THE INFLUENCE OF CULTURAL FACTORS ON THE COMPLETENESS OF BASIC IMMUNIZATION IN CHILDREN

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ABSTRACT
Immunization is very important to protect infants from various infectious diseases. The completeness of immunization in early childhood significantly determines a child's immune resistance to various diseases that can be prevented through immunization. The coverage of complete basic immunization in Pesawaran Regency is still not optimal, with 80% of health centers not meeting the standard of complete basic immunization (IDL) of ≥95%. The purpose of this study is to identify factors associated with the completeness of basic immunization in children aged 12-18 months. This is a quantitative study with a cross-sectional design. The population consists of all children aged 12-18 months in the working area of the Health Office of Pesawaran Regency, totaling 1,293 children. A sample of 163 respondents was taken using a simple random sampling technique. Data collection was conducted using a questionnaire. Data analysis was performed univariately, bivariately, and multivariately with chi-square tests. The research results indicate that factors related to the completeness of basic immunization are knowledge (p=0.001), family support (p=0.001), the role of health workers (p=0.001), and culture (p=0.001). The cultural factor is the dominant factor with a p-value of 0.001 and an odds ratio (OR) of 14.377, respondents with supportive cultural beliefs were 14 times more likely to complete basic immunization compared to those without. The recommendation from this study is for culture-based interventions involving traditional leaders and community figures in immunization education. In addition, there is a need to improve mothers' knowledge, family support, and the communicative role of health workers to enhance the coverage of basic immunization in Pesawaran District.

Keywords: completeness of basic immunization; culture; family support

INTRODUCTION
Child health remains a priority in global and national public health agendas. One of the most effective and cost-efficient interventions to protect children from preventable diseases is immunization. Immunization not only safeguards individual children from deadly illnesses such as measles, polio, diphtheria, and hepatitis B, but also contributes to community-level protection through herd immunity. Despite its proven efficacy, immunization coverage continues to face challenges in various regions of Indonesia, particularly in rural and semi-urban areas such as Pesawaran District, where healthcare access and community awareness are still limited. The Ministry of Health of the Republic of Indonesia has set a national target of at least 95% coverage for complete basic immunization. However, in Pesawaran District, 12 out of 15 primary health centers have not yet achieved this goal. According to 2023 data from the Lampung Provincial Health Office, Pesawaran District recorded the lowest immunization coverage, at 80.3%., significantly below the national standard. Factors contributing to this gap include logistical barriers, insufficient follow-up by village midwives, limited health promotion efforts, and socio-cultural resistance toward immunization. These conditions reflect a complex interplay of knowledge gaps, health system performance, and sociocultural influences.

Parental knowledge, particularly that of mothers, plays a central role in the completion of a child's immunization schedule. Research has shown that mothers with greater awareness of immunization benefits and schedules are more likely to ensure their children receive full vaccination. In contrast, limited knowledge, influenced by educational background, misinformation from social media, and cultural myths, may deter mothers from accessing immunization services. Concerns about vaccine side

effects, such as fever, and fears rooted in traditional beliefs further contribute to vaccine hesitancy among caregivers. In addition to maternal knowledge, family support, especially from spouses and older relatives, has been identified as a key determinant of immunization behavior. In many Indonesian communities, health-related decisions are often influenced by collective family dynamics rather than the individual preferences of the mother. Moreover, the role of health workers—including midwives and community health volunteers (kader Posyandu)—is essential in educating families, following up on missed vaccinations, and addressing community-level misconceptions. Cultural norms, values, and traditional practices also play a substantial role in shaping health behavior, either reinforcing or hindering immunization uptake. Given the persistently low immunization coverage in Pesawaran District and the range of social, behavioral, and institutional factors at play, this study aims to identify and analyze the factors associated with the completeness of basic immunization in children aged 12–18 months. By examining variables such as maternal knowledge, family support, cultural beliefs, the role of healthcare providers, and educational attainment, this study seeks to provide evidence-based recommendations for improving immunization strategies at the district level.

METHOD

This study employed a quantitative analytical approach using a cross-sectional design to explore the factors associated with the completeness of basic immunization in children aged 12–18 months in Pesawaran District, Indonesia. A cross-sectional design was selected because it allows the measurement of exposure and outcome variables at a single point in time, making it suitable for identifying associations between variables in population health research. The study population consisted of all children aged 12–18 months registered in the working area of the Pesawaran District Health Office, totaling 1,293 children. From this population, a sample of 163 respondents was drawn using simple random sampling to ensure every child had an equal chance of being selected, thereby reducing selection bias.

Data collection was conducted from March to May 2025 using structured questionnaires distributed to mothers or primary caregivers of the selected children. The questionnaire covered socio-demographic characteristics (such as age, education level, and occupation), maternal knowledge of immunization, family support, the role of healthcare workers, cultural beliefs related to immunization, and the immunization status of the child. Prior to data collection, the questionnaire underwent validity and reliability testing with a separate pilot group. Ethical approval for this study was obtained from the Health Research Ethics Commission, and informed consent was secured from all participants before data collection commenced. The anonymity and confidentiality of the respondents were strictly maintained throughout the research process.

Data were analyzed in three stages: univariate, bivariate, and multivariate analysis. Univariate analysis was used to describe the frequency distribution of each variable. Bivariate analysis was performed using chi-square tests to examine the relationships between independent variables (knowledge, family support, role of health workers, culture, and education) and the dependent variable (completeness of basic immunization). Variables with p-values less than 0.25 in the bivariate analysis were included in the multivariate logistic regression model to determine the most influential factors associated with immunization completeness. Odds ratios (OR) and 95% confidence intervals (CI) were calculated to measure the strength of the associations.

RESULT AND DISCUSSION

This study involved 163 respondents who were mothers of children aged 12–18 months residing in the working area of the Health Office of Pesawaran District. The univariate analysis showed that 100 children (61.3%) had received complete basic immunization, while the remaining 63 children (38.7%) had not. In terms of maternal knowledge, the majority of mothers (66.3%) were categorized as having good knowledge about immunization, while 33.7% had poor knowledge. For family support, 70.6% of respondents reported receiving strong support from family members, whereas 29.4% had weak or no support. Regarding the role of health workers, 67.5% of respondents indicated that health professionals played an active role in their immunization experience, including reminders, education, and follow-up. Cultural factors were also measured, with 40.5% of mothers reporting cultural beliefs or traditions that influenced their decision-making related to immunization.

The bivariate analysis using chi-square tests indicated that several variables had a significant relationship with the completeness of basic immunization. Maternal knowledge showed a statistically significant association ($p=0.001$), indicating that mothers with better understanding were more likely to ensure complete immunization. Family support was also significantly related ($p=0.001$), emphasizing the influence of spouses and extended families in decision-making about child health. The role of health workers was another significant factor ($p=0.001$), suggesting that effective communication, counseling, and follow-up visits contribute positively to immunization adherence. Cultural beliefs had the strongest association with immunization completeness ($p=0.001$), with many mothers reporting that local traditions or fear of vaccine side effects influenced their decisions. However, educational level did not show a statistically significant association ($p=0.463$), suggesting that higher formal education alone may not guarantee improved health practices.

Multivariate logistic regression was performed to identify the most dominant factors associated with immunization completeness. Variables with p-values <0.25 in the bivariate analysis were included in the model. The final model revealed that culture was the most influential determinant, with an odds ratio (OR) of 14.377 and a 95% confidence interval (CI) indicating a strong likelihood of incomplete immunization among those influenced by cultural beliefs. Other variables that remained significant in the multivariate model were maternal knowledge (OR = 5.23), family support (OR = 4.81), and the role of health workers (OR = 3.74). These findings suggest that behavioral and social factors play a more crucial role than formal education in determining immunization behavior.

Further analysis using interaction models indicated that the combination of poor maternal knowledge and lack of family support compounded the risk of incomplete immunization. Children whose mothers had low knowledge and no family support were significantly more likely to miss scheduled vaccinations. Similarly, when the role of health workers was absent, even mothers with good knowledge sometimes failed to follow through due to lack of motivation or external reminders. These findings support the idea that successful immunization programs require a multisectoral approach, combining education, support systems, and professional engagement.

In conclusion, the results of this study clearly demonstrate that improving basic immunization coverage in Pesawaran District requires more than just access to services. The significant roles played by cultural attitudes, family dynamics, and health worker involvement must be prioritized in any public health intervention. By identifying and addressing these specific barriers and enablers, local health authorities can design more targeted and culturally sensitive strategies to increase immunization compliance and protect children from vaccine-preventable diseases.

The findings of this study revealed that several factors significantly influenced the completeness of basic immunization in children aged 12–18 months in Pesawaran District, including maternal knowledge, family support, the role of health workers, and cultural beliefs. Among these, culture emerged as the most dominant factor, with an odds ratio (OR) of 14.377. This suggests that cultural norms, beliefs, and practices strongly influence whether or not parents choose to complete their child's immunization schedule. In some communities, traditional beliefs and mistrust of modern medicine continue to pose challenges to immunization efforts. Misinformation, religious misconceptions, or myths about vaccine side effects can lead to fear and resistance, ultimately lowering immunization coverage. This highlights the need for culturally sensitive education and communication strategies that are respectful of local values while correcting harmful misinformation.

Maternal knowledge was also found to be a significant factor. Mothers who had a better understanding of the purpose, schedule, and benefits of immunization were more likely to ensure that their children received complete basic immunization. This finding supports existing literature stating that knowledge is a key determinant of health behavior. Knowledgeable mothers are generally more proactive in seeking health services and are better able to weigh the benefits of immunization against concerns about side effects. However, education level itself was not significantly associated with immunization completeness in this study. This indicates that while formal education may contribute to general literacy, it does not automatically translate into specific knowledge or attitudes about immunization. Therefore, health education interventions should not solely rely on educational background but instead focus on targeted awareness programs delivered through health workers or community-based channels.

The role of health workers and family support were equally essential. Health professionals, particularly midwives and community health volunteers (kader), serve not only as service providers but also as educators, facilitators, and motivators. Their ability to communicate clearly, offer follow-up visits, and provide counseling significantly influences parental decisions. Similarly, family support plays a pivotal role, especially in patriarchal communities where health decisions are often made collectively. When fathers, grandparents, or other influential family members are supportive, mothers are more likely to follow through with immunization schedules. These findings align with social support theory, which emphasizes that emotional, informational, and instrumental support can facilitate health-promoting behaviors. Strengthening the collaboration between families, health workers, and community leaders is essential for improving immunization uptake in culturally diverse and resource-limited settings like Pesawaran District.

CONCLUSION

This study highlights the multifactorial nature of basic immunization coverage among children aged 12–18 months in Pesawaran District, Indonesia. Key determinants that were significantly associated with immunization completeness included maternal knowledge, family support, the role of health workers, and cultural beliefs. Among these, cultural factors were found to be the most influential, with traditional norms and local beliefs shaping attitudes toward immunization. Although education level did not show

a statistically significant relationship, this does not undermine the importance of context-specific health education. These findings suggest that simply improving access to vaccines is insufficient without addressing the social and behavioral factors that influence caregivers' decision-making. The results underscore the need for integrated, community-based interventions that combine culturally sensitive health education with active engagement from family members and healthcare workers. Health promotion strategies must move beyond general information dissemination and instead focus on building trust, correcting misconceptions, and fostering supportive environments for mothers and caregivers. Strengthening the capacity of health workers to act as educators and motivators, and involving community leaders in immunization advocacy, can help bridge the gap between knowledge and action. Ultimately, a holistic approach that considers individual, familial, and cultural dynamics is essential to increase immunization rates and protect children from vaccine-preventable diseases in resource-limited areas.

REFERENCES

Addiarto, R., Nugroho, H. S., & Kurniawati, D. (2022). The role of health workers in increasing immunization coverage in rural areas: A systematic review. *Jurnal Keperawatan Indonesia*, *25*(1), 22–30. https://doi.org/10.xxxx/jki.2022.25.1.22

Agus, R. (2014). *Imunisasi: Konsep dasar dan praktik di Indonesia*. Jakarta: Salemba Medika.

Ahmi, S. (2019). Hubungan antara pengetahuan dan dukungan keluarga terhadap pemberian imunisasi dasar lengkap pada bayi. *Jurnal Kesehatan Masyarakat Andalas*, *13*(1), 1–10.

Amalia, F., Widyaningrum, R., & Utami, D. (2021). Hubungan pengetahuan dan dukungan keluarga dengan kelengkapan imunisasi dasar pada bayi usia 9–12 bulan. *Jurnal Kesehatan Reproduksi*, *8*(2), 102–110.

Budiman, A., & Riyanto, A. (2019). *Kapita selekta: Pengetahuan dan sikap dalam pendidikan kesehatan*. Jakarta: Salemba Medika

Centers for Disease Control and Prevention. (2022). *Vaccines Do Not Cause Autism*. Retrieved from https://www.cdc.gov/vaccinesafety/concerns/autism.html

Dinkes Lampung. (2023). *Laporan Tahunan Program Imunisasi Provinsi Lampung 2022*. Bandar Lampung: Dinas Kesehatan Provinsi Lampung.

Dinkes Pesawaran. (2024). *Profil Kesehatan Kabupaten Pesawaran Tahun 2023*. Pesawaran: Dinas Kesehatan Kabupaten Pesawaran.

Fadiyah, S. (2020). Pengaruh tingkat pendidikan ibu terhadap kelengkapan imunisasi dasar bayi. *Jurnal Ilmu Kesehatan*, *14*(1), 25–31

Falawati, N. (2020). Peran tenaga kesehatan dalam pelaksanaan imunisasi dasar lengkap. *Jurnal Keperawatan dan Kesehatan*, *11*(1), 45–51.

Proverawati, A., & Ismawati, C. (2014). *Imunisasi dan Vaksinasi*. Yogyakarta: Nuha Medika.

Putri, D., & Hamamah, A. (2023). The correlation between maternal knowledge and immunization coverage in infants. *Jurnal Kesehatan Babadan*, *5*(2), 45–52.

Suryani, D. (2020). The impact of religious beliefs on immunization refusal in Indonesia. *Indonesian Journal of Health Promotion*, *8*(1), 20–26.

Wulandari, T., & Kusumastuti, N. (2020). Health workers' facilitation role in improving child immunization status. *Jurnal Promosi Kesehatan Indonesia*, *15*(3), 201–210.