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THE RELATIONSHIP BETWEEN MOTHER'S KNOWLEDGE AND TODDLER BASIC IMMUNIZATION COMPLIANCE IN SAMARINDA CITY IN 2026

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ABSTRACT

The 2025 Indonesian Immunization Coverage Survey shows that only 56.4% of children aged 12–23 months have received complete immunizations. Based on data obtained by the Community Health Center in Sungai Pinang District, it was found that immunization coverage in 2025 was quite low, as follows: HB0 60.2%, BCG 73.2%, DPT HiB3 73.2%, POLIO4 68%, PCV2 1.6%, IPV 56.4%, MR 66.9%, IDL 54.2%. The issue of maternal knowledge about immunization is important to study because knowledge about the benefits, types, schedules, and completeness of immunizations can influence mothers' understanding in fulfilling the toddler immunization schedule. The purpose of this study was to determine the relationship between maternal knowledge and immunization compliance in the Youth Community Health Center (Puskesmas Remaja) work area. The study design was a correlational analytic with a cross-sectional approach. The study sample consisted of 51 respondents using simple random sampling. Bivariate analysis used the chi-square test. Knowledge has a relationship with compliance (p -value = 0.000). There is a relationship between maternal knowledge and toddler basic immunization compliance.

Keywords: Basic Immunization, Knowledge, Compliance

INTRODUCTION

Data from the World Health Organization (WHO) in 2020 stated that Indonesia ranked third in the world in the number of babies who had not received immunizations, with a total of 1.7 million babies who had not received immunizations, which kept global immunization coverage at 86%, thus showing no significant change in recent years. In 2021, there were around 20 million children who had not received complete basic

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immunizations, some even had not received any immunizations at all. In 2024, out of 194 countries, the achievement of complete basic immunizations in Indonesia was 86.6%, meaning that Indonesia was a country with low achievement of complete basic immunizations and below the global immunization coverage target of 90%. The 2025 Indonesia Immunization Coverage Survey supported by WHO showed that only 56.4% of children aged 12–23 months had received complete immunizations. Immunization has been proven to be an efficient and effective health effort in preventing and reducing morbidity, disability, and death due to PD3I, some of these diseases include tuberculosis (TB), polio, diphtheria, tetanus, hepatitis B, whooping cough, measles, rubella, pneumonia, and meningitis.

Based on data obtained by the Community Health Center in Sungai Pinang District, it was found that immunization coverage in 2025 was quite low, namely as follows: HB0 60.2%, BCG 73.2%, DPT HiB3 73.2%, POLIO4 68%, PCV2 1.6%, IPV 56.4%, MR 66.9%, IDL 54.2%.

The infant mortality rate (IMR), which remains relatively high, exceeding 10 million deaths, is a major global health concern for children. Infants and children are more vulnerable to infections and serious complications because their immune systems are not yet fully developed. Consequently, prevention through vaccination is crucial. (Heryani & Lestari, 2023).

Immunization is the process of providing immunity to children by introducing vaccines into their bodies to produce antibodies to prevent certain diseases. This protects children from serious illnesses and can also prevent infectious diseases.(Darmin et al., 2023).

METHODS

This study is a type of correlation research using a cross-sectional design with a quantitative approach, which aims to determine the relationship between maternal knowledge and compliance with basic immunization in the work area of the Youth Health Center.

This study aimed to determine the relationship between maternal knowledge and compliance with basic immunizations in the adolescent community health center (Puskesmas Remaja) working area. A random sample of 51 respondents was selected from April 2026 to June 2026. The researchers determined that they met the inclusion and exclusion criteria and were selected as respondents.

There are two variables in this study: the dependent variable (free) which includes maternal knowledge and the dependent variable (bound) which is compliance with basic immunizations. In this study, respondents' answers will be measured using ordinal and nominal scales.

RESULTS

Table 1. Distribution of Respondents by Age, Education, and Occupation in the Youth Health Center Work Area in 2026 (n=51)

Variable	Category	Frequency	Percentage (%)
Age	< 20 years	5	9.8%
	≥ 20 years	46	90.1%
Education	Base	29	56.86%
	Intermediate	13	25.49%
	Tall	9	17.65%
Work	Working mother	7	13.72%
	Mother does not work	44	86.27%

Source: Primary Data, 2026

Based on table 1, it shows that the characteristics of respondents based on age, the results obtained that the most respondents were aged ≥ 20 years as many as 46 respondents (90.1%). The characteristics of respondents based on education, the results obtained that the most respondents were Elementary Education as many as 29 respondents (56.86%). The characteristics of respondents based on occupation, the results obtained that the most respondents were unemployed mothers as many as 44 respondents (86.27%). The level of knowledge of respondents about basic immunization, the results obtained that the most knowledge level was sufficient knowledge as many as 34 respondents (66.6%). Compliance in following basic immunization in the work area of the Youth Health Center, the results obtained that the most were compliant as many as 35 respondents (68.62%).

Table 2. Relationship between Knowledge and Compliance with Basic Immunization in Toddlers

Compliance	Knowledge				P-Value
	Good		Enough		
	n	%	N	%	
Obedient	15	29.41	21	41.17	0.000
Not obey	2	3.92	13	25.49	
Total	17	33.33	34	66.66	

Source: Data Analysis, 2026

Based on Table 2, the analysis results show that of the 51 respondents with good knowledge and compliance with basic immunization, 15 respondents (29.41%) were compliant. Based on the chi-square test results, the p value was $0.000 < \alpha(0.05)$ shows that

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there is a significant relationship between respondent knowledge and compliance in following basic immunizations in the Youth Health Center work area.

DISCUSSION

The results of the study stated that of the 51 respondents, some of the respondents had a good level of knowledge, namely 17 respondents consisting of 15 people who complied with basic immunization; 2 people who did not comply with basic immunization, the other respondents had a sufficient level of knowledge, namely 34 respondents consisting of 21 people who complied with basic immunization; 13 people who did not comply with basic immunization, and no respondents had insufficient knowledge. The results of the bivariate analysis stated that the knowledge variable had a significant relationship with compliance in following basic immunization of toddlers ($p\text{-value} = 0.000 < \alpha 0.05$).

This is in line with research conducted by (Mepi Sulastri, 2022) which found a significant relationship between maternal knowledge and maternal compliance in administering pentavalent immunization. This indicates that the higher the mother's knowledge about immunization, the higher the mother's compliance in administering immunizations to her child. This research is in line with research conducted by (Hasanah et al., 2021). According to Badur, there is a difference between maternal knowledge and compliance with basic immunization (there is a significant relationship between maternal knowledge and compliance with basic immunization) (Badur et al., 2020). According to the study (Maulidia et al., 2025) There is a significant relationship between maternal knowledge and compliance with immunization, where mothers with better knowledge tend to have toddlers with more complete immunization status. Mothers with good knowledge are able to comply with administering immunizations to toddlers according to the specified schedule. (Nurhayati, 2024).

Maternal knowledge levels have not shown a statistically significant relationship with immunization compliance in toddlers. Although some mothers with good knowledge tend to have better immunization compliance than mothers with less knowledge, the relationship is not yet statistically strong. This could be due to several factors other than knowledge, such as family support, access to health services, maternal occupation, motivation, previous experience, and fear of immunization side effects. The relatively small sample size may also influence the results of statistical tests, so the true relationship is not yet significant. (Nurazizah, 2026).

CONCLUSION

Most respondents were aged ≥ 20 years, had a primary education, unemployed mothers, and had sufficient knowledge of basic immunization. Compliance with basic

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immunization in the Youth Health Center's work area was generally good. There was a relationship between maternal education and knowledge and compliance with basic immunization in the Youth Health Center's work area.

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