0.475), income (p-value = 0.174), maternal knowledge (p-value = 0.441), and motivation (p-value = 0.114) were not related to completeness of basic immunization outcomes. However, mother's attitude factor (p-value = 0.021) was related to completeness of basic immunization. The recommendation for further research is to explore the relationship of attitude variables to the completeness of basic immunization outcomes.

**Keywords:** *Factors related to immunization, basic immunization*

## 1. INTRODUCTION

The infant mortality due to PD3I is still high. According to the data from UNICEF (United Nations Children's Fund) in 2010, 1.4 million toddlers worldwide died because of PD3I. According to the data from the Indonesian Ministry of Health on Indonesia's Health Profile in 2014 related to PD3I cases in Indonesia, the number of tetanus neonatorum cases increased from 53.8% in 2013 to 64.3% in 2014 with 54 deaths. Measles cases also increased from 11,521 cases in 2013 to 12,943 cases in 2014 (Ministry of Health Republic of Indonesia, 2014). According to the NTT Province Health Profile in 2016, there were 114 measles cases in 2012. That number increased to 261 cases in 2013 and 411 cases in 2014. In 2015 it decreased to 284 cases, but in 2016 it increased to 329 cases. There were 61 hepatitis cases in 2016 and 4 diphtheria cases (NTT Profile, 2016). This death can be avoided through prevention, education, immunization counseling, and sex and reproductive health services [3]. The Ministry of Health also recorded a total coverage of the Basic Immunization Program (IDL) in 2015 of 4,139,903 infants. In 2016, this number increased to 4,361,072 infants, while by mid-2017 there were 1,773,440 infants being covered by this immunization program (Ministry of Health, 2017). In 2014, 70.7% villages had been covered by UCI. This number decreased to 57.2% in 2015 and increased to 66% in 2016. Complete basic immunization coverage for infants in districts / cities in NTT province for each type of vaccine in 2016 was TTU 80%, Belu 80%, East Flores 85%, Kupang City 70%, Nagekeo 70%, West

Manggarai 70%, TTS 60%, Alor 61%, Lembata 62%, Sikka 64%, Ende 60%, East Manggarai 61%, Manggarai 55%, East Sumba 64%, Central Sumba 50%, West Sumba 49%, Kupang 40%, Malacca 39%, Ngada 41%, Rote Ndao 39%, Sabu Raijia 40%, Southwest Sumba 25% [2].

According to the immunization data in Ladja Public Health Center, there were 197 infants in 2017 and 84 infants in 2018 who got hepatitis B and BCG immunizations. There were 183 infants in 2017 and 61 infants in 2018 who were given DPT immunizations. Polio immunizations were given to 197 infants in 2017 and 89 infants in 2018. There were 191 infants in 2017 and 78 infants in 2018 who were given measles immunization. According to a research conducted by [5], [6], [7], there are factors related to the completeness of the immunization program. It is said that knowledge has a relation with the completeness of the basic immunization program in infants. [6] added that people's attitudes and parents' motivation influence the completeness of basic immunization program. [7] also stated that economic status also influences the completeness of the basic immunization program in infants. However, according [8], education and income do not affect the completeness of the basic immunization program base on babies.

Ladja Public Health Center includes sub-district public health center and non-inpatient Ladja Public Health Center. It covers a working area of 98, which includes 12 villages, and the population of 11,897 residents. The facilities that are owned are buildings, toilets, electrical services, one public polyclinic, one laboratory, one

emergency room, a field that is not usually used, one canteen, one refrigerator, some *amdal*, *apar*, and one ambulance. This public health

center is quite far from the village, so there are nine *polindes* in each village. In this public health center, there are only one general practitioner/doctor, twelve nurses, 13 midwives, two laboratory assistants, and two pharmacists. The characteristic of the people in Ladjais the high tolerance among people. The people there help each other. They mostly work as farmers that work in the morning to the evening. The public transportation is rare. It is only operated in the morning and evening. The UCI in Ngada is 41% while the target in 2019 is 92%. Therefore, the authors are interested in conducting a research on "factors related to the completeness of basic immunization outcomes in Puskesmas Ladja, Ngada 2018".

**2. METHODS**

This research was conducted at Ladja Public Health Center in January 2019. The type of research used was quantitative with cross sectional research design. The sample in this study were 132 respondents that were mothers who had 12-24 month-children. The sampling in this study used Nonprobability Sampling by using accidental sampling in which the sample was collected based on cases or respondents who happened to be available based on the characteristics of the study. The inclusion criteria of this study were all mothers who brought their 12-24 month-children for immunization, brought KMS in Ladja Public Health Center, could read and write, and were willing to become respondents.

The research ethics used in this study included social value, clinical value, scientific value, equalization of burdens, risks and benefits, inducements, financial benefits, replacement costs, privacy protection and confidentiality, informed consent (IC), and community consideration. The data was collected by using a questionnaire and processed using SPSS 16. Bivariate analysis used in this study is the Phi test.

**3. RESULTS**

**Table 1.** Frequency Distribution of Respondents Based on Their Characteristics At the Ladja Public Health Center, Ngada (n = 132)

Characteristics	Category	Frequency	%
Mother's age	17 – 25 tahun	16	12.1
	26 – 35 tahun	64	48.5
	36 – 45 tahun	52	39.4
Number of children	1-2 Children	68	51.5
	>2 Children	64	48.5
Amount		132	100.0

Table 1 shows that from 132 respondents who became research respondents, there were 64 respondents (48.5%) that were 26-35-year-old-mothers who brought their children to get basic immunization. There were 68 respondents (51.5%) who had 1-2 children.

**Table 2.** Frequency Distribution of Respondents Based on Education, Income, Knowledge, Attitude, and Motivation In Ladja Public Health Center, Ngada, NTT (n = 132) 2019

Variable	f	%
<b>Education</b>		
High (> high school)	51	38.6
Low (<high school)	81	61.4
<b>Income</b>		
High (> RMWRp. 1,660,000)	24	18.2
Low (<RMWRp. 1,660,000)	108	81.8
<b>Knowledge</b>		
Good	131	99.2
Enough	1	0.8
Less	0	0
<b>Attitude</b>		
Positive	69	52.3
Negative	63	47.7
<b>Motivation</b>		
Positive	69	52.3
Negative	63	47.7
Amount	132	100.0

Data source: Primary data processed, 2019

Based on table 2, it could be concluded that there were 81 respondents (61.4%) who had low education (< senior high school). This number was greater than those with high education (>senior high school) that are 51 respondents (38.6%). Low-income respondents (< RMW Rp. 1,660,000) were 108 respondents (81.8%). The number was higher than those with high-income respondents (> RMW Rp. 1,660,000) that are 24 (18.2%). Respondents who had good knowledge were 131 respondents (99.2%). It was followed by respondents who had less knowledge that was just one respondent (0.8%). Respondents who behaved positively were 69 respondents (52.3%). This number was higher than respondents who behaved negatively that were 63 respondents (47.7%). Respondents who were positively motivated were 69 respondents (52.3%). It was greater than respondents who were negatively motivated that were 63 respondents (47.7%). Respondents who had toddlers with a history of incomplete basic immunization were 83 respondents (62.9%). It was more than respondents who had a complete basic immunization history that were 49 respondents (37.1%).

**Table 3.** The relationship between education, income, knowledge, attitude and motivation with the completeness of immunization outcomes inLadja Public Health Center, Ngada, NTT 2019

Variable	Completeness of Basic Immunization Outcomes				Amount		p Value
	Complete		Incomplete		n	%	
	n	%	n	%			
<b>Education</b>							0.475
High (> High School)	17	12.9	34	25.8	51	38.6	
Low (< High School)	32	24.2	49	37.1	81	61.4	
<b>Income</b>							0.174
High (> RMW Rp. 1,660,000)	6	4.5	18	13.6	24	18.2	
Low (< RMW Rp. 1,660,000)	43	32.6	65	49.2	108	81.1	
<b>Knowledge</b>							0.441
Well	49	37.1	82	62.1	131	99.2	
Enough	0	0.0	1	0.8	1	0.8	
Less							0.021
<b>Attitude</b>	32	24.2	37	28.0	69	52.3	
Positive	17	12.9	46	34.8	63	47.7	
Negative							0.114
<b>Motivation</b>	30	22.7	39	29.5	69	52.3	
Positive	19	14.4	44	33.3	63	47.7	
Amount	49	37.1	83	62.9	132	100.0	

Data source: Primary data processed, 2019

Based on the results of the statistical tests in table 8, P-values were obtained for maternal education variables as P = 0.475, income as P = 0.174, maternal knowledge as P = 0.441, maternal attitudes as P = 0.021, and maternal motivation as P = 0.114. Factors related to the completeness of basic immunization achievement was mother's attitude. Mother's education, income, knowledge, and motivation were not related to the completeness of basic immunization outcomes.

#### 4. DISCUSSIONS

##### 4.1 The relationship between mother's education and the completeness of basic immunization outcomes

The results of this study were in line with the research conducted by Rohayati (2017) which stated that there was no relation between education and the completeness of basic immunization in children. The analysis with the Chi Square test obtained p value: 0.173 (p value > 0.05). The results of this study contradicted to the research of Yuliana (2018) that found a significant relation between education and completeness of immunization outcomes. The analysis results obtained p value: 0.001 (p value < 0.05).

According to the researcher's assumptions, mothers who had higher education tend to be more receptive to information about basic immunizations provided by health workers. A person's education affected the way they decided something. For mothers with higher education, it was easier to accept a new idea than mothers with less education so that the

information was more easily accepted and implemented.

##### 4.2. The relation between income and completeness of basic immunization outcomes

The results of this study were in line with research conducted by Nur (2015) which stated that there was no relation between income and basic immunization completeness because the results of analysis with the Chi Square test obtained p value: 1,000 (p value > 0.05). The results of this study contradicted to Machun's research (2018) that found that there was a significant relation between income and completeness of immunization outcomes because the analysis results obtained p value: 0.004 (p value < 0.05).

According to the researcher's assumptions, family income would affect one's ability to finance health services. People who were sick were often not brought to get the health services because they were unable to afford the cost. It was also happened related to immunization cases at Ladja Public Health Center. It often happened that mother who wanted to get her child immunized could not get that health service because they did not have enough money to afford the transportation fee to Ladja Public Health Center.

##### 4.3 Relation between mother's knowledge and completeness of basic immunization outcomes

The results of this study were in line with research conducted by Sulistyoningrum (2018) which stated that there was no relation between knowledge and the completeness of basic immunization. The results of analysis by using the Chi Square test obtained p value of 0.360 (p value > 0.05). However, the results of this study contradicted Yuliana's research (2018) that said if there was a significant relation between knowledge

and completeness of immunization outcomes because the analysis results obtained p value of 0.001 (p value <0.05).

According to the researcher's assumptions, mothers obtained information about basic immunization from WVI (Wahana Visi Indonesia) that provided counseling in the form of information and pictures on cardboard. It helped the mothers to understand the information about basic immunization in Ladja Public Health Center.

#### **4.4. Relation between maternal attitudes and completeness of basic immunization outcomes**

The results of this study were in line with research conducted by Yuliana (2018) which stated that there was a relation between attitude and the completeness of basic immunization in children. The results of analysis done the chi square test obtained p value of 0.001 (p value > 0.05). The results of this study is contradicted with Sulistyoningrum's research (2018) that stated that there was no significant relationship between attitudes and completeness of immunization outcomes. The analysis results obtained p value of 0.378 (p value > 0.05).

According to the researcher's assumptions, mothers there were busy working in the garden so that they forgot about the immunization schedule that has been notified by the public health center and immunization schedule was sometimes done at the same time with a custom event like a wedding and first communion.

#### **4.5. Relation between mother's motivation and completeness of basic immunization outcomes**

The results of this study contradicted the research of Yuliana (2018) that stated if there was a significant relationship between motivation and completeness of immunization outcomes. The analysis results obtained p value of 0.001 (p value <0.05).

According to the researcher's assumptions, mothers who heard misinformation from others about basic immunizations stated that the immunizations were useless and caused children to be sick.

### **5. CONCLUSION**

Based on the results of the research that had been conducted on 132 mothers who had children aged 12-24 months at the Ladja Public Health Center, Ngada, factors that was affected the completeness of basic immunization outcomes which were maternal attitudes (p-value: 0.021). It was found that it is important to provide a counseling on the importance of basic immunization to mothers in order to prevent disabilities and deaths happen to their children. In addition, it is needed to use existing media or props to be easier to understand and to approach the tribal chief and village head in coordination with NGOs.

### **SUGGESTION**

The health workers in public health center need to provide counseling on the importance of basic immunization to mothers who have children so that in their infancy there will be no disabilities and deaths happen to their children. The health workers need to provide information by using existing media or props that make it easy for mothers to understand the information that is conveyed about basic immunization. The health workers must also approach the tribal chief and village head in coordination with NGOs. The theory of behavior change needs to be added to the learning material of education of cultural subject and the explanation about immunization needs to be deepened so that the researchers can properly educate the public. Subsequent research with mileage variables can explore the possibility of this factor affects the relationship of completeness of basic immunization outcomes.

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