ANALYSIS OF MATERNAL KNOWLEDGE AND ATTITUDES TOWARDS THE COMPLETENESS OF ROTAVIRUS IMMUNIZATION IN 5-MONTH-OLD CHILDREN

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ABSTRAK : ANALISIS PENGETAHUAN DAN SIKAP IBU TERHADAP KELENGKAPAN IMUNISASI ROTAVIRUS PADA ANAK USIA 5 BULAN

Pendahuluan: Imunisasi penting untuk meningkatkan kekebalan terhadap penyakit, mencegah sakit berat saat terpapar. Cakupan imunisasi dasar lengkap di Indonesia mencapai 99,6%, namun cakupan vaksinasi rotavirus masih rendah dengan angka 9,62% untuk dosis pertama di Provinsi Lampung.

Tujuan: Untuk mengetahui hubungan pengetahuan dan sikap ibu dengan kelengkapan imunisasi rotavirus pada anak usia 5 bulan di Wilayah Kerja UPTD Puskesmas Rawat Inap Mampu Poned Kibang Budi Jaya Kecamatan Lambu Kibang Kabupaten Tulang Bawang Barat Tahun 2024.

Metode Penelitian: Jenis penelitian ini adalah kuantitatif dengan rancangan *cross sectional.* Populasi dalam penelitian ini adalah bayi usia 5 bulan di Wilayah Kerja UPTD Puskesmas Rawat Inap Mampu Poned Kibang Budi Jaya Kecamatan Lambu Kibang Kabupaten Tulang Bawang Barat dengan sampel 42 orang. Teknik sampel yang digunakan yaitu *total sampling.* Instrumen yang digunakan yaitu kuesioner dan lembar observasi. Analisis data menggunakan univariat dan bivariat (*chi square)*.

Hasil: Hasil penelitian ini menunjukkan bahwa 29 (69%) responden yang telah melakukan imunisasi rotavirus dengan lengkap, 28 (66,7%) responden yang memiliki pengetahuan baik, dan 25 (59,5%) responden yang memiliki sikap positif. Hasil uji *chi square* didapatkan ada hubungan pengetahuan dengan kelengkapan imunisasi rotavirus pada anak usia 5 bulan (p=0,003) dan ada hubungan sikap dengan kelengkapan imunisasi rotavirus pada anak usia 5 bulan (p=0,004). Pengetahuan dan sikap erat kaitannya dengan kelengkapan imunisasi rotavirus. Hal ini dikarenakan apabila ibu memiliki pemahaman yang baik mengenai imunisasi rotavirus, maka akan berdampak pada sikap ibu dan akhirnya membentuk perilaku ibu yang baik yaitu melengkapi imunisasi rotavirus pada anaknya.

Kesimpulan: Ada hubungan pengetahuan dan sikap dengan kelengkapan imunisasi rotavirus pada anak usia 5 bulan.

Kata kunci: Imunisasi Rotavirus, Pengetahuan, Sikap

ABSTRACT

Introduction: Immunization is important for enhancing immunity against diseases and preventing severe illness upon exposure. The coverage of complete basic immunization in Indonesia reaches 99.6%, but the coverage of rotavirus vaccination remains low, with only 9.62% for the first dose in Lampung Province.

purpose: To determine the relationship between maternal knowledge and attitudes and the completeness of rotavirus immunization in children aged 5 months in the working area of Kibang Budi Jaya BEmONC Inpatient Health Care of Lambu Kibang District Tulang Bawang Barat Regency in 2024.

method: This was as quantitative research with a cross sectional design. The population in this study were 5-month-old babies in the working area of Kibang Budi Jaya BEmONC Inpatient Health Care of Lambu Kibang District Tulang Bawang Barat Regency with a sample of 42 respondents. The sample technique used was total sampling. The instruments used were questionnaires and observation sheets. Data analysis using univariate and bivariate (chi square).

Results: The results of this study show that 29 (69%) of the respondents had completed rotavirus immunization, 28 (66.7%) had good knowledge, and 25 (59.5%) had a positive attitude. Chi-square test results indicate a significant relationship between knowledge and the completeness of rotavirus immunization in 5-month-old children (p=0.003) and between attitude and the completeness of rotavirus immunization in 5-month-old children (p=0.004). Knowledge and attitude are closely related to the completeness of rotavirus immunization. This is because when mothers have a good understanding of rotavirus immunization, it impacts their attitude and ultimately shapes their behavior to ensure that their children receive complete rotavirus immunization.

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

Conclusion: A significant relationship between knowledge and the completeness of rotavirus immunization in 5-month-old children and between attitude and the completeness of rotavirus immunization in 5-month-old children.

Keywords: Rotavirus Immunization, Knowledge, Attitude

INTRODUCTION

Immunization is an effort to actively induce or enhance an individual's immunity against a disease, so that if they are exposed to the disease, they will not get sick or will only experience mild illness (Ministry of Health RI, 2017). In Indonesia, every infant (aged 0-11 months) is required to receive a complete basic immunization, which consists of 1 dose of Hepatitis B, 1 dose of BCG, 3 doses of DPT-HB-Hib, 4 doses of oral polio, and 1 dose of measles/MR (Ministry of Health RI, 2020). In addition to basic immunization, supplementary immunization is also important for infants. Supplementary immunization includes other vaccines not part of the mandatory immunizations but are important for infants, children, and adults in Indonesia due to the disease burden of each condition. The supplementary immunizations recommended by the Indonesian Pediatric Society (IDAI) include Pneumococcal Vaccine (PCV), Rotavirus, Influenza, MMR, Varicella, Japanese Encephalitis (JE), Hepatitis A, and Typhoid (IDAI, 2020).

The coverage of complete basic immunization nationwide increased to 99.6% in 2022. This figure has met the 2022 Strategic Plan target of 90%. Compared to 2021, the number of provinces meeting the Strategic Plan target increased from 6 to 15. The province with the highest complete basic immunization coverage is Central Java (114.1%), while the province with the lowest coverage is Aceh (48.1%) (Ministry of Health RI, 2023).

The trend in rotavirus immunization coverage in Lampung Province in 2023 showed that the first dose coverage was 9.62%, and the second dose coverage was 4.67% (Lampung Provincial Health Office, 2023). The rotavirus immunization coverage at the UPTD Puskesmas Rawat Inap Mampu Poned Kibang Budi Jaya in 2023 was 45.6% (123 targets) for the first dose and 48.9% (132 targets) for the second dose. The coverage of the first and second doses of rotavirus immunization remains low, with the target being 100% (Head of the Lampung Provincial Health Office, 2023).

A preliminary study conducted on 10 mothers with 5-month-old infants revealed that 60% of the mothers reported their children had not received complete rotavirus immunization due to a lack of knowledge about its benefits. Additionally, some mothers were concerned about administering rotavirus immunization simultaneously with oral polio immunization, fearing that their children might experience nausea, vomiting, fussiness, and diarrhea afterward. There were also concerns about the content of the rotavirus vaccine, such as the suspicion that it contains pork oil.

The rotavirus vaccine is a type of supplementary immunization to protect the body from rotavirus infection. This virus infects the intestines and causes diarrhea in infants and children. The primary purpose of administering this vaccine is to protect children from diarrhea caused by rotavirus, which can be dangerous due to the high risk of dehydration. According to IDAI's 2023 recommendations, the rotavirus vaccination schedule remains the same as the 2020 recommendations. The monovalent vaccine (RV1) is given orally in two doses: the first dose at 6-12 weeks of age, the second dose at least four weeks later, and no later than 24 weeks of age. The pentavalent vaccine (RV5) is given in three doses: the first dose at 6-12 weeks of age, with 4-10 week intervals between doses, and the third dose no later than 32 weeks of age. In 2022, the rotavirus vaccine was included in the national immunization program in 21 regencies in Indonesia using the ORV116E vaccine with serotype G9P, administered in three doses at 2, 3, and 4 months of age (with a four-week interval between doses and the last dose at six months) (Sitaresmi et al., 2023).

Rotavirus immunization coverage remains low, as indicated by a study conducted by Derso et al. (2020), which showed that only 76.6% of children had received rotavirus immunization. The low coverage of rotavirus immunization in infants is due to a lack of parental knowledge and attitudes. Good knowledge about the importance of rotavirus immunization can provide a deeper understanding of its protective benefits against this disease. Health references, such as immunization guidelines from global health organizations like the WHO or national bodies like the Ministry of Health, can be reliable sources of information to enhance knowledge. Additionally, individual attitudes toward rotavirus immunization play a crucial role in the success of immunization programs. Positive attitudes can encourage active participation in immunization

programs, while negative attitudes can be a barrier. Factors such as beliefs, risk perceptions, and personal experiences can influence attitudes toward rotavirus immunization (Gundogdu and Sezer, 2023).

RESEARCH METHODS

This was as quantitative research with a cross sectional design. The population in this study were 5-month-old babies in the working area of Kibang Budi Jaya BEmONC Inpatient Health Care of Lambu Kibang District Tulang Bawang Barat Regency with a sample of 42 respondents. The sample technique used was total sampling. The instruments used were questionnaires and observation sheets. Data analysis using univariate and bivariate (chi square).

RESEARCH RESULTS

Based on the table above, it is known that 18 (42.9%) respondents were aged 26-30 years and the lowest was >35 years old (11.95). Most of the 27 respondents (64.3%) had a high school/vocational education and the lowest had an elementary school education (4.8%). In terms of employment, it was found that the majority of 39 (92.9%) respondents did not work (IRT) and 1 (2.4%) respondent worked as a civil servant.

Table 1
Frequency Distribution of Respondent Characteristics

Characteristics Respondent	Frequency	Percentage (%)
Age		
20-25 years	9	21.4
26-30 years old	18	42.9
31-35 years old	10	23.8
>35 years	5	11.9
Education		
Elementary School	2	4.8
JUNIOR HIGH SCHOOL	10	23.8
SMA/SMK	27	64.3
COLLEGE	3	7.1
Work		
IRT	39	92.9
Civil servants	1	2,4
Private	2	4.8

Table 2
Frequency distribution of completeness of rotavirus immunization in children aged 5 months

Completeness Rotavirus Immunization	Frequency	Percentage (%)
Complete	29	69.0
Incomplete	13	31.0

Based on the table above, it is known that of the 42 respondents, 29 (69%) respondents had completed complete rotavirus immunization and 13 (31%) respondents had not completed rotavirus immunization.

Table 3.
Frequency distribution of knowledge of mothers who have children aged 5 months

Knowledge	Frequency	Percentage (%)
Good	28	66.7
Not good	14	33.3

Based on the table above, it is known that of the 42 respondents, 28 (66.7%) respondents had good knowledge and 14 (33.3%) respondents had poor knowledge.

Table 4

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

Frequency distribution of attitudes of mothers who have children aged 5 months

Attitude	Frequency	Percentage (%)
Positive	25	59.5
Negative	17	40.5

Based on the table above, it is known that of the 42 respondents, 25 (59.5%) respondents had a positive attitude and 17 (40.5%) respondents had a negative attitude.

Table 5
The relationship between knowledge and the completeness of rotavirus immunization in children aged 5 months

Knowledge	Completeness for Rotavirus Immunization				Total		P *value*	OR
	Complete		Incomplete					
	n	%	n	%	n	%		
Good	24	85.7	4	14.3	28	100	0.003	10,800 (2,358 – 49,464)
Not good	5	35.7	9	64.3	14	100		

Based on the table above, it is known that of the 28 respondents who had good knowledge, 24 respondents (85.7%) had completed rotavirus immunization. Meanwhile, of the 14 respondents who had poor knowledge, 5 respondents (35.7%) had completed rotavirus immunization. C*hi square* test showed a p *value of* 0.003 < 0.05, meaning that there is a relationship between knowledge and the completeness of rotavirus immunization in children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency in 2024. OR value (Odds Ratio) is 10,800 with an interval of (2,358- 49,464), which indicates that respondents with good knowledge are 10.8 times more likely to complete rotavirus immunization compared to respondents who have less good knowledge.

Table 6
The relationship between attitudes and completeness of rotavirus immunization in children aged 5 months

Attitude	Completeness for Rotavirus Immunization				Total		P *value*	OR
	Complete		Incomplete					
	n	%	n	%	n	%		
Positive	22	88.0	3	12.0	25	100	0.004	10,476 (2,234 – 49,128)
Negative	7	41.2	10	58.8	17	100		

Based on the table above, it is known that of the 25 respondents who had a positive attitude, 22 respondents (88.0%) had completed rotavirus immunization. Meanwhile, of the 17 respondents who had a negative attitude, 7 respondents (41.2%) had completed rotavirus immunization. *Chi square* test showed that the p *value was* 0.004 < 0.05, meaning that there was a relationship between attitude and the completeness of rotavirus immunization in children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency in 2024. OR value (Odds Ratio) is 10.476 with an interval of (2.234 - 49.128), which indicates that respondents with a positive attitude are 10.5 times more likely to complete rotavirus immunization compared to respondents who have a negative attitude.

DISCUSSION

The Relationship Between Knowledge and Completeness of Rotavirus Immunization in 5-Month-Old Children

This study demonstrates a relationship between knowledge and the completeness of rotavirus immunization in 5-month-old children in the working area of UPTD Puskesmas Rawat Inap Mampu Poned Kibang Budi Jaya, Lambu Kibang District, Tulang Bawang Barat Regency in 2024, with a p-value of 0.003 and an OR of 10.800.

One factor influencing an individual's behavior in undergoing health examinations is knowledge. Knowledge results from awareness and occurs after sensing a particular object. This sensing happens through human senses, particularly sight and hearing. Most human knowledge is acquired through the eyes and ears (Wawan and Dewi, 2019).

Knowledge about immunization includes understanding the definition of immunization, diseases preventable through immunization, the benefits of immunization, immunization service locations, immunization schedules, types of immunization, and the number of immunizations needed. Adequate knowledge is expected to influence a mother's actions in providing complete immunization to her child (Dewi et al., 2016).

The phenomenon where respondents possess good knowledge but incomplete rotavirus immunization, or vice versa, highlights the complexity of factors affecting health behavior. Good knowledge about rotavirus immunization does not always directly correlate with complete immunization. This can be due to various factors such as accessibility to health services, cultural beliefs, or socio-economic barriers (MacDonald et al., 2015). Conversely, respondents with poor knowledge but complete rotavirus immunization may be influenced by local health policies, social support, or effective outreach programs (Larson et al., 2011). Recent research by Smith et al. (2017) indicates that community-based interventions combining education with improved service access can bridge the gap between knowledge and action.

This research aligns with a study by Pratiwi (2020) showing a relationship between parental knowledge and the completeness of rotavirus immunization in children.

According to the study results, respondents with good knowledge but incomplete immunization coverage often did not bring their infants with cough and cold to the health post, despite immunization being possible during such conditions if no fever is present. Additionally, delays in attending the health post meant the rotavirus vaccine, which can serve up to five infants per vial, could not be administered to just one infant. Respondents with poor knowledge often cited low educational levels and limited information sources. On the other hand, respondents with poor knowledge but complete immunization coverage adhered to health workers' recommendations.

Efforts to increase mothers' knowledge include providing education on the importance and timely administration of rotavirus immunization. Education can enhance mothers' knowledge, thereby improving their behavior in completing their children's rotavirus immunization.

Characteristics such as maternal age, education, and occupation significantly correlate with the level of knowledge regarding rotavirus immunization. Most respondents (42.9%) are aged 26-30, a critical period in child-rearing where curiosity and active pursuit of child health information are high. This age group is generally more adaptable to digital information sources but less experienced than older mothers. The majority of respondents (64.3%) have a high school education, which is essential in understanding and applying health information. However, secondary education still requires reinforcement for a deeper understanding of specific immunizations like rotavirus. Additionally, the dominance of housewives (92.9%) influences the time and access available for seeking information and attending health education sessions. Despite flexible time, housewives face limitations in information exposure from work environments or broader social interactions. The interaction between these factors—age, education, and occupation—forms the basis of mothers' knowledge about rotavirus immunization, ultimately affecting their decisions and actions in completing their children's immunizations.

The Relationship Between Attitude and Completeness of Rotavirus Immunization in 5-Month-Old Children

This study shows a relationship between attitude and the completeness of rotavirus immunization in 5-month-old children in the working area of UPTD Puskesmas Rawat Inap Mampu Poned Kibang Budi Jaya, Lambu Kibang District, Tulang Bawang Barat Regency in 2024, with a p-value of 0.004 and an OR of 10.476.

These results align with the theory that an individual's behavior is influenced by their attitude towards a matter. Attitude reflects a person's readiness or willingness to act, not the execution of a specific motive. It indicates a person's like or dislike of an object, gained from experience or from those close to them (Notoatmodjo, 2018).

Attitude will follow a person's behavior based on their like or dislike of the matter. If they support it,

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

they will act accordingly. Therefore, the completeness of basic immunization performed by mothers relates to their acceptance of the benefits of complete basic immunization for their infants, making them willingly provide complete immunization (Amperaningsih, 2018).

Attitude is just one component influencing intention and behavior. Other factors, such as subjective norms and perceived behavioral control, also play crucial roles. In the case of rotavirus immunization, someone might have a positive attitude but face practical barriers such as access to healthcare services or time constraints, preventing them from completing the immunization (MacDonald et al., 2015). Conversely, individuals with a negative attitude might still complete the immunization due to policies encouraging or mandating vaccination or strong influence from healthcare workers and the community (Larson et al., 2011).

This study aligns with research by Martino et al. (2023), showing a relationship between parental attitude and the completeness of rotavirus immunization in children. It is also supported by research by Gundogdu (2023), indicating a relationship between attitude and the completeness of rotavirus immunization.

According to the researcher's assumption, attitude correlates with the completeness of immunization in infants. Mothers with a poor attitude tend to pay less attention to the immunization schedule for their infants compared to mothers with a good attitude. A positive attitude leads to better perception and actions regarding what one knows. Mothers with a positive attitude but incomplete rotavirus immunization for their children may face limited information and access to distant healthcare services and bad roads. Additionally, children might be ill when the immunization is scheduled. Conversely, some mothers with a negative attitude towards rotavirus immunization might still have complete immunization for their children due to encouragement from health cadres.

Efforts to improve mothers' attitudes include educating them on the importance of rotavirus immunization for children, thereby increasing their knowledge and positively influencing their attitude towards immunization. Additionally, strengthening the role of health cadres and community leaders as supporters in conveying the importance of rotavirus immunization for children is necessary.

CONCLUSION

1. Frequency distribution of complete rotavirus immunization in children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency. In 2024, there were 29 (69%) respondents who had completed complete rotavirus immunization.
2. Frequency distribution of knowledge of mothers who have children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency. In 2024, there were 28 (66.7%) respondents who had good knowledge.
3. Frequency distribution of attitudes of mothers who have children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency. In 2024, there were 25 (59.5%) respondents who had a positive attitude.
4. There is a relationship between knowledge and the completeness of rotavirus immunization in children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency in 2024 with a p value of 0.003 and OR = 10.800.
5. There is a relationship between attitudes and the completeness of rotavirus immunization in children aged 5 months in the UPTD Working Area of the Capable Poned Kibang Budi Jaya Inpatient Health Center, Lambu Kibang District, West Tulang Bawang Regency in 2024 with a p value of 0.004 and OR = 10.476.

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