

# The Relationship Between Mother's Knowledge Of Basic Immunization And The Completeness Of Toddler Basic Immunization In The Working Area Of Modounding Community Health Center

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## ABSTRACT

*Complete basic immunization is important to provide so that the body can develop immunity and be protected from infectious diseases. Knowledge is a predisposing factor that influences the completeness of toddler immunization. This study aims to determine the relationship between maternal knowledge about basic immunization and the completeness of basic immunization in toddlers in the Working Area of Modounding Health Center. The type of this research is quantitative analytic with a cross-sectional study approach. The research was conducted from December 2024 to February 2025. With a population of 173 mothers who have toddlers aged 12-24 months residing in the working area of the Modounding Health Center. The sample consisted of 62 respondents using the Lemeshow formula. In this study, it was found that the majority of mothers had good knowledge with a percentage of 88.7% and those with sufficient knowledge 11.3%. The completeness of basic immunization among the majority of respondents had children with complete basic immunization status at a rate of 90.3% and incomplete at 9.7%. The research results with the chi-square test found a relationship between mothers' knowledge about basic immunization and the completeness of basic immunization for toddlers in the working area of the Modounding health center ( $p = 0.001$ ).*

*Keywords: Knowledge, Completeness of Basic Immunization, Toddler*

## 1. INTRODUCTION

One of the key initiatives to improve public health and avoid infectious diseases that can lead to disability and death is immunization. The Regulation of the Minister of Health Number 12 of 2017 about the Implementation of Immunization governs Indonesia's vaccination program and covers routine, supplemental, and special vaccinations. Basic and advanced vaccinations are the two categories of routine immunization, which are administered continually.

According to estimates, diseases that can be avoided by vaccination account for 5% (1.7 million) of toddler deaths in Indonesia each year (PD3I). Meanwhile, the WHO report from 1972 stated that 5,000 children died from diphtheria annually and that 28,500 cases of the disease were found in toddlers. This was based on the examination of the incidence of diseases that can be prevented by immunization. The Indonesian government supports the vaccination program as part of its efforts to safeguard the community and achieve the best possible standard of public health (Kemenkes, 2022).

Based on data from the World Health Organization (WHO) in 2022, the number of children who did not receive immunization, referred to as zero dose, at the global level was 14.3 million children. This data shows a decrease from 2021, which was 18.1 million children, and the situation is now almost back to the pre-pandemic level in 2019 (12.9 million children). Meanwhile, in Indonesia, the number of children who have not received complete immunization from 2018 to 2023 is 1,879,820 children (Ministry of Health, 2024). Based on the latest data from the Central Statistics Agency, the immunization percentages in North Sulawesi Province in 2021 were BCG 93.18%, DPT 89.32%, Polio 92.64%, Measles 75.93%, Hepatitis B 89.58%. Meanwhile, in the National Medium-Term Development Plan (RPJMN) for the period 2019-2024, Indonesia has set a target that 90% of children aged 12-23 months and 80% of infants aged 0-11 months in 488 districts/cities will receive complete basic immunization, meaning that North Sulawesi Province has not yet reached this target. South Minahasa Regency with BCG coverage of 91.06%, DPT 85%, Polio 88.22%, Measles 69.74%, Hepatitis B 85.92%. Based on the initial observation results at Puskesmas Modounding, the immunization coverage percentages were found to be HBO 73.1%, BCG 71.4%, Polio (1) 73%, DPT 72%, Polio (2) 77.4%, DPT (2) 68.5%, Polio (3) 78.6%, DPT (3) 66.1%, Polio (4) 69%, Rubella Measles 76.8%. To maximize the immunization program, Indonesia faces several challenges.

The challenge in the immunization program is the negative perception towards routine immunization, with many rumors circulating about immunization being unsafe and vaccines of low

quality. The suboptimal management of vaccine distribution leads to poor vaccine quality and vaccine shortages, resulting in delays in immunizing children. The awareness and understanding of the community about the importance of immunization also play a significant role in the administration of immunization to children because the immunization given to toddlers becomes the responsibility of the family, especially the mother (Kemenkes RI, 2024).

When it comes to vaccinations, the mother is in charge of making sure the child gets them on time. This schedule includes a number of vaccinations that, in order to offer the most protection, must be administered at specific ages. Therefore, in order to guarantee that children receive all of the recommended basic vaccinations, maternal awareness and comprehension are crucial. In the work area of Larangan Utara Health Center, Tangerang City, Setyaningsih (2019) conducted a study on the relationship between maternal knowledge about basic immunization and the completeness of basic immunization. The study found that there is a relationship between the two. The findings of Sriatmi et al. (2018)'s study conducted in the Tumbang Health Center's operational region also indicated a connection between newborns' basic immunization completion and maternal knowledge. This demonstrates how maternal awareness of fundamental immunizations has a significant impact on vaccination administration.

## 2. RESEARCH METHODOLOGY

This kind of research uses a cross-sectional study design and is quantitatively analytical. The study was carried out between December 2024 and January 2025. The study's sample consisted of 62 moms who resided in the Modinding Health Center Work Area and had children between the ages of 12 and 24 months. A correlation between the completeness of basic immunization for toddlers in the Modinding Health Center work area and maternal awareness of basic immunization was discovered by the study's chi square test results. includes information on data sources, data collection methods, and data analysis techniques.

## 3. RESULT AND DISCUSSION

### 3.1 Respondent Characteristics

Table 1. Distribution of Respondents Based on Place of Residence

Place	n	%
Sinisir	6	9,7
Linelean	4	6,5
Palelon	8	12,9
Wulurmaatus	7	11,3
Mokobang	7	11,3
Pinasungkulan Utara	4	6,5
Pinasungkulan	11	17,7
Kakenturan Barat	1	1,6
Kakenturan	6	9,7
Makaaruyen	8	12,9
Total	62	100

Based on Table 1, it can be seen that in this study, the majority of respondents reside in Pinasungkulan village, with 11 respondents, accounting for 17.7%, while the fewest respondents reside in Kakenturan Barat village, with only 1 respondent, accounting for 1.6%.

Table 2. Distribution of maternal knowledge

Knowledge	n	%
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Good	55	88,7
Enough	7	11,3
Not enough	0	0
Total	62	100

According to this study, most moms knew a fair much about the fundamentals of vaccinations; 55 respondents, or 88.7%, knew a good deal, and 7 respondents, or 11.3%, knew enough.

Table 3. Distribution of immunization Completeness

Immunization Completeness	n	%
Complete	56	90,3
Incomplete	6	9,7
Total	62	100

According to the study's findings regarding the completeness of basic immunization for children ages 12 to 24 months in the Modinding health center's service area, 56 children, or 90.3% of the total, had complete immunization status, while 6 respondents, or 9.7% of the total, had children with incomplete basic immunization status. A mother's high awareness of disease prevention for her child, her good knowledge of basic immunization, and her belief that vaccination is crucial for her child are some of the factors that influence the provision of complete basic immunization to children. There are also children who have incomplete immunization status due to several factors, such as the mother having insufficient knowledge about basic immunization and not being aware of the immunization schedule, leading to delays in basic immunization, as well as the immunization schedule coinciding with the family's personal activities.

### 3.2 Relationship Between Maternal Knowledge About Basic Immunization and The Completeness of Toddler Basic Immunization

Table 4 Complete Basic Immunization

Knowledge	Complete basic immunization						OR	P value
	Complete		Incomplete		Total			
	n	%	n	%	n	%		
Good	53	96,4	2	3,6	55	55,0	35,333	
Enough	3	42,9	4	57,1	7	7,0	(4,514 - 276,583)	0,001
Total	56	90,3	6	9,7	62	62,0		

There is a significant correlation between mothers' knowledge of basic immunization and the completeness of basic immunization for toddlers in the Modinding health center's working area, according to the results of the statistical test using chi-square analysis, with a p-value of  $0.001 < 0.05$ . The reason for this is that moms still receive very little information regarding fundamental immunizations, even in cases where many mothers possess adequate expertise. People behave in ways that are consistent with their knowledge, thus it makes sense that a mother who is well-versed in the fundamentals of vaccination will finish her child's vaccinations in accordance with her knowledge. This study supports that of Agustin and Rahmawati (2021), who found a correlation between the completeness of children's fundamental immunizations and the amount of maternal knowledge. This suggests that a mother's level of knowledge influences her child's immunization status; a child of a mother with high immunization knowledge will have a full basic immunization status, in contrast to a child of a mother with low immunization knowledge.

#### 4. CONCLUSION

- a. In the Modinding health center's working region, mothers' understanding of toddlers' basic vaccinations is rated as adequate at 11.3% and good at 88.7%.
- b. In the Modinding health center's working region, 90.3% of toddlers have had all of their recommended basic vaccinations, while 9.7% have not.
- c. In the Modinding Health Center's working area, there is a correlation between mothers' awareness of basic vaccinations and how comprehensive the toddlers' basic vaccinations are.

#### 5. RECOMMENDATIONS

- a. For every mother to be able to improve their knowledge about complete basic immunization through books, social media, or education from health workers, which can enhance and increase the mother's knowledge, thereby influencing their actions in providing basic immunization to their toddlers.
- b. For healthcare workers to enhance the provision of information and education about the importance of basic immunization for toddlers so that every mother is motivated to complete her child's immunization and can bring her child for immunization according to the specified schedule.

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