Family Awareness Level Regarding Measles Immunization at UPT Puskesmas Sering In 2025

Priskila Meilorika Daeli[1], Hellen Natasya Hia[2], Audra Debra Inestasia Tarigan[3], Kevin Habib Alhuda[4], Elisabet Tarigan[5], Novita Hasiani Simanjuntak[6], Putri Chairani Eyanor[7]

[1,2,3,4,5,6,7]Faculty of Medicine, Universitas HKBP Nommensen, Medan, North Sumatra, Indonesia. [2]Puskesmas Rawat Inap Sering, Medan, Sumatera Utara, Indonesia
Email: priskila.daeli@student.uhn.ac.id

Measles is a dangerous contagious disease, especially for children, and can be prevented through immunization. However, measles immunization coverage in Indonesia has declined, including in the service area of UPT Puskesmas sering , which experienced an outbreak at the beginning of 2025 with 15 confirmed cases. Low family awareness, particularly the lack of support from husbands or other family members, has become one of the obstacles to immunization uptake. To determine the level of family awareness regarding the importance of measles immunization in the working area of UPT Puskesmas sering . This study used a descriptive observational design with a cross-sectional approach. The population consisted of all families with members suffering from measles, and the sample was selected using total sampling. The instruments used were questionnaires on the level of community awareness regarding measles vaccination and family support, which were used to assess knowledge and family support. Of 20 respondents, most were aged 36-45 years (45%), had junior high school education (60%), and worked as housewives (60%). Most respondents had good knowledge about measles immunization (70%), but only 35% received good family support, while 40% received poor support. Only 33.3% of respondents stated that their children had received measles immunization. Although family knowledge was generally good, support for measles immunization remained low. The lack of support was influenced by religious beliefs, concerns about side effects, and low awareness of the importance of immunization. Educational efforts involving religious leaders and personal approaches are needed to increase immunization coverage.

Keywords: measles immunization, family awareness, family support

Corresponding Author:
Priskila Meilorika Daeli
Faculty of Medicine, Universitas HKBP Nommensen
Medan, North Sumatra, Indonesia
priskila.daeli@student.uhn.ac.id

1. Introduction

Measles is caused by a virus from the paramyxovirus group, a microorganism that can be transmitted from one individual to another, especially among infants or children. Measles is highly contagious, particularly through the human respiratory system. Transmission often occurs through droplets or fluids released from the respiratory system, for example when coughing, sneezing, or speaking. Although it is easily transmitted, measles is one of the diseases that can be prevented through immunization [1].

Children have antibodies that are not yet fully developed; therefore, adding antibodies through vaccination is a good option. Vaccination can help children's bodies prevent diseases that may occur and provide immune protection against diseases that are already present in the body. Immunization aims to reduce the possibility of spreading viruses or germs that cause disease [2].

However, several obstacles exist in administering measles immunization, such as mothers' limited knowledge about the importance of measles immunization and other family members' limited

understanding of measles immunization. These conditions lead to a lack of family support in helping mothers immunize their children. Prohibitions may come from various parties, especially husbands as heads of households, who often become a barrier by preventing wives from taking their children for measles immunization or by providing insufficient support for children to receive immunization at health facilities [3].

Measles has dangerous complications, one of which is bronchopneumonia, which can cause death among children with measles; therefore, in-depth research on the risks of this disease is needed [4]. Suspected measles cases are spread across almost all provinces in Indonesia, with 270 suspected cases in 2020 and 62 suspected cases in 2021 [1]. Based on data from the Indonesian Ministry of Health, measles immunization coverage in Indonesia reached 98.7% in 2019, but decreased by 55.7% in 2020. The percentage of toddlers who had received measles immunization reached 39.21% in 2020 and declined to 38.11% in 2021 [4].

Based on data from Puskesmas sering from January to March 2025, measles became an outbreak disease with 15 confirmed cases. Based on this problem, the researchers were interested in examining the level of family awareness regarding measles immunization at Puskesmas sering , Medan Tembung, in 2025.

2. Literature Review and Problem Statement

Measles remains a major vaccine-preventable disease because of its high transmissibility and potential to cause serious complications, especially among young children. The World Health Organization states that measles can lead to complications such as blindness, encephalitis, severe diarrhea, ear infection, and pneumonia, and that non-immune individuals, including unvaccinated children, are at the greatest risk [10]. Globally, measles immunization remains below the level needed to consistently prevent outbreaks: by the end of 2024, 84% of children had received the first dose of measles-containing vaccine and 76% had received the second dose [11]. In Indonesia, the Ministry of Health also emphasizes that measles-rubella immunization coverage needs to be maintained at or above 95% to interrupt transmission, while coverage gaps have been associated with outbreaks in several areas [12].

Previous literature shows that immunization uptake is shaped not only by vaccine availability but also by social and behavioral factors. WHO Indonesia reported that full immunization among children aged 12-23 months in the 2018 Indonesian Basic Health Survey was 58%, far below the national target, and highlighted the need to understand caregivers, health workers, and community leaders as part of efforts to address under-vaccination [13]. Vaccine confidence is also an important determinant of acceptance; Larson et al. found that public trust in vaccine importance, safety, effectiveness, and religious compatibility influences vaccine reluctance and refusal across different countries [14]. In the Indonesian context, Syiroj et al. found that parental reasons for incomplete childhood immunization are complex and include concerns related to beliefs, information, and trust; therefore, public health education and engagement with religious leaders are needed to bridge the gap between religious beliefs and vaccine acceptance [15].

Based on these findings, the problem in the present study is not limited to whether families know about measles immunization, but also whether family members provide sufficient emotional, informational, and practical support for children to receive immunization. This is relevant to the situation in the working area of UPT Puskesmas sering , where confirmed measles cases occurred in early 2025 and the original findings showed that good knowledge did not always translate into adequate family support. Therefore, the research problem can be formulated as follows: how is the level of family awareness regarding measles immunization, particularly in terms of knowledge and family support, among families affected by suspected or confirmed measles cases in the working area of UPT Puskesmas sering in 2025?

3. Method

This study was a descriptive observational study using a cross-sectional method. The target population in this survey was families whose members had measles confirmed clinically or through laboratory examination at Puskesmas sering . Sampling was conducted using the total sampling method, in which all members of the population were included as the research sample.

The research instrument was a questionnaire consisting of ten multiple-choice questions about the level of community knowledge regarding measles [Poor: <56% (<6), Fair: 56-75% (6-7), Good: 76-100% (8-10)] and 12 Yes/No checklist questions on family support for measles immunization in children [Poor: <56% (<7), Fair: 56-75% (7-9), Good: 76-100% (10-12)].

Data were analyzed using univariate descriptive analysis. Respondent characteristics, measles immunization status, level of knowledge, and family support were summarized as frequency distributions and percentages. Percentages were calculated by dividing the frequency in each category by the number of valid observations for the corresponding variable and multiplying by 100%. The analyzed data were presented in tables and interpreted descriptively.

4. Results and Discussion

Table 1, which presents the results of the univariate analysis, shows that the majority of respondents based on age were in the 36-45 year age interval, with a percentage of 45%. Most respondents had junior high school education, at 60%, and most respondents were housewives, at 60%.

Table 1. Distribution of Respondent Characteristics in the Puskesmas sering Area

No.	Respondent Characteristics	Frequency	Percentage (%)
	Age		
1.	17-25	1	5
2.	26-35	7	35
3.	36-45	9	45
4.	46-55	3	15
	Education		
1.	Elementary School	2	10
2.	Junior High School	12	60
3.	Senior High School	5	25
4.	Higher Education	1	5
	Occupation		
1.	Housewife	12	60
2.	Self-employed	8	40
	Total	20	100.0

Table 2, which presents the results of the univariate analysis, shows that most respondents did not receive measles immunization, namely 66.67% of the total 15 suspected measles cases in the Puskesmas sering area.

Table 2. Frequency Distribution of Measles Immunization Administration in the Puskesmas sering Area

No.	Measles Immunization Administration	Frequency	Percentage (%)
1.	No	10	66.67
2.	Yes	5	33.33
	Total	15	100

Table 3, which presents the results of the univariate analysis, shows that most respondents had good knowledge about measles immunization, at 70%. In addition, the proportion of respondents with sufficient knowledge reached 20%, while the poor knowledge category was recorded at 10%.

Table 3. Frequency Distribution of Measles Knowledge Level in the Puskesmas sering Area

No.	Knowledge about Measles Immunization Administration	Frequency	Percentage (%)
1.	Poor	2	10
2.	Fair	4	20
3.	Good	14	70
	Total	20	100.0

Table 4, which presents the results of the univariate analysis, shows that the frequency distribution of family support for the implementation of measles immunization in the Puskesmas sering area was dominated by the poor category, at 40%. Nevertheless, respondents who received good family support reached 35%, while those who received fair support amounted to 25%.

Table 4. Frequency Distribution of Family Support

No.	Family Support Regarding Measles Immunization Administration	Frequency	Percentage (%)
1.	Poor	8	40
2.	Fair	5	25
3.	Good	7	35
	Total	20	100.0

Level of knowledge

Based on the research results, family knowledge about measles immunization was mostly classified as good, at 70%. This finding is consistent with a previous study by Ifda et al. (2023), which revealed that the level of family knowledge reached 98% [5]. This reflects the high level of community knowledge in the working area of Puskesmas sering regarding the importance of measles immunization.

Knowledge and different perspectives can influence attitudes in understanding something. Education also plays a role in family perspectives, especially those related to health. Family actions in supporting immunization can be improved through education in order to support a good level of health. Several factors influence the lack of information about immunization, such as age and family education level. This occurs because families with knowledge have a major influence in decision-making, including the administration of measles immunization to children [5].

The results of this study also show that the level of family knowledge is closely related to children with a history of measles. In the working area of Puskesmas sering , many families had a high level of knowledge compared with families with low knowledge. Although more families had a high level of knowledge, there were still families who were indifferent toward measles immunization. This was caused by the persistence of beliefs in false issues or information, such as the assumption that measles immunization can cause disease in children [5].

Family support

In this study, many respondents were found to lack family support for receiving measles immunization. Low family support is one of the factors contributing to the increase in measles cases in the working area of Puskesmas sering . This finding is consistent with the results of a study by Rizna (2023), which revealed that 80% of respondents received insufficient support for measles immunization [6]. This reflects the low level of community awareness in the Puskesmas sering area regarding the importance of measles immunization.

Several factors influence the community in the Puskesmas sering area not to provide immunization to children, including the belief that the measles vaccine contains forbidden elements, such as pork, and is therefore considered inappropriate for use. Other reasons include post-immunization complaints such as immediate fever, decreased appetite, pain at the injection site, and others. Health workers at Puskesmas sering have made various efforts, including providing education at local integrated health posts and even directly visiting the homes of community members who were reluctant to immunize their children. Nevertheless, some community members still refused immunization.

This finding is strengthened by Pratiwi's study (2017), which recorded that 10 respondents refused measles immunization because of concerns that it contained forbidden ingredients, fear of side effects, and belief in myths [7]. Meanwhile, a study by Nur Afni (2023) also found that the main reason families did not support measles immunization was the occurrence of side effects after measles immunization [8].

In this study, family support came from family members such as spouses (husbands or wives), parents, and relatives by providing opinions or actions that made a person feel cared for, valued, and assisted by people with emotional and kinship relationships. Family support is very important in increasing mothers' awareness to bring their babies for immunization according to schedule. Family support may take the form of motivation, understanding, and concrete assistance so that mothers feel safe and comfortable. Families also act as information providers, including giving advice, direction, suggestions, or feedback regarding health and immunization [6], [9].

5. Conclusion

Respondents' level of knowledge regarding the importance of measles immunization was classified as good. However, many respondents still lacked family support for immunization. Therefore, in this study, the level of family awareness among families affected by suspected measles cases in the working area of UPT Puskesmas sering was not yet fully optimal. This study was limited by its descriptive cross-sectional design, the small sample drawn from a single health-center service area, and the use of self-reported questionnaire data. Consequently, the findings cannot establish causal relationships and should be generalized with caution. Future studies should include larger samples from multiple health centers and use analytical or mixed-method designs to examine factors affecting family support, including religious beliefs, concerns about adverse events following immunization, access to health services, and trust in health workers. UPT Puskesmas Sering is also encouraged to strengthen family-centered education, involve religious and community leaders, and provide clear counseling on the benefits of measles immunization and expected post-immunization reactions.

Acknowledgment

The authors express gratitude to God Almighty so that this study could be completed properly. The authors thank all health workers at Puskesmas sering who provided much assistance so that this study could run smoothly. The authors also thank the respondents who were willing to take the time to complete the questionnaire.

6. References

[1] Haslindah, “Hubungan Dukungan Keluarga dengan Kepatuhan dalam Pemberian Imunisasi Campak pada bayi di Wilayah Puskesmas Pontab Kota Palopo,” vol. 1, no. 1, pp. 9-16, 2021.

[2] Yusfar and Setya, “Hubungan tingkat pengetahuan ibu dan Dukungan Keluarga dengan Motivasi Ibu dalam Pemberian Imunisasi Campak pada bayi di Desa Patrolsari,” vol. 7, no. 2, 2019.

[3] Kementerian Kesehatan Republik Indonesia, Profil Kesehatan Indonesia Tahun 2019, B. Hardhana, F. Sibuea, and W. Widiantini, 2020.
[4] Kemenkes RI, Profil Kesehatan Indonesia Tahun 2019-2021. Jakarta: Kemenkes RI, 2022.
[5] I. Ruhana, "Hubungan Pengetahuan Ibu, Dukungan Keluarga Dan Riwayat Imunisasi Campak Dengan Risiko Campak," JKM (Jurnal Kesehat Masyarakat) Cendekia Utama, vol. 11, no. 1, p. 40, 2023.
[6] F. Rizna and F. Fazira, "Hubungan Dukungan Keluarga dan Sikap Ibu dengan Pemberian Vaksin MR (Measles Rubella) di Desa Peulakan Kecamatan Bandar Dua Kabupaten Pidie Jaya," J. Kesehat. Saleha, vol. 2, no. 1, 2023.
[7] P. Sulistiyani, Z. Shaluhiyah, and K. Cahyo, "Gambaran Penolakan Masyarakat terhadap Imunisasi Dasar Lengkap bagi Balita (Studi di Kelurahan Sendangmulyo, Kecamatan Tembalang, Kota Semarang)," J. Kesehat. Masy., vol. 5, no. 1, pp. 2356-3346, 2017.
[8] N. Afni, Z. Tasya, and S. Astuti, "Perspektif Masyarakat terhadap Imunisasi pada Anak Usia 0-24 Bulan di Wilayah Kerja Puskesmas Labuan," Promot. J. Kesehat. Masy., vol. 13, no. 1, pp. 33-40, 2023.
[9] I. Putri and T. Sugiantini, "Hubungan Pendidikan, Pengetahuan dan Dukungan Keluarga terhadap Kepatuhan Pemberian Imunisasi Campak pada Bayi," J. Ilm. Permas J. Ilm. STIKES Kendal, vol. 14, no. 4, 2024.
[10] World Health Organization, "Measles," WHO Fact Sheet, 2025. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/measles
[11] World Health Organization, "Immunization coverage," WHO Fact Sheet, 2025. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/immunization-coverage
[12] Kementerian Kesehatan Republik Indonesia, "KLB Campak Meningkat, Kemenkes Ingatkan Pentingnya Imunisasi Lengkap," 2025. [Online]. Available: https://kemkes.go.id/id/klb-campak-meningkat-kemenkes-ingatkan-pentingnya-imunisasi-lengkap
[13] World Health Organization Indonesia, "Factors affecting childhood immunization in Indonesia," 2022. [Online]. Available: https://www.who.int/indonesia/news/detail/13-02-2022-factors-affecting-childhood-immunization-in-indonesia
[14] H. J. Larson et al., "The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey," EBioMedicine, vol. 12, pp. 295-301, 2016, doi: 10.1016/j.ebiom.2016.08.042.
[15] A. T. R. Syiroj, J. F. Pardosi, and A. E. Heywood, "Exploring parents' reasons for incomplete childhood immunisation in Indonesia," Vaccine, vol. 37, no. 43, pp. 6486-6493, 2019, doi: 10.1016/j.vaccine.2019.08.081.