

The Relationship between Family Knowledge, Attitudes and Perceptions with Mothers' Compliance with Basic Immunization for Babies 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency

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ABSTRACT

Immunization is one of the essential public health efforts that is effective in providing specific immunity against diseases that can be prevented by immunization (PD3I). Ciasem District, Subang Regency, where Complete Basic Immunization (IDL) coverage in 2023 is 77.8%, there has been a decrease compared to 2020 which reached 87.8%. Several causal factors include knowledge, attitudes and family perceptions. The aim is to determine the relationship between knowledge, attitudes and perceptions of families with mothers' compliance with basic immunization for babies 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency. The method used is quantitative analysis with a cross sectional design. The community service sample was 92 mothers who had babies aged 13-24 months using a purposive sampling technique. The community service instrument used a questionnaire. The data is primary data analyzed using the chi square test. Univariate analysis revealed that the majority of mothers complied with basic immunization for babies aged 0-12 months as much as 73.9%, had good knowledge 70.7%, positive attitudes 62.9% and positive perceptions 64.1%. The results of the bivariate analysis showed a relationship between knowledge (p value = 0.001), attitude (p value = 0.000) and family perception (p value = 0.000) with maternal compliance with basic immunization for babies 0-12 months. The conclusion is that there is a relationship between family knowledge, attitudes and perceptions and maternal compliance with basic immunization for babies 0-12 months.

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INTRODUCTION

Immunization is an essential public health effort aimed at providing specific immunity against Vaccine-Preventable Diseases (VPDs) (Fauziah, 2019). The World Health Organization (WHO) estimated that 6 million children missed vaccinations in 2019, and this number rose to 25 million in 2020. Immunizations in 2021 were projected to prevent 3.5 to 5 million deaths annually from diseases such as diphtheria, tetanus, pertussis, influenza, and measles. Despite these efforts, approximately 19.5 million infants globally missed basic immunizations in 2021. Around 60% of these children were concentrated in ten countries: Angola, Brazil, the Democratic Republic of Congo, Ethiopia, India, Indonesia, Iraq, Nigeria, Pakistan, and South Africa. The global immunization coverage has plateaued at around 86% with no significant changes over recent years (WHO, 2021 in Astrea, 2023).

However, according to the 2023 Health Statistics Profile, the percentage of children aged 12-23 months who received complete basic immunizations in Indonesia was 61.09% in 2021, 63.17% in 2022, and 63.58% in 2023, indicating that the coverage is still low. In West Java, the percentage of children aged 12-23 months receiving complete basic immunizations was 87.4% in 2021, 89.9% in 2022, and reached 97.7% in 2023, showing an increasing trend (Badan Pusat Statistik, 2023).

In Subang Regency, the Health Office acknowledged that the coverage of Complete Basic Immunization (CBI) was still below the national target. In 2020, the CBI coverage in Subang Regency was 88.9%, which dropped to 64% in 2021, and then increased to 71.89% in 2022 and 78.9% in 2023. Similarly, in Ciasem District, the CBI coverage was 87.8% in 2020, decreased to 67.5% in 2021, and then increased to 70.68% in 2022 and 77.8% in 2023 (Purnama, 2023).

The consequences of not immunizing children are severe. Unimmunized children are at risk of contracting diseases like Hepatitis B, tuberculosis, polio, DPT (diphtheria, pertussis, tetanus), and measles, which can be fatal. The immune systems of these children are not as strong as those of immunized children, making them more vulnerable to infections. If they contract a disease, they can also spread it to others, posing a broader public health risk (Fauziah, 2019).

According to L. Green's theory in Notoatmodjo (2020), several factors influence an individual's behavior regarding complete basic immunizations in infants, including predisposing factors, enabling factors, and reinforcing factors. Predisposing factors include knowledge, attitudes, and perceptions. Studies by Zamli et al. (2020) found significant associations between knowledge, attitudes, and perceptions with compliance in providing complete basic immunizations (knowledge p-value = 0.002, attitudes p-value = 0.014, perceptions p-value = 0.001). Similarly, Arpen & Afnas (2022) found that knowledge, attitudes, and perceptions significantly influenced compliance in providing complete basic immunizations (knowledge p-value = 0.017, attitudes p-value = 0.002, perceptions p-value = 0.000).

Preliminary studies conducted by the author in Sukamandijaya Village, Ciasem District, Subang Regency, revealed that the immunization coverage target was 89.3% in 2021, which declined to 78.9% in 2022, and further to 77.1% in 2023, despite the government providing free basic immunization programs. The factors contributing to this incomplete immunization status are not clearly understood. Previous studies indicated that knowledge, attitudes, and perceptions are associated with the completeness of basic immunizations in infants.

Achmadi & Fahmi (2021) stated that if a child misses scheduled vaccinations, they should complete them according to the schedule without restarting. Rahardjo (2022) added that if a child has not received any immunizations, parents should plan to start the immunization schedule immediately. Health workers will administer vaccines based on the child's current age, which may differ from the standard schedule for children who received immunizations on time. Delayed administration does not reduce vaccine effectiveness but leaves the child unprotected against infectious diseases earlier.

Given the above, this study aims to investigate the “Relationship between Knowledge, Attitudes, and Perceptions of Families and Maternal Compliance in Providing Basic Immunizations to Infants Aged 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024.”

METHOD

This study aims to determine the relationship between knowledge, attitudes and perceptions of families with maternal compliance with basic immunization for babies 0-12 months. The place of community service was carried out in Sukamandijaya Village, Ciasem District, Subang Regency. The time of the community service was May 2024. The samples studied were mothers who had babies aged 13-24 months. Sampling in this community service used purposive sampling technique. This community service was carried out because information obtained in Sukamandijaya Village, Ciasem District, Subang Regency, showed that in 2021 the achievement of the immunization target reached 89.3%, in 2022 it decreased to 78.9%, even in 2023 it decreased again to reach 77.1% even though the program Basic immunization is provided free of charge by the government. According to the results of previous community service, it was found that knowledge, attitudes and perceptions are related to the completeness of basic immunization in babies. This data is primary data taken from respondents directly using a questionnaire. The independent variables in this community service are knowledge, attitudes and family perceptions. The dependent variable in this study is maternal compliance with basic immunization for babies 0-12 months. The design of this community service is quantitative analytic with a cross sectional design. Data management was carried out using univariate and bivariate methods using the chi-square test with computer assistance with the SPSS 25.0 program. The following are the stages of implementing community service in Sukamandijaya Village, Ciasem District, Subang Regency:

1. Preparation Stage

Preparations will be carried out starting in May 2024 consisting of:

- Starting from a location survey by visiting the location and partners to be targeted in Sukamandijaya Village, Ciasem District, Subang Regency.
- The licensing process begins with a permission letter from the university addressed to the relevant institution or organization where services are provided to implement the program. The university also asked for help in obtaining data on the community who will take part in this outreach and training program.
- Preparation of officers, namely the division of duties and responsibilities of lecturers and students involved in this service.
- Preparation of materials and media for community service activities such as information brochures containing the factors that cause maternal compliance with basic infant immunization.
- Preparation of evaluation tools in the form of attendance lists and writing tools used to collect data for further analysis.

2. Implementation of Activities

This activity will be implemented in May 2024. The activities to be carried out are as follows:

- Data collection on mothers who have babies 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency.
- Then the mother was given a brochure containing information about the factors that cause maternal compliance with basic baby immunizations.
- Next, the officer in charge provided education to the mother, especially about the importance of basic immunization for babies aged 0-12 months and ended with a question and answer session as well as giving memento gifts.

RESULTS AND DISCUSSION

Based on community service conducted in Sukamandijaya Village, Ciasem District, Subang Regency, the results obtained are listed in tables 1, 2, 3, 4, 5, 6, and 7.

TABLE 1. Frequency Distribution of Mothers' Compliance with Basic Immunization for Babies 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Obedience	Frequency (f)	Percentage (%)
Obedient	68	73.9
Not obey	24	26.1
Amount	92	100

Based on the community service results in table 1, it is known that of the 92 mothers, the majority complied with basic immunization for babies aged 0-12 months, as many as 68 people (73.9%).

TABLE 2. Frequency Distribution of Mothers' Knowledge in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Knowledge	Frequency (f)	Percentage (%)
Good	65	70.7
Not good	27	29.3
Amount	92	100

Based on the community service results in table 2, it is known that most of the 92 mothers had good knowledge, 65 (70.7%).

TABLE 3. Frequency Distribution of Mothers' Attitudes in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Attitude	Frequency (f)	Percentage (%)
Positive	57	62.9
Negative	35	38.0
Amount	92	100

Based on the community service results in table 3, it is known that most of the 92 mothers had a positive attitude, 57 (62.9%).

TABLE 4. Frequency Distribution of Family Perceptions in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Family Perception	Frequency (f)	Percentage (%)
Positive	69	64.1
Negative	33	35.9
Amount	92	100

Based on the community service results in table 4, it is known that of the 92 mothers, the majority of family perceptions were positive, 69 people (64.1%).

TABLE 5. Relationship between Knowledge and Mother's Compliance with Basic Immunization for Babies 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Knowledge	Obedience				Amount		P value	OR CI (95%)
	Obedient		Not obey					
	f	%	F	%	f	%		
Good	5	84.	10	15.4	6	100	0.001	5,923 (2,153- 16,293)
	5	6			5			
Not good	1	48.	14	51.9	2	100		
	3	1			7			
Total	6	73.	24	26.1	9	100		
	8	9			2			

Based on table 5, it shows that 55 of the 65 mothers who had good knowledge were obedient to carrying out basic immunizations for babies aged 0-12 months (84.6%), while of the 27 mothers who had poor knowledge the majority were not obedient to carry out basic immunizations. in babies 0-12 months as many as 14 people (51.9%). The results of the Chi-Square test obtained a value of $p = 0.001 < 0.05$, which means there is a significant relationship between knowledge and maternal compliance with basic immunization for babies 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024 . The OR value is 5.923, so it can be stated that mothers who have good knowledge are 5.923 times more likely to comply with basic immunization for babies 0-12 months compared to mothers who have less good knowledge.

TABLE 6. Relationship between Attitudes and Mother's Compliance with Basic Immunization for Babies 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Attitude	Obedience				Amount		P value	OR CI (95%)
	Obedient		Not obey		f	%		
	f	%	F	%				
Positive	5	89.5	9	10.5	57	10	0,000	9,000 (3,073- 26,362)
Negative	1	48.6	18	51.4	35	10		
Total	6	73.9	24	26.1	92	10		
	8					0		

Based on table 6, it shows that 51 of the 57 mothers who had positive attitudes complied with carrying out basic immunizations for babies aged 0-12 months (89.5%), while of the 35 mothers who had negative attitudes the majority did not comply with basic immunizations for babies aged 0-12 months. There were 18 babies aged 0-12 months (51.4%). The results of the Chi-Square test obtained a value of $p = 0.000 < 0.05$, which means there is a significant relationship between attitudes and maternal compliance with basic immunization for babies 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024. The OR value is 9,000 so it can be It is stated that mothers who have a positive attitude are 9,000 times more likely to comply with basic immunization for babies 0-12 months compared to mothers who have a negative attitude.

TABLE 7. Relationship between Family Perception and Mother's Compliance with Basic Immunization for Babies 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency, 2024

Family perception	Obedience				Amount		P value	OR CI (95%)
	Obedien t		Not obey		f	%		
	f	%	F	%				
Positive	5	88.	7	11.9	5	10	0,000	7,893 (2,780- 22,407)
Negative	1	48.	17	51.5	3	10		
Total	6	73.	24	26.1	9	10		
	8	9			2	0		

Based on table 7, it shows that 52 of the 59 mothers with positive family perceptions were obedient to basic immunizations for babies aged 0-12 months (88.1%), while of the 33 mothers with negative family perceptions the majority were disobedient to basic immunizations for babies aged 0-12 months. There were 17 babies aged 0-12 months (51.5%). The Chi-Square test results obtained a value of $p = 0.000 < 0.05$, which means there is a significant relationship between family perception and mother's compliance with basic immunization for babies 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024. The OR value is 7.893, So it can be stated that mothers with positive family perceptions are 7.893 times more likely to comply with basic immunizations for babies 0-12 months compared to mothers with negative family perceptions.

Distribution of Frequency of Maternal Compliance in Administering Basic Immunizations to Infants Aged 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

Based on the community service results, it was found that out of 92 mothers, the majority, 68 mothers (73.9%), complied with administering basic immunizations to their infants aged 0-12 months. Niven (2021) defines patient compliance as the extent to which a patient's behavior aligns with the guidelines provided by healthcare professionals to enhance compliance in administering basic immunizations such as Hepatitis B, BCG, DPT, measles, and oral vaccines like polio, thereby ensuring the effectiveness of the therapy. According to Rahardjo (2022), the goal of immunization is to prevent specific diseases in individuals, eliminate certain diseases within communities, and ultimately eradicate some diseases entirely. Immunizations are expected to reduce morbidity rates and minimize disabilities caused by diseases. According to L. Green's theory in Notoatmodjo (2020), factors influencing an individual's behavior include knowledge, attitudes, and family perceptions.

Consistent with the findings of Arpen & Afnas (2022), 58.2% of mothers were compliant in administering basic immunizations to their infants. Similarly, Hasanah (2020) found that 91.8% of mothers were compliant in administering basic immunizations to their infants. Mujahadatuljannah et al. (2022) also reported that 56.6% of mothers complied with the immunization schedule for their infants. Furthermore, Frastika et al. (2020) observed that the majority of respondents, 78%, provided complete immunizations to their children.

The community service findings, supported by previous studies, suggest that most mothers comply with administering basic immunizations to their infants. This high compliance rate is likely because mothers are aware of the importance of complete immunizations for preventing diseases such as Hepatitis B, polio, BCG, DPT, and measles. However, there are still instances of non-compliance, as some mothers did not administer the measles vaccine to their infants due to concerns about potential adverse effects post-immunization.

Healthcare professionals play a crucial role in addressing these concerns by providing comprehensive information to mothers and families about the types of basic immunizations, the appropriate timing for administration, and the indications and contraindications of these vaccines. This education can help mothers develop a positive attitude towards immunization and ensure that families have a positive perception of the complete immunization process.

Further elaborating, it is important to recognize that maternal compliance is multifaceted and influenced by various factors beyond mere knowledge and attitude. Accessibility to healthcare services, cultural beliefs, and socioeconomic status can also significantly impact immunization rates. For instance, mothers in rural or underserved areas may face logistical challenges in accessing vaccination services, which could hinder their ability to adhere to immunization schedules. Moreover, cultural beliefs and misinformation about vaccines can create resistance, underscoring the need for culturally sensitive education and community engagement efforts.

Effective communication strategies are essential in overcoming these barriers. Healthcare providers should employ clear, empathetic communication to dispel myths and reinforce the benefits of immunizations. Additionally, community health workers can serve as vital links between healthcare systems and the community, facilitating trust and ensuring that accurate information reaches all segments of the population.

Policy interventions are also critical in enhancing immunization coverage. Governments and health organizations should invest in robust immunization programs that include outreach services, mobile clinics, and public awareness campaigns. By addressing the structural and informational barriers to immunization, these initiatives can help achieve higher compliance rates and ultimately improve public health outcomes.

In conclusion, the study highlights the high level of compliance among mothers in administering basic immunizations to their infants, driven by awareness of the benefits and reinforced by effective healthcare communication. However, addressing the remaining gaps requires a comprehensive approach that includes targeted education, community engagement, and supportive policies to ensure that all children receive the protection they need against preventable diseases.

Distribution of Maternal Knowledge in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

Based on the community service results, it was found that out of 92 mothers, the majority, 65 mothers (70.7%), possessed good knowledge. Knowledge is a crucial domain for shaping an individual's actions. According to the World Health Organization (WHO), knowledge is one of the key factors that influence a person's behavior. If an interventional program such as immunization is to be implemented seriously in response to changing disease patterns, improvements in public health behavior evaluation and knowledge enhancement are essential (World Health Organization, 2021). Factors influencing knowledge include education, information or mass media, socio-cultural and economic factors, environment, experience, and age. If an individual does not frequently receive information, their knowledge and insights will not increase (Budiman & Riyanto, 2021). A person's experience with a particular issue helps them understand how to address it (Notoatmodjo, 2020).

Consistent with the findings of Arpen & Afnas (2022), more than half (60.4%) of respondents had a high level of knowledge. Similarly, Hasanah (2020) found that the majority of mothers had good knowledge, accounting for 76.7%. Mujahadatuljannah et al. (2022) also reported that the majority of mothers had good knowledge, with 73.7% having a high level of knowledge.

The community service findings, supported by previous studies, suggest that most mothers have good knowledge. This is likely due to the information they receive from healthcare professionals about the importance of immunizations during posyandu visits. The more frequently mothers receive information, the more knowledge they acquire. The questionnaire results indicate that mothers understand immunization as a means to enhance an individual's immunity against certain diseases. They are also aware of the schedule for complete immunization within the first year and the types of immunizations provided, such as Hepatitis B, BCG, DPT, Polio, and Measles.

To further elaborate, education and regular information dissemination are key to maintaining and improving maternal knowledge about immunization. Health education provided by healthcare professionals should be an ongoing process, starting from prenatal visits. By integrating immunization education into antenatal classes and routine health checks, mothers can be better prepared and motivated to adhere to immunization schedules without feeling coerced.

In addition to direct health education, community-based programs and media campaigns can play a significant role in reinforcing the importance of immunizations. Social media, television, and radio can be leveraged to reach a broader audience, ensuring that accurate and relevant information about immunization is accessible to all. These platforms can also address common myths and misconceptions about vaccines, providing evidence-based information to alleviate concerns and build trust.

Socioeconomic factors also influence knowledge levels. Mothers with higher education levels or those in better economic conditions tend to have greater access to information and healthcare services. Efforts to bridge this knowledge gap should include targeted interventions for underserved and low-income communities, ensuring equitable access to health education and services.

Moreover, peer support groups can be effective in disseminating information and encouraging compliance. Mothers who have successfully navigated the immunization process can share their

experiences and support others in their community, creating a network of informed and empowered individuals.

Healthcare systems should also ensure that healthcare providers are well-trained and equipped to deliver consistent, accurate information. Ongoing professional development and training for healthcare workers can enhance their ability to educate and support mothers effectively. This comprehensive approach not only improves maternal knowledge but also fosters a positive attitude towards immunization, ultimately leading to higher compliance rates and better health outcomes for children.

In conclusion, the study underscores the high level of knowledge among mothers regarding immunization, influenced by continuous information from healthcare professionals and other sources. To sustain and improve this knowledge, a multifaceted approach involving education, community engagement, media campaigns, and targeted interventions is essential. By addressing these factors, we can ensure that all children receive timely and complete immunizations, protecting them from preventable diseases.

Distribution of Maternal Attitudes in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

Based on the community service results, it was found that out of 92 mothers, the majority, 57 mothers (62.9%), had a positive attitude. Attitude clearly indicates a connotation of a consistent reaction to a particular stimulus, which in daily life is an emotional reaction to a social stimulus (Notoatmodjo, 2020). According to Azwar (2021), various levels in the formation of attitudes include acceptance, response, appreciation, and responsibility. Several factors influence attitude, including personal experience, the influence of important others, cultural influence, mass media, educational and religious institutions, emotional factors, and knowledge. Prayogo (2022) explains that the factor influencing the number of respondents with a negative attitude toward immunization is low knowledge about immunization. The lower the mother's knowledge about immunization, the greater the contribution to the formation of a poor/negative attitude toward immunization.

Consistent with the findings of Frastika et al. (2020), most respondents had a good attitude towards immunization, with 56.5% having a positive attitude. Similarly, Arpen & Afnas (2022) found that more than half (59.3%) of the respondents had a positive attitude. Zamli et al. (2020) also reported that the majority of respondents had a positive attitude towards immunization, with 52.3% exhibiting positive attitudes.

The community service findings, supported by previous studies, suggest that positive attitudes are due to the mothers' good knowledge regarding complete basic immunization for their babies. Additionally, there is an emotional influence where mothers are worried that if their babies do not receive complete basic immunization, they will be susceptible to diseases such as Hepatitis B, BCG, DPT, Polio, and Measles. This can be seen from the questionnaire results where mothers expressed positive attitudes, believing that complete basic immunization should be given before the baby is one year old. They also stated that even if the immunization service location is far, they will still immunize their babies according to the schedule.

However, some mothers still exhibit negative attitudes towards immunization, primarily due to concerns that their babies will develop a fever after immunization, leading them to believe that complete immunization is unnecessary. To address these concerns, it is essential to provide health education to mothers starting from pregnancy through prenatal classes or counseling during posyandu activities. This education should focus on the importance of complete basic immunization to foster positive attitudes towards immunization.

Further elaboration on the factors influencing attitudes towards immunization reveals that personal experience plays a significant role. Mothers who have had positive experiences with immunization are more likely to develop and maintain a positive attitude. Conversely, negative experiences or hearsay about adverse effects can contribute to reluctance and fear. Therefore, it is crucial for healthcare providers to

manage and address any adverse reactions promptly and effectively, ensuring mothers that such events are rare and manageable.

Cultural and societal influences also impact attitudes. In some communities, traditional beliefs and practices might contradict modern medical advice, including immunization. Community leaders and influencers can be engaged to advocate for immunization, bridging the gap between traditional beliefs and modern healthcare practices. By involving respected figures in the community, healthcare messages can gain more acceptance and trust.

Mass media and social media platforms are powerful tools for shaping public attitudes. Campaigns that highlight the benefits of immunization, share success stories, and dispel myths can significantly influence public perception. These campaigns should be culturally sensitive and tailored to the specific concerns and needs of the community.

Educational institutions also play a crucial role. Incorporating immunization education into school curricula can ensure that future parents are well-informed. School-based immunization programs can further reinforce the importance of vaccines, making immunization a normalized part of health care from a young age.

Emotional factors, such as fear and anxiety, must be addressed with empathy and support. Healthcare providers should build strong, trusting relationships with mothers, providing reassurance and clear information about the safety and efficacy of vaccines. Support groups for parents can also provide a platform for sharing experiences and alleviating fears.

In conclusion, while the majority of mothers in Sukamandijaya Village exhibit positive attitudes towards immunization, ongoing efforts are needed to sustain and enhance these attitudes. Comprehensive health education, community engagement, effective communication, and support systems are essential to ensure that all mothers understand and appreciate the importance of complete immunization for their babies. By addressing the various factors that influence attitudes, we can achieve higher immunization coverage and better health outcomes for children.

Distribution of Family Perception in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

Based on the community service findings, it was discovered that out of 92 mothers, the majority, 69 mothers (64.1%), perceived family attitudes as positive. Perception begins with sensation, which is the process of receiving stimuli by an individual through sensory organs as receptors. After the stimulus is received by the senses, it is transmitted by nerves to the brain, the central nervous system. The stimulus that affects the individual is then organized and interpreted, enabling the individual to understand what they have received (Rakhmat, 2022). Perception is also individualistic because, even though the stimuli captured are the same, each individual has different experiences, thinking abilities, and frames of reference. Hasbullah (2022) notes that psychological processes in perception are influenced by several factors, including needs, beliefs, emotions, and expectations, which vary for each individual. Thus, the perception results for each individual will likely be different. Through perception, individuals become aware of and understand their surrounding environment and their own condition.

Consistent with the community service by Arpen & Afnas (2022), 59.3% of respondents had a positive perception of complete basic immunization for infants. Similarly, Frastika et al. (2020) found that the majority of respondents had a good perception, with 53.5% expressing positive views. Hemadiyan (2020) reported that the majority of parents, 66%, had a positive perception. Furthermore, Putri et al. (2023) showed that 78% of respondents had a positive perception of the importance of immunizing children under two years of

age. Additionally, Zamli et al. (2020) found that 94.2% of mothers with a good perception complied with immunizing their children.

Based on these findings and supported by previous community service, it can be assumed that positive perceptions are due to mothers having good knowledge about the benefits of immunization. This is evident from the questionnaire results, where mothers stated that immunization is essential for building immunity in infants, the vaccine content in immunizations is safe, and parents have received good information from health workers, both from posyandu (integrated health service posts) cadres and local health center staff. Respondent parents also reported that they felt the benefits of basic immunization, noting that their immunized babies were less susceptible to diseases. They also believed that even if they were not in a high-risk environment for infectious diseases, completing basic immunizations is still necessary to prevent unwanted illnesses. Parents disagreed with the notion that immunizations could cause disabilities.

To further understand the family perception of immunization, it is essential to consider the broader social context in which these perceptions are formed. Social support from family members and the community can play a significant role in shaping positive attitudes towards immunization. When family members collectively agree on the importance of immunization, it creates a supportive environment for mothers to follow through with vaccination schedules.

Moreover, healthcare providers must continue to engage with the community, providing clear and consistent information about immunization's benefits and addressing any concerns or misconceptions. Regular community meetings, health education sessions, and open forums where parents can discuss their worries with health professionals can reinforce positive perceptions.

Educational interventions should also be tailored to address specific barriers to positive perceptions. For instance, if fear of side effects is a significant concern, detailed explanations about the common mild reactions and the rare occurrence of severe side effects can help alleviate these fears. Testimonials from other parents who have had positive experiences with immunization can also be powerful in changing perceptions.

Media campaigns that highlight success stories of immunization, such as children who have avoided serious illnesses due to being vaccinated, can further enhance positive perceptions. These stories can be disseminated through various channels, including social media, local newspapers, and community radio stations, ensuring they reach a wide audience.

Cultural sensitivity is also crucial in these campaigns. Understanding and respecting local beliefs and practices while providing scientifically accurate information can help bridge the gap between traditional views and modern healthcare practices. Collaborating with local leaders and influencers who are trusted by the community can make these efforts more effective.

In conclusion, while the majority of families in Sukamandijaya Village have a positive perception of immunization, continued efforts are needed to sustain and improve these perceptions. Comprehensive strategies involving education, community engagement, and media campaigns, along with culturally sensitive approaches, can ensure that all families understand and appreciate the importance of immunization for their children's health. This holistic approach will contribute to higher immunization coverage and better health outcomes for the entire community.

The Relationship Between Knowledge and Compliance with Basic Immunization for Infants Aged 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

The study indicates a significant relationship between knowledge and maternal compliance with basic immunization for infants aged 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency,

with a p-value of 0.001 ($p < 0.05$). The odds ratio (OR) of 5.923 suggests that mothers with good knowledge are 5.923 times more likely to comply with basic immunization compared to those with poorer knowledge.

Hadinegoro (2021) explains that maternal knowledge about immunization affects mothers' beliefs and attitudes towards compliance. Compliance with medical preventive behaviors is influenced by beliefs about health, perceived threats, immunity perception, considerations regarding barriers or costs (e.g., expenses and time), and the perceived effectiveness of medical recommendations. The more extensive a person's knowledge, the easier it is for them to change their behavior. According to Notoatmodjo (2020), before adopting a new behavior, an individual must first understand its significance or benefits for themselves or their family. Likewise, parents who understand the meaning and benefits of immunization are less likely to fear bringing their children for vaccination, which helps achieve immunization targets. Maternal knowledge about immunization, beliefs, and behavior are crucial, as the use of health services by children is closely related to maternal health beliefs and impacts immunization status. Participation in immunization programs will not be a barrier if maternal knowledge about immunization is adequate.

Consistent with the community service by Arpen & Afnas (2022), Chi-Square statistical tests revealed a significant relationship between knowledge and complete basic immunization (p -value = 0.017, < 0.05). Hasanah (2020) also reported a significant relationship with a p-value of 0.000 ($p < 0.05$), indicating that maternal knowledge about basic immunization affects compliance. Similarly, Mujahadatuljannah et al. (2022) found a p-value of 0.000 ($p < 0.05$), confirming the relationship between maternal knowledge and compliance with basic immunization. Waruk et al. (2024) also reported a p-value of 0.000 ($p < 0.05$), showing a link between parental knowledge and the completeness of infant immunization.

Based on these findings and supported by previous studies, it can be inferred that a positive relationship exists between maternal knowledge and compliance with complete basic immunization for infants. This implies that better maternal knowledge correlates with higher compliance with complete immunization schedules. When mothers understand the purpose and benefits of complete basic immunization, they are more aware of the consequences of not vaccinating their infants, such as the lack of immunity against diseases like Hepatitis B, BCG, DPT, Polio, and Measles. Good knowledge fosters trust in the importance of immunization programs, leading to increased maternal adherence to providing complete basic immunization for their infants.

To enhance compliance, healthcare providers should focus on improving maternal knowledge through targeted education campaigns and community engagement. This includes providing clear, accessible information about the benefits of immunization, addressing misconceptions, and ensuring that mothers understand the long-term health benefits for their children. Additionally, integrating immunization education into routine prenatal and postnatal care can further reinforce the importance of vaccination.

Community-based workshops and seminars, interactive educational materials, and regular updates from healthcare providers can help build and maintain maternal knowledge about immunization. Such efforts not only increase awareness but also foster a supportive environment that encourages mothers to follow through with immunization schedules. By addressing barriers and enhancing understanding, we can improve immunization rates and ensure better health outcomes for infants in the community.

The Relationship Between Attitude and Maternal Compliance with Basic Immunization for Infants Aged 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

The study reveals a significant relationship between attitude and maternal compliance with basic immunization for infants aged 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency, with a p-value of 0.000 ($p < 0.05$). The odds ratio (OR) of 9.000 indicates that mothers with a positive attitude are 9.000 times more likely to comply with basic immunization compared to those with a negative attitude.

Rahmi & Husna (2020) argue that the quality of healthcare services significantly affects the status of complete basic immunization in toddlers. Healthcare providers who are friendly, informative, and consistently emphasize the importance of immunization can influence mothers to bring their children to health services, such as Posyandu (community health posts), for comprehensive vaccinations. Yuliana & Samsidar (2020) suggest that as mothers' thinking evolves and their experiences grow, they become better at distinguishing what is beneficial for their children, thereby forming a more positive attitude. Conversely, a lack of alignment with preventive measures due to a negative attitude can result in poor responses to information, indecision, and insufficient awareness of the risks associated with not immunizing a child.

Consistent with the community service by Frastika et al. (2020), a p-value of 0.013 ($p < 0.05$) indicates a meaningful relationship between parental attitude and the provision of complete basic immunization. Similarly, Arpen & Afnas (2022) reported a significant relationship with a p-value of 0.002 ($p < 0.05$) using Chi-Square statistics. Zamli et al. (2020) also found a significant relationship with a p-value of 0.014 ($p < 0.05$), confirming the link between parental attitude and the provision of complete basic immunization.

Based on these findings and supported by previous studies, it can be inferred that a positive attitude towards immunization is strongly associated with higher compliance. This relationship implies that mothers with a positive attitude are more likely to ensure their infants receive complete basic immunizations. Positive attitudes are often reinforced by satisfaction with the services received, leading mothers to consistently bring their children for vaccinations. Additionally, positive attitudes are often the result of good knowledge, which fosters an understanding of the necessity of complete immunization to protect against preventable diseases.

Enhancing positive attitudes towards immunization involves addressing misconceptions and providing clear, comprehensive information about the benefits and safety of vaccines. Community health programs should focus on educating parents about the importance of immunization and addressing any concerns or fears they may have. By improving attitudes and knowledge, healthcare providers can help ensure that more mothers comply with vaccination schedules, ultimately improving public health outcomes and reducing the incidence of vaccine-preventable diseases.

The Relationship Between Family Perception and Maternal Compliance with Basic Immunization for Infants Aged 0-12 Months in Sukamandijaya Village, Ciasem District, Subang Regency in 2024

The study indicates a significant relationship between family perception and maternal compliance with basic immunization for infants aged 0-12 months in Sukamandijaya Village, Ciasem District, Subang Regency, with a p-value of 0.000 ($p < 0.05$). The odds ratio (OR) of 7.893 suggests that mothers with a positive family perception are 7.893 times more likely to comply with basic immunization compared to those with a negative family perception.

Perception of control over behavior is a key factor influencing whether individuals engage in certain behaviors. This perception is shaped by past experiences, the information an individual has gathered through observation, and various other factors that affect their feelings about the difficulty of performing a behavior. Specifically, perceptions of immunization can significantly impact parental behavior regarding the completion of their child's immunization schedule (Ajzen, 2020).

Supporting this, Arpen & Afnas (2022) found a significant relationship between parental perception and the completeness of immunization, with a Chi-Square test p-value < 0.05 . Similarly, Hemadiyan (2020) reported a significant association, with a p-value of 0.000, indicating a link between parental perception and the completeness of basic immunization. Putri et al. (2023) also found a significant relationship with a Chi-Square test p-value of 0.001, highlighting the connection between maternal perception and adherence to immunization schedules. Additionally, Zamli et al. (2020) reported a p-value of 0.001, further demonstrating the association between perception and maternal compliance with immunization.

Based on these findings and supported by previous community service, it is evident that family perception plays a crucial role in determining compliance with immunization visits. Positive perceptions about immunization lead to higher rates of adherence, as mothers who view immunization as a preventive measure against infectious diseases are more likely to complete their child's immunization schedule. These mothers perceive vaccines as essential for building immunity and consider them safe. Furthermore, positive family perceptions often arise from receiving accurate and reassuring information from healthcare providers, such as Posyandu workers or local health center staff.

Families are a critical focus of health services as they play a central role in maintaining the health of all family members. They are also key decision-makers in health care, including decisions about immunization. Positive family perceptions enhance efforts to improve health outcomes, including ensuring complete basic immunization for infants. By fostering a supportive family environment and providing clear information, healthcare providers can further promote compliance with vaccination schedules and contribute to better overall public health.

CONCLUSION

Based on the community service results, it can be concluded that in Sukamandijaya Village, Ciasem District, Subang Regency, there is a relationship between knowledge, attitudes and family perceptions regarding compliance with basic immunization for babies 0-12 months.

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