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The relationship between family support and maternal compliance with basic immunization among infants aged 10-12 months

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Abstract

Background: Basic immunization is an important preventive measure to protect infants from vaccine-preventable diseases. Maternal compliance with immunization schedules may be influenced by support from family members.

Purpose: To determine the relationship between family support and maternal compliance with basic immunization among infants aged 10–12 months at Srandakan Community Health Center.

Method: This quantitative study used a descriptive correlational design with a cross-sectional approach. A total of 37 mothers of infants aged 10–12 months were selected using total sampling. Data were collected using a family support questionnaire and an observation sheet based on the Maternal and Child Health (MCH) Handbook to assess immunization compliance. Data were analyzed using a bivariate statistical test at a significance level of 0.05.

Results: Most respondents received family support (34/91.9%), and most infants were classified as compliant with the immunization schedule (32/86.5%). The analysis showed a statistically significant relationship between family support and maternal compliance with basic immunization ($p=0.001$).

Conclusion: Family support was significantly associated with maternal compliance with basic immunization among infants aged 10–12 months.

Keywords: Basic Immunization; Family Support; Maternal Compliance.

INTRODUCTION

Indonesia is a country with a population of 284.44 million people. According to the Central Bureau of Statistics (2025), the largest age group in Indonesia is dominated by children aged 0–18 months, with a total of 22.75 million people. In accordance with the Asta Cita and the Sustainable Development Goals (SDGs) in Indonesia, one of the achievements that can help improve the quality of future generations is health and well-being (Central Bureau of Statistics, 2025).

Strong public health is the foundation for quality human resources, innovation, and resilience in facing challenges. The Healthy Indonesia Program with a Family Approach According to the Regulation of the Minister of Health of the Republic of Indonesia Number 17 of 2023 concerning Health, Part Four, Article 44, states that (1) the Central Government and

Regional Governments are responsible for providing complete immunization to every infant and child; (2) every infant and child has the right to receive immunization to provide protection against diseases that can be prevented through immunization. Immunization can reduce infant mortality, reduce the prevalence of stunting, and control communicable and non-communicable diseases (Ministry of Health of the Republic of Indonesia, 2023).

Basic health services as a preventive effort aimed at accelerating the reduction of maternal and infant mortality are facilitated by Community Health Centers as First-Level Health Facilities (FKTP). Community Health Centers are the frontline of health services in certain working areas, responsible for organizing public health efforts and basic health services, including immunization. The health service package

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includes counseling, early detection, immunization, and supplementation. The immunization service package includes BCG, Polio, DPT-Hb-HB, MMR, PCV, and Rotavirus immunizations given to children aged 0–18 months (Ministry of Health of the Republic of Indonesia, 2023). Children aged 0–18 months are in the golden age of their development. Therefore, children have the right to have all their needs facilitated, especially in receiving immunization as a long-term investment to actively increase immunity against certain diseases. Basic immunization is one way to prevent infectious diseases through immunization. Mandatory immunization is immunization required by the government according to the Immunization Development Program (PPI) (Ismail & Hardi, 2023). In Indonesia, there are 5 mandatory immunizations, namely BCG, Polio, Hepatitis B, DPT, and Measles.

According to World Health Organization (WHO) data, 65 of the 194 WHO member countries have not yet achieved the global target of 90% DPT (Diphtheria, Pertussis, and Tetanus) immunization coverage. It is estimated that approximately 1 in 5 children, or around 21.8 million children, have not received potentially life-saving immunizations. The latest UNICEF report in the State of the World's Children revealed that over the past three years, approximately 67 million children worldwide have not received immunization (UNICEF, 2023). This situation represents the most significant setback in routine childhood immunization programs in the past three years. Indonesia experienced a decline in immunization coverage, which affected the national immunization target. The national immunization target reaches a minimum coverage of 95% for all types of antigens. The percentage of infants aged 0–11 months who received complete immunization reached 84.2% in 2020 and slightly increased to 84.5% in 2021. Meanwhile, the proportion of children who had never received any immunization increased from 10% in 2019 to 26% in 2021. From 2017 to 2021, the number of children in Indonesia who had not received complete immunization was 1,525,936 children (Ministry of Health of the Republic of Indonesia, 2023).

According to the State of the World's Children report focusing on immunization, Indonesia is one of 55 countries where confidence in immunization

programs declined during the pandemic (UNICEF, 2023). According to the Health Office of the Special Region of Yogyakarta (DIY), immunization coverage in DIY remains relatively high (above the national target) compared with other regions. Immunization coverage among infants in 2022, with an absolute target of 38,389, reached 37,414 (97.63%). Although this figure is above the national target, there were still 3% of infants who had not received complete immunization.

The family support system is also very important for motivating and encouraging family health, especially children who will be prepared as the next generation. Family support is a form of family attitudes and actions in accepting its members, manifested through informational support, evaluative support, direct assistance (instrumental), and emotional support. Family support is one of the important factors in realizing healthy behavior (Inayati & Hasanah, 2022). Families who believe in the benefits of immunization for infants and trust health services tend to encourage their members to make maximum use of health facilities available around their place of residence. Family approval and support for disease prevention efforts in children also play a role in the completeness of basic immunization for infants. One important factor in the success of basic immunization for children is family support, which may include providing information to mothers about the importance of immunization, accompanying mothers when bringing their children to the Community Health Center, and helping care for the baby when the mother is working (Saudah, 2020).

Based on a preliminary study conducted on November 3, 2025, at Srandakan Community Health Center, data showed that during a three-month period, from September to November 2025, a total of 110 infants received basic immunization services. Based on an interview with one of the Community Health Center staff members, there were 2 cases of immunization DO (Drop Out) in the last 3 months, with reasons including religious beliefs and the belief that immunization causes children to become sick frequently. In addition, one of the Community Health Center staff members stated that many mothers or caregivers still did not follow the immunization schedule, with forgetfulness and work being among the reasons. The immunization with the highest

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number of DO cases at Srandakan Community Health Center was the immunization at 18 months, namely DPT-HB-HIB and MR/Measles, because the interval between these immunization schedules is the longest, causing mothers or caregivers to frequently forget the immunization schedule.

According to the perceptions of Community Health Center staff, some delays in visits were caused by cough, cold, and fever, as well as transportation constraints, resulting in delays in the timing of immunization for children. In addition, at Srandakan Community Health Center, toddlers who did not receive immunization were also due to their husbands/fathers not giving permission. Activities that have been carried out by Srandakan Community Health Center to improve the compliance of mothers or caregivers in attending immunization visits accordingly.

RESEARCH METHOD

This study employed a quantitative approach with a descriptive correlational design and a cross-sectional approach. The study was conducted at Srandakan Community Health Center, Bantul Regency, Yogyakarta, in February 2026.

The study population consisted of all mothers who had infants aged 10–12 months in the working area of Srandakan Community Health Center. A total of 37 respondents were selected using total sampling. The inclusion criteria were mothers who had infants aged 10–12 months, possessed the child's Maternal and

Child Health (MCH) Handbook, and were willing to participate in the study.

The independent variable was family support, while the dependent variable was maternal compliance with basic immunization. Family support was measured using a closed-ended questionnaire covering emotional, informational, instrumental, and appraisal support. The questionnaire had undergone validity and reliability testing. Maternal compliance was assessed by reviewing the child's MCH Handbook to determine whether immunizations had been administered according to the recommended schedule.

Univariate analysis was performed to describe the characteristics of respondents, family support, and immunization compliance using frequency distributions and percentages. Bivariate analysis was conducted to examine the relationship between family support and maternal compliance with basic immunization. A statistical significance level of $\alpha=0.05$ was used.

Because the sample size was small and some expected cell frequencies may have been less than five, Fisher's exact test should be used if the assumptions for the Pearson Chi-Square test are not met. Statistical analysis was performed using statistical software. The study was conducted in accordance with ethical principles, including informed consent, confidentiality of respondent information, and voluntary participation.

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RESEARCH RESULTS

Table Characteristics of Respondents (N=37)

Variable	Results	P-value
Mother's Age (Mean±SD) (Years) (Range)	(31.00 ± 6.12) (31-45)	
Infant's Age (Mean±SD) (Month) (Range)	(11.00 ± 0.82) (10-12)	
Gender (n/%)		
Male	19/51.4	
Female	18/48.6	
Education (n/%)		
Elementary School	0/0	
Junior High School	5/13.5	
Senior High School	24/64.9	
Diploma	3/8.1	
Bachelor's Degree	5/13.5	
Occupation (n/%)		
Employed	14/37.8	
No Employed	23/62.6	
Family Support (n/%)		0,001
Yes	34/91.9	
No		
Immunization Compliance (n/%)		
Yes	32/86.5	
No	5/13.5	

The table above shows that the mean age of mothers was 31.00 ± 6.12 years, with an age range of 31–45 years, while the mean age of infants was 11.00 ± 0.82 months, with an age range of 10–12 months. Regarding gender, most infants were male (19/51.4%), while 18/48.6% were female. In terms of maternal education, most mothers had completed senior high school (24/64.9%), followed by junior high school and bachelor's degree (each 5/13.5%), and diploma education (3/8.1%). No mothers had completed elementary school (0/0%). Regarding occupation, 14/37.8% of mothers were employed, while 23/62.6% were not employed. Most mothers received family support (34/91.9%). Regarding immunization compliance, 32/86.5% of infants were compliant with immunization, while 5/13.5% were not

compliant. The relationship between family support and immunization compliance was statistically significant, with a p-value of 0.001 ($p < 0.05$), indicating that family support was significantly associated with immunization compliance among infants.

DISCUSSION

The table shows that family support for mothers in providing immunization at Srandakan Community Health Center obtained the highest result in the supported category, with 34 respondents (91.9%), while 3 respondents (8.1%) were in the not supported category. Based on these results, it can be concluded that the majority of mothers in providing immunization

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at Srandakan Community Health Center received support from their families.

These results are similar to those of a previous study, which showed that the majority of toddlers received family support (93.3%). The similarity in these results indicates that family support is a consistent factor in the success of immunization provision in various regions, showing that the majority of toddlers were supported by their families, with a result of 93.3% (Fathanah et al., 2023). This is also in line with another study stating that the majority of toddlers in the working area of Npunda Community Health Center, Bima City, were supported by their families, with a result of 60% (Astuti & Baety, 2024).

Family support is the way families accept their family members through attitudes and actions that include informational support, appraisal support, practical support, and emotional support. This study showed that the majority of respondents received family support, and the most dominant form of support was informational support. Informational support includes providing advice, information, and guidance regarding the importance of immunization and its implementation schedule. In this study, regarding the statement about accompaniment during immunization, the majority of respondents stated that they were not accompanied by their families (Astuti & Baety, 2024).

This may be influenced by various factors such as the busyness of family members, work, or the perception that mothers are able to come alone without accompaniment. Meanwhile, family accompaniment during immunization is an important part of social support that can increase mothers' comfort, sense of security, and motivation to complete immunization properly and on time. Family support is a human relationship that includes attitudes, actions, and acceptance toward people within the family, so that each family member feels that someone cares about them. People who live in a supportive social environment generally have better conditions than their peers who do not have such support, because assistance from family is considered capable of reducing or mitigating the impact of a person's mental health problems (Fauzi et al., 2024).

The support provided by families is as important as various other factors that influence how parents provide complete basic immunization to their children.

Another study showed an association between family support and basic immunization behavior among toddlers in Mumbulsari Village. The results of the study revealed that family support was one of the very crucial aspects influencing parents' actions in providing basic immunization to their children (Handayani, 2021). Based on experience and research that has been conducted, positive family support can influence parents' habits in providing basic immunization to children under two years of age. The forms and characteristics of this support vary depending on the stages of the life cycle. Family support may appear in the form of social assistance from family members, such as support from husbands, wives, or siblings, and may also come from extended family members outside the immediate family. Such support enables families to function with various skills and capabilities. This, in turn, improves the health and adaptive capacity of families (Fauzi et al., 2024).

In the study of family support for infants aged 10–12 months at Srandakan Community Health Center, the researchers argue that the success of the immunization program is not only the responsibility of the mother but also the responsibility of the entire family, particularly both parents, who need to provide verbal and non-verbal support in administering immunization to infants. This is reinforced by previous research stating that immunization programs are the responsibility of the family, not only parents and health workers, through encouragement, advice, and supervision in caring for infants and children (Widiyanti et al., 2023).

The majority of respondents in this study showed that immunization compliance among infants aged 10–12 months at Srandakan Community Health Center was categorized as compliant, with 34 respondents (91.9%), while 3 respondents (8.1%) were categorized as non-compliant. Based on these findings, it can be concluded that the majority of immunization compliance among infants aged 10–12 months at Srandakan Community Health Center was in the compliant category. This is similar to the another study which stated that the majority of immunization compliance was in the compliant category, with a result of 64.4% (Astuti & Baety, 2024).

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Immunization is an effort to provide or strengthen the immune system of infants and children by administering vaccines into the body, so that the body actively produces antibodies to protect itself against certain diseases. Vaccines themselves are substances containing live microorganisms that have been weakened or killed, which can trigger active specific immunity against certain diseases. The purpose of immunization is to protect infants from being easily infected by communicable diseases and to reduce morbidity (the number of disease cases) and mortality (the number of deaths) among infants and children (Widiyanti et al., 2023).

Although the majority of respondents in this study were in the compliant category, there were still 8.1% of respondents who were non-compliant. This indicates that there are still barriers that may affect maternal compliance, such as lack of knowledge, concerns about immunization side effects, maternal workload, and social and cultural factors.

In the study of immunization compliance among infants aged 10–12 months at Srandakan Community Health Center, the researchers argue that immunization compliance is very important for toddlers to support their health and prevent them from easily contracting diseases. This requires good support from the government to assist immunization compliance so that immunization can be provided free of charge, as well as support from health workers through appeals and socialization regarding the importance of immunization. The results of the study showed that there was a significant relationship between family support and maternal compliance in providing basic immunization at Srandakan Community Health Center. The results of the bivariate analysis using the Chi-Square test showed a significant p-value of 0.001 ($p < 0.05$), which means that there was a relationship between family support and maternal compliance in providing basic immunization at Srandakan Community Health Center. These results are in line with the study (Astuti & Baety, 2024). This study showed a positive correlation, which means that the direction of the relationship was unidirectional, so that the better the family support, the higher the immunization compliance among infants, or the lower the family support, the lower the immunization compliance among infants. Therefore, the results of this study can

be concluded that there was a strong relationship with a unidirectional relationship between family support and maternal compliance.

CONCLUSION

There was a statistically significant relationship between family support and maternal compliance with basic immunization among infants aged 10-12 months ($p = 0.001$). Most mothers received family support, and most infants were classified as compliant with the immunization schedule. Family support may therefore be an important factor associated with maternal compliance with childhood immunization. However, the cross-sectional design does not establish a causal relationship.

SUGGESTION

Srandakan Community Health Center is expected to improve education regarding the importance of immunization and involve families in supporting mothers to follow the immunization schedule completely and on time. Families, particularly husbands, are expected to actively provide support to mothers, while future researchers may examine other factors that influence immunization compliance.

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