

THE RELATIONSHIP BETWEEN FAMILY SUPPORT AND MEASLES VACCINE PROVISION TO CHILDREN

Robiatul Andawiyah, Rif'atul Fani *, Putri Cahyaningrum

Institut Teknologi, Sains, dan Kesehatan RS. dr. Soepraoen Kesdam V/BRW
Jl. S. Supriadi No. 22, Sukun, Sukun District, Malang City, East Java 6514, Indonesia
Email: rifatul@itsk-soepraoen.ac.id

Abstrak

Measles remains a contagious disease that contributes to high rates of child morbidity and mortality in Indonesia, while measles vaccine coverage in several regions has not yet reached the national target. Low vaccination coverage is influenced by various factors, one of which is family support in child health decision-making. This study aims to analyze the relationship between family support and measles vaccine administration in children in the Karang Penang Community Health Center (Puskesmas Karang Penang) working area. The study used a quantitative approach with a cross-sectional correlational design. The study population was all mothers or caregivers of children targeted for measles immunization, totaling 36 respondents, using a total sampling technique. Data collection was conducted using a closed questionnaire regarding family support and measles vaccine status. Data analysis used the Chi-Square test to determine the relationship between variables. The results showed that most respondents had good family support and the majority of children had received the measles vaccine. Statistical tests showed a significant relationship between family support and measles vaccine administration in children with a p-value of 0.001 ($p < 0.05$). This study demonstrates that family support plays a crucial role in increasing measles immunization compliance, thus providing the basis for developing family-based immunization education and service strategies to improve child health and prevent measles transmission.

Keywords: Family Support, Childhood Immunization, Measles Vaccine

Introduction

Measles is one of the causes of Extraordinary Events (KLB) that have a significant impact on child morbidity and mortality in various countries, including Indonesia. Measles is caused by the measles virus, which is highly contagious through respiratory droplets and can lead to serious complications such as pneumonia, severe diarrhea, encephalitis, and even death in children ⁽¹⁾. According to a report by the World Health Organization (WHO), there will be a global increase in measles cases in 2023 due to declining immunization coverage in various countries following the COVID-19 pandemic. The WHO reported more than 10.3 million cases of measles worldwide, with a 43% increase in mortality compared to the previous year ⁽²⁾. This situation indicates that measles remains a serious threat to child health, particularly in developing countries with suboptimal immunization coverage. Over the past five years, the mortality rate has remained alarmingly high and has not decreased. In 2025, the number of suspected measles cases reached over 63,000. Based on data from 2025, there were 36 measles cases in the Karang Penang Community Health Center (Puskesmas) working area, with measles vaccination coverage reaching 63.41% of the 85% target.

Various immunization programs implemented by the Indonesian government aim to reduce the risk of high child mortality and the risk of infectious diseases caused by viruses. However, monitoring data shows that targets have not been met, as evidenced by the increasing number of measles cases and their increasing contribution to child mortality in Indonesia ⁽³⁾. The success of the immunization program depends heavily on parental and family compliance in vaccinating children. However, many parents and families are unaware of the positive effects of these vaccines ⁽⁴⁾.

Factors that can influence immunization include education, parental knowledge, family support, economics, access, and information. Among these factors, family support plays a role in measles vaccination, encompassing emotional aspects, information, and concrete actions provided to mothers or caregivers in making decisions about their children's health. ⁽⁵⁾ Families who have extensive knowledge and a positive perspective on the impact of immunization tend to be more supportive of giving vaccines to children compared to families who have less understanding or negative perceptions about vaccines ⁽⁶⁾.

Lack of family support can be a barrier to immunization, such as fear of side effects after vaccination, lack of accurate information, and cultural influences and beliefs. Conversely, good family support can increase motivation and compliance in bringing children to receive immunizations on schedule. Extensive research has been conducted in recent years on the relationship between family support and immunization ⁽⁷⁾ showed a significant relationship between family support and the completeness of basic immunizations in infants. The results of this study indicate that mothers who receive good family support tend to be more compliant in completing their children's immunizations than mothers who receive less family support. Similar findings were also expressed by ⁽⁴⁾ which states that family support has a positive relationship with the coverage of basic immunization in toddlers.

Another study by ⁽¹⁾ showed that immunization status is influenced by maternal knowledge and family support. This study confirmed that family support is a dominant factor in increasing children's immunization compliance. Immunizations for children not only provide prevention for the child but also have a broader impact in preventing transmission by increasing immunity due to the vaccine administration. If there is a contagious disease such as measles, it will increase the number of child deaths in Indonesia. ⁽⁸⁾

During the COVID-19 pandemic, family support has also been shown to influence measles immunization compliance. ⁽²⁾ showed that families who provided good support to mothers had higher levels of measles immunization compliance than families with low support. This finding was reinforced by research ⁽⁶⁾ which states that maternal knowledge, motivation, and family support have a significant relationship with the behavior of providing complete basic immunizations to infants.

Although various studies have demonstrated a relationship between family support and immunization, several research gaps remain that require further study. First, previous research results still show variation in the dominant factors influencing immunization compliance, necessitating further research in different regional contexts. Second, most previous studies examined basic immunization in general, while specific research on measles vaccination is limited. Third, research on family support for measles vaccination in the Karang Penang Community Health Center, Sampang Regency, has not been extensively conducted, resulting in a lack of empirical data describing the community conditions in the area.

Method

This research uses a quantitative approach with a correlational research design using the cross-sectional method. ⁽⁹⁾ Quantitative research is used to measure the relationship between variables statistically based on numerical data, while cross-sectional designs are effectively used to determine the relationship between risk factors and events in a population within a single observation period. This is also reinforced by ⁽¹⁰⁾ which states that quantitative methods allow researchers to empirically test hypotheses through statistical analysis.

The study was conducted in the Karang Penang Community Health Center (Puskesmas) in Sampang Regency. The population in this study was all caregivers or mothers of children targeted for measles immunization in the Karang Penang Community Health Center's work area, totaling 36 respondents. The sampling technique used was total sampling, meaning all members of the population were included in the study. This technique was chosen because the population size was relatively small, allowing the researchers to reach the entire population. Thus, the sample size for this study was 36 respondents.

Data collection used a closed-ended questionnaire. The research instrument consisted of two parts: a family support questionnaire and a measles vaccination questionnaire. The family support questionnaire was developed based on Friedman's social support theory, which encompasses emotional support, informational support, instrumental support, and reward support. Meanwhile, the variable of measles vaccination was measured based on the mother's or caregiver's compliance with measles immunization according to the national immunization schedule. The research instrument was developed using a Likert scale to measure the level of family support.

For the independent variable, family support, a closed-ended questionnaire with an ordinal measurement scale was adopted from the study. ⁽¹¹⁾ which is then referred to by ⁽¹²⁾ The validity and reliability test results showed a Crobach's alpha value of 0.908. The questionnaire provided "Yes" or "No" answer options, with a score of 1 for "Yes" and 0 for "No." The independent variable was categorized into three categories: Good, Adequate, and Inadequate.

1. If the respondent correctly answered <56% (<7) of the total questions, it was categorized as Inadequate.
2. If the respondent correctly answered 56-75% (7-9) of the total questions, it was categorized as Adequate.
3. If the respondent correctly answered 76-100% (10-12) of the total questions, it was categorized as Good.

Meanwhile, the variable for measles vaccination was categorized as compliant and non-compliant based on the child's immunization status.

Result

This research was conducted in the Karang Penang Community Health Center (Puskesmas) area of Sampang Regency. Data collection was conducted using a questionnaire distributed online (Google Form) from April 15–21, 2026. The results are as follows:

1. Respondent Characteristics

Table 1. Frequency Distribution of Family Characteristics by Age, Gender, Education, Occupation, and Relationship with Children (n=36)

Characteristics	Frequency (n)	Percentage (%)
Age		
< 20 Years	1	3%
20–35 Years	23	64%
35–50 Years	12	33%
> 50 Years	0	0%
Gender		
Male	4	11%
Female	32	89%
Education Level		
No Formal Education	2	6%
Elementary School	3	8%
Junior High School	9	25%
Senior High School	16	44%
Higher Education	6	17%
Occupation		
Housewife	21	58%
Civil Servant	0	0%
Laborer/Farmer	3	8.5%
Private Employee	9	25%
Others	3	8.5%
Relationship with the Child		
Mother	29	81%
Father	4	11%
Grandparent	0	0%
Uncle/Aunt	3	8%

Based on table 1, the frequency distribution of respondent characteristics based on age, most caregivers are aged 20-35 years, amounting to 23 respondents (64%), and a small number are aged <20 years, amounting to 1 respondent (3%). Based on gender, most caregivers are women, amounting to 32 respondents (89%), and a small number are men, amounting to 4 respondents (11%). Based on education level, most caregivers have a high school education, amounting to 16 respondents (44%), and a small number have not attended school, amounting to 2 respondents (6%). Based on the distribution of caregivers' occupations, most are housewives, amounting to 21 respondents (58%), and a small number are laborers/farmers, amounting to 3 respondents (8.5%). Based on the distribution of family relationships, most influencers have a relationship with their children as mothers, amounting to 29 respondents (81%), and a small number are uncles/aunts, amounting to 3 respondents (8%).

Table 2. Frequency Distribution of Children Based on Age, Gender, Weight, and Height (n=36)

Characteristics	Frequency (n)	Percentage (%)
Age		
9–24 months	14	39%
2–5 years	8	22%
5–7 years	7	19.5%
>7 years	7	19.5%
Gender		
Male	19	53%
Female	17	47%
Body Weight		
<10 kg	10	28%
10–20 kg	18	50%
20–30 kg	3	8%
>30 kg	5	14%
Height		
<100 cm	14	39%
>100 cm	22	61%

Based on table 2, the frequency distribution of children with ages mostly aged 0-24 months is 14 (39%) and a small portion is 5-7 years old is 7 (19.5%). Based on gender, most of the children are boys, 19 (53%) and a small portion are girls, namely 17 (47%). Based on body weight, most have a body weight of 10-20 kg, namely 18 (50%) and a small portion have a body weight of 20-30 kg, namely 3 (8%). Meanwhile, based on body height, most have a height of >100 cm, namely 22 (61%) and a small portion have a height of <100 cm, namely 14 (39%).

2. Family Support and Measles Vaccination

Table 3. Frequency Distribution of Family Support (n=36)

Family Support Variable	Frequency	Percentage (%)
Good	30	83%
Moderate	5	14%
Poor	1	3%
Total	36	100%

Based on table 3, the results show that family support in the good category was 30 respondents (83%), in the sufficient category was 5 respondents (14%) and in the less category was 1 respondent (3%).

Table 4. Frequency Distribution of Measles Vaccination Status (n = 36)

Measles Vaccination Status	Frequency	Percentage (%)
Yes	30	83%
No	6	17%
Total	36	100%

Based on Table 4, the results showed that 30 children (83%) had received the measles vaccine, while 6 children (17%) had not received the measles vaccine.

3. Relationship between Family Support and Measles Vaccination

Table 5. Cross-tabulation of data between family support and measles vaccination

Family Support	Vaccinated				P Value
	Yes	Percentage	No	Percentage	
Good	28	77%	2	6%	0,001
Fair	2	6%	3	3%	
Poor	0	0	1	1%	
Total	30	83%	6	17%	100%

Based on table 5, the results of the Chi-Square test showed a value of $P=0.001$ from $P=0.05$.

Discussion

Based on the research results, there was a significant relationship between family support and measles vaccination in children, with a $p=0.001$ out of $P=0.05$. This is evidenced by the family relationship data, with 30 respondents (83%) categorized as good, 5 respondents (14%) categorized as sufficient, and 1 respondent (3%) categorized as poor. Meanwhile, the vaccination data showed that 30 children (83%) had received the measles vaccine, while 6 children (17%) had not. The better the family support provided to the mother or caregiver, the higher the level of measles vaccination coverage for the child. Theoretically, the results of this study support Friedman's social support theory, which states that family support plays an important role in shaping individual behavior through emotional support, information, appreciation, and even protection.⁽¹³⁾ In the context of administering the measles vaccine, families must also provide support, such as providing information about what measles is, how dangerous it is, and how the measles vaccine can help prevent the spread of measles in children.⁽¹⁴⁾ Therefore, mothers or caregivers who receive positive support from other family members feel less afraid or anxious about how others perceive their decisions, especially regarding their child's health, including their readiness to vaccinate their children.

The immunization coverage rate for children is quite high. This is because caregivers receive strong family support. Furthermore, the education level of most caregivers is high school, with some even having higher education, which significantly influences a mother's knowledge of the effects of vaccines and the dangers of measles. This is supported by research⁽¹⁵⁾ which states that parental and family support and knowledge significantly influence the achievement of measles vaccination in children.

This study's findings align with research⁽⁷⁾ which shows a significant relationship between family support and the completeness of basic immunizations in infants. The study explains that mothers who receive support from family members are more likely to complete their children's immunizations than mothers who receive less family support. A similar finding was also found by⁽⁴⁾ which states that family support has a positive relationship with basic immunization coverage in toddlers. These two studies reinforce the findings of this study that family involvement is a crucial factor in the success of childhood immunization programs.

Furthermore, these findings support the research⁽²⁾ conducted during the COVID-19 pandemic. The study showed that family support was associated with compliance with measles immunization in infants. During the pandemic, many people experienced concerns about access to health services, making family support a crucial factor in ensuring children received their immunizations on schedule. This situation indicates that family support remains a dominant factor in immunization behavior, both before and after the pandemic.

The results of this study also support research ⁽¹⁾ which states that immunization status is influenced by the characteristics of family knowledge and support. The study explains that families who have good knowledge about the benefits of immunization tend to provide greater support for vaccination in children. The results of the study showed that the majority of mothers or caregivers had a high school education, so their level of knowledge is still considered good enough to obtain knowledge, information, and how to understand the risks of measles if not treated with the measles vaccine. Furthermore, the results of this study are also related to research ⁽¹³⁾ which states that the level of maternal knowledge regarding measles immunization is related to the achievement of measles immunization coverage. Good knowledge can increase maternal awareness of the importance of measles vaccination as an effort to prevent infectious diseases ⁽¹⁶⁾. Thus, family support and maternal knowledge are interrelated factors in increasing the success of measles immunization.

Research ⁽¹⁷⁾ explained that the success of an immunization program is influenced not only by family support but also by the role of health workers. In this study, there were still respondents with adequate family support who did not provide their children with the measles vaccine. This suggests that other factors such as health worker education, access to health services, maternal motivation, and perceptions of vaccine safety can also influence immunization decisions. This finding is reinforced by research ⁽⁶⁾ which states that maternal knowledge, motivation, and family support collectively influence the behavior of providing complete basic immunizations to infants.

Furthermore, most caregivers are mothers and housewives, meaning mothers have a better understanding of their children's needs and needs. However, a mother's closeness is insufficient without the support of her family, especially her husband, including in the decision-making process regarding measles vaccination ⁽¹²⁾. Many mothers are afraid to take their children for the measles vaccine without family support. Most children who receive the measles vaccine are between 9 and 24 months old, meaning many families are starting to understand vaccines and the various viral diseases. This allows mothers and caregivers to receive good family support, while children receive protection and early prevention against viral diseases, as well as a healthy immune system ⁽¹⁸⁾. Although a small proportion of children receive vaccinations between the ages of 5 and 7, some even beyond the age of 7, meaning they receive a follow-up measles vaccine, with advances in technology and information, along with support from local health workers, families can support the provision of vaccinations.

Vaccination coverage for children, including measles vaccination, significantly impacts the relationship between healthy lifestyles and child mortality rates in Indonesia. Vaccinating children provides immunity, protecting them from certain infectious diseases, including measles.

Theoretically, this study reinforces the social support theory, which states that family support is a crucial determinant in the development of health behaviors. This study also adds empirical evidence regarding the relationship between family support and measles vaccination in the community context of Sampang Regency, a previously limited area of research.

Conclusion

This study aims to determine whether there is a significant relationship between family support and measles vaccination in children in the Karang Penang Community Health Center (Puskesmas) work area. The final result of this study is a significant relationship between support and vaccination. This shows that family support plays a crucial role for mothers or caregivers in making decisions about their children because the family has provided support, information, access, and facilities to provide the best for their children, such as the decision to vaccinate against measles. Measles remains a significant problem and requires effective prevention before exposure. The higher the measles vaccination coverage rate, the higher the chance of children having a healthy quality of life and reducing child mortality in Indonesia. Not only about family support, there are several factors that can be one of the reasons for the failure to vaccinate against measles, namely the level of education, knowledge, family support, health access, facilities, and the role of health workers in providing information to the community. As health workers, further improvement is needed regarding information counseling regarding the long-term effects of complete vaccination, including the measles vaccine, and related to measles itself. Health education should not only focus on mothers but also involve other family members to create optimal family support for child immunization. Furthermore, the results of this study can be used as a consideration in developing family-based immunization service strategies in community health centers and other healthcare facilities. This will improve children's health and survival rates from various diseases in Indonesia and reduce child mortality rates.

References

- [1] Hamid Muhammed A. Immunization Status Analysis Characteristics And Family Support Based On Knowledge. 2022;4(1):136–41.
- [2] Patoding S. The Relationship Between Family Support and Compliance in Providing Measles Immunization to Infants During the Covid-19 Pandemic in the Pontap Community Health Center, Palopo City in 2021. 2022;1(1):9–16.
- [3] Mely RD, Rini AS. The Relationship Between Mother's Knowledge Level, Parity Number and Family Support with the Completeness of Basic Immunization in Children in Midwife Mely's Independent Practice. SENTRI J Ris Ilm. 2022;1(1):248–56.
- [4] Septiani M, Mita Z. The Relationship Between Mother's Knowledge and Family Support with Basic Immunization Coverage for Toddlers in Sangso Village, Samalanga District, Bireuen Regency. J Healthc Technol Med. 2020;6(2):911–22.
- [5] Riantina A, Najmah N, Sitorus RJ. Analysis of Risk Factors Influencing Measles Incidence in Indonesia: Literature Review. J Nurs Public Heal. 2024;12(1):122–32.
- [6] Fauzi YN, Novita A, Darmi S. The Relationship Between Knowledge, Mother's Motivation and Family Support on the Behavior of Providing Complete Basic Immunization to Infants at the Sindangratu Community Health Center, Garut Regency in 2023. SENTRI J Ris Ilm. 2024;3(2):998–1013.
- [7] Igiany PD. Correlation of Family Support with Basic Immunization Completeness. 2020;2(1):67–75.
- [8] Suryani I, Lestar RE, Wati PR, Isma D. The Relationship Between Family Support and the Role of Health Workers in Providing BCG Immunization in Sukabumi Regency, Indonesia. 2022;2022(Dpt 3):318–26.
- [9] Auliya NH, Andriani H, Fardani RA, Ustiawaty J, Utami EF, Sukmana DJ, et al. Qualitative & Quantitative Research Methods. 2020.
- [10] Firmansyah M, MAsrun. The Essence of the Differences Between Qualitative and Quantitative Methods. J Ekon Pembang. 2021;3(2):149–56.

- [11] Yanti AAI, Tripalupi LE, Haris IA. The Influence of Achievement Motives and Self-Efficacy on Distributor Sales Target Achievement. *J Ekon Undiksha Educator*. 2020;12(1):78.
- [12] Sitompul EA. The Relationship Between Knowledge and Family Support with Measles Immunization for Infants in Sihitang Village, Southeast Padangsidempuan District, Padangsidempuan City in 2019. 2019.
- [13] Zen DN, Ramdani DR. The Relationship Between Mothers' Knowledge Level About Measles Immunization and Measles Immunization Achievement in the Cipaku Community Health Center Work Area, Ciamis Regency in 2020. *Galuh Nursing*. 2020;2(2):53.
- [14] Putri IT, Sugiantini TE. The Relationship between Education, Knowledge and Family Support on Compliance with Measles Immunization in Infants. *J Ilm Permas J Ilm STIKES Kendal*. 2024;14(4):1325–32.
- [15] Wardani FDAK. Family Support for Measles Immunization in Infants. *J Genta Midwifery*. 2024;13(2):7–11.
- [16] Hermayanti H, Yulidasari F, Pujiarti N. The Relationship Between Mother's Knowledge Level and Family Support with the Completeness of Basic Immunization in Toddlers. *J Publ Kesehat Masy Indones*. 2016;3(2):59–64.
- [17] Khalidiah Z, Safri M, Utami NA, Sakdiah S, Bakhtiar. The Relationship Between Mother's Knowledge and Education Level with Compliance Behavior in Providing Basic Measles Immunization to Infants in the Work Area of the Sigli City Health Center Zuhrotul. *J Kedokt Nanggroe Med*. 2023;6(4):7–17.
- [18] Yuliasari B, Wathan FM, Rahmawati E, Dewi T, Silaban S. The Relationship Between Mother's Knowledge, Family Support and Health Worker's Attitude with the Completeness of Basic Immunization in Infants in the Nusa Bakti Community Health Center Work Area, East Ogan Komering Ulu Regency in 2022. 2022;1(2).
- [19] Patoding S. The Relationship Between Family Support and Compliance with Measles Immunization for Infants During the COVID-19 Pandemic in the Pontap Community Health Center, Palopo City, 2021. 2022;1(1):9–16.
- [20] Mely RD, Rini AS. The Relationship Between Maternal Knowledge Level, Parity, and Family Support with the Completeness of Basic Immunizations in Children in Midwife Mely's Independent Practice. *SENTRI J Ris Ilm*. 2022;1(1):248–56.
- [21] Hamid MA. Immunization Status Analysis: Characteristics and Family Support Based on Knowledge. *Journal*. 2022;4(1):136–41.