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Factors Influencing the Completeness of Basic Immunization for Infants in the Catchment Area of Simpangkatis Health Center, Central Bangka District, 2023

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A B S T R A C T

Immunization plays a crucial role in children's development by preventing various dangerous diseases and disabilities such as chickenpox, polio, and tuberculosis. This research employed an analytical method with a cross-sectional study design. Data was collected through questionnaires in September 2023, with a sample size of 91 respondents. The study's findings revealed significant relationships between the level of maternal education (p = 0.025), maternal knowledge (p = 0.024), and maternal employment status (p = 0.021) with the completeness of basic immunizations for babies. However, family support did not show a significant relationship (p = 0.074) with immunization completeness. In conclusion, maternal education, knowledge, and employment status significantly influence the completeness of basic immunizations for infants. However, family support does not appear to play a significant role in ensuring immunization completeness in the work area of the Simpangkatis Health Center, Central Bangka Regency, in 2023.

INTRODUCTION

To guarantee the best possible health standards, the National Health System (SKN) acts as an integrated structure that coordinates numerous health initiatives across Indonesia. Through the alignment of social, economic, and environmental factors to enhance public welfare, it symbolises the nation's commitment to health development. According to Wiku Adisasmito (2007), health development is seen as an ongoing process that connects national health initiatives with international health development goals.

The Millennium Development Goals (MDGs), which prioritised lowering mortality and enhancing mother and child health, served as a framework for international development initiatives between 2000 and 2015. Following the conclusion of the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) were unveiled, focussing on enhancing global wellbeing and spanning from 2016 to 2030. Reducing maternal mortality, preventing avoidable infant and newborn deaths, lowering neonatal mortality, and managing infectious illnesses like hepatitis and TB are among the SDGs' top priorities. Additionally, they want to guarantee that everyone has access to healthcare services, especially preventative care, and to reduce the number of early deaths from non-communicable illnesses (Rully, 2022).

In Indonesia, national and regional development policies place a strong emphasis on disease prevention and control. Policies aim to treat infectious and non-communicable illnesses, manage stunting, and lower maternal and newborn mortality. All governmental levels use a preventative and promotional strategy. One

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such preventative approach is immunisation; certain vaccinations, such as the polio vaccine, are given orally, while others, such as the DPT, measles, and BCG vaccines, are supplied by injections (Eva Yusnita Nasution, 2022).

The child mortality rate in Indonesia was 22.32 per 1,000 live births in 2021, down 3.25% from 23.07 per 1,000 the year before, according to the United Nations. According to data from the Directorate General of Public Health (2021), congenital anomalies, newborn tetanus, pneumonia, meningitis, and neurological problems are among the reasons of infant mortality that have been documented. Additional significant causes were high incidence of infectious illnesses and malnutrition (Shilvina Widi, 2022).

Infant mortality (0–12 months) decreased in Bangka Belitung Islands Province from 186 deaths in 2020 to 181 deaths in 2021. With 24.30% of all baby deaths in 2021, Belitung Regency had the highest rate, while Pangkalpinang City had the lowest rate, at 6.07%. Of the seven districts, Central Bangka Regency came in fifth place and accounted for 10.44% of all newborn fatalities. The number of fatalities for children under five (0–5) dropped from 213 in 2020 to 196 in 2021. Similar patterns were seen, with Pangkalpinang City contributing the least (6.12%) and Belitung Regency giving the largest amount (25%). Sixth place Central Bangka Regency was responsible for 9.69% of all fatalities involving children under five (Bangka Belitung Islands Provincial Health Office, 2021).

Over the previous three years, Indonesia's baby basic immunisation coverage has varied. The COVID-19 pandemic caused the full immunisation coverage to drop to 83.3% in 2020 from 93.7% in 2019. Coverage increased little to 84.2% in 2021 (Kusnandar, 2022).

This information emphasises how crucial it is to keep up health development initiatives, such as immunisation campaigns, in order to lower mortality and enhance public health outcomes in Indonesia.

METHOD

This study uses a cross-sectional study design and analytical methodologies. Stratified random sampling is the sampling method used, and it guarantees that samples are taken from each group according to predetermined criteria, including inclusion and exclusion criteria. There were 436 newborns in the study population, and 91 moms who participated as responders made up the sample size. The Simpangkatis Community Health Centre, which is situated in the Bangka Belitung Islands Province's Central Bangka Regency, carried out research in September 2023.

Interviews, documentation, health cards (KMS), and questionnaire sheets were some of the techniques used to gather data. Techniques including editing, coding, tabulation, and entry were used for data processing. The Ethics Committee for Health Research at Anak Bangsa University approved this study with recommendation number 03/438/UNABA/VIII/2023 for ethical clearance.

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RESULT

Table 1 Distribution of Respondents Based on Age in the Catchment Area of the Simpangkatis Health center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Mother's Age		
< 20	3	3,3
21 – 35	73	80,2
> 35	15	16,5
Total	91	100

Based on table 1 above, it was found that the respondents who were at least < 20 years old were 3 people (3,3%), the respondents who were most aged 21-35 were 73 people (80,2%), and the respondents who were > 35 years old amounting to 15 people (16,5%).

Table 2 Distribution of Respondents Based on Income in the Catchment Area of the Simpangkatis Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Income		
< 1.000.000	15	16,5
1.000.000 - 3.000.000	72	79,1
> 3.000.000	4	4,4
Total	91	100

Based on table 2 above, it was found that respondents with an income of < Rp1.000.000 were 15 people (16,5%), respondents with the highest income of Rp1.000.000-3.000.000 were 72 people (79,1%), and respondents with the most with a small income of Rp3.000.000 were 4 people (4,4%).

Table 3 Distribution of Babies Based on Gender in the Working Ares of the Simpangkatis Health center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Gender		
Man	44	48,4
Woman	47	51,6
Total	91	100

Based on table 3 above, there were 44 male babies (48,4%), less than 47 female babies (51,6%).

Table 4 Distribution Based on Completeness of Basic Immunization for Babies in the Catchment Area of Simpangkatis Community Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Completeness of Basic Immunization for Babies		
Complete	54	59,3
Incomplete	37	40,7
Total	91	100

Based on table 4 above, it was found that there were 54 babies (59,3%) who had complete basic immunization, more than 37 babies who had incomplete basic immunizations (40,7%).

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Table 5 Distribution of Basic Immunization Completeness for Babies Based on Mothers's Education in the Catchment Area of Simpangkatis Community Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Education		
Height	16	17,6
Low	74	81,3
Total	91	100

Based on table 5 above, it is found that respondets with higher education amounted to 16 people (17,6%), less than respondents with low education, the number 74 people (81,3%).

Table 6 Distribution of Basic Immunization Completeness for Babies Based on Mother's Knowledge in the Catchment Area of Simpangkatis Community Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Knowledge		
Good	40	44,0
Not Good	51	56,0
Total	91	100

Based on table 6 above, it was found that the respondents who had good knowledge about basic immunization for babies were 40 people a (44,0%), less than the respondents who had not good knowledge were 51 people (56,0%).

Table 7 Distribution of Basic Immunization Completeness for Babies Based on Mother's Occupation in the Catchment Area of the Simpangkatis Community Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Job Status		
Work	35	38,5
Not Working	56	61,5
Total	91	100

Based on table 7 above, it is found that the number of respondents who work is 35 people (38,5%), less than the number of respondents who do not work, numbering 56 people (61,5%).

Table 8 Distribution of Basic Immunization Completeness for Babies based on Family Support in the Catchment Area of the Simpangkatis Community Health Center, Central Bangka Regency, 2023

Variable	Amount	Percentage %
Family Support		
Supported	41	45,1
Not Supported	50	54,9
Total	91	100

Based on table 8 above, it is found that the number of respondents who were supported by their families was 41 people (45,1%), less than the 50 respondents who were not supported by their families (54,9%).

Table 9 Bivariate Analysis of the Relationship between Completeness of Basic Immunization for Babies Based on Mother's Education

Variable	Completeness				Total		P Value
	Complete		Incomplete				
	n	%	N	%	N	%	
Education							0,025
Height	14	87,5	2	12,5	16	100	
Low	40	53,3	35	46,7	75	100	

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Based on table 9 above, it is found that there are 14 respondents (87,5%) fewer babies with complete basic immunization requirements when compared to mothers with low education, while there are fewer babies with incomplete basic immunization equipment among mothers who 2 respondents (12,5%) had higher education compared to mothers with low education. From the results of the statistical test, the p value was obtained (0,025), where this value is < α (0,05), which means that H0 is rejected, so it can be concluded that there is a significant relationship between the completeness of basic immunization for babies and maternal education.

Table 10 Bivariate Analysis of the Relationship between Completeness of Basic Immunizations for Babies Based on Mother's Knowledge

Variable	Completess						P Value
	Complete		Incomplete		Total		
	n	%	N	%	N	%	
Knowledge							0,024
Good	18	45,0	22	55,0	40	100	
Not Good	36	70,6	15	29,4	51	100	

Based on table 10 above, it is found that there are fewer babies with complete basic immunizations among mothers with good knowledge, as many as 18 respondents (45,0%) when compared to mothers with poor knowledge, while there are more babies with incomplete basic immunizations among mothers. There were 22 respondents (55,0%) who had good knowledge compared to mothers who had less good knowledge. From the statistical test results, the p value was obtained (0,024), which is < α (0,05), which means that H0 is rejected, so it can be concluded that there is a significant relationship between the completeness of basic immunization for babies and the mother's knowledge.

Table 11 Bivariate Analysis of the Relationship between Completeness of Basic Immunizations for Babies Based on Mother's Employment Status

Variable	Completeness						P Value
	Complete		Incomplete		Total		
	n	%	N	%	N	%	
Job Status							0,021
Work	15	42,9	20	57,1	35	100	
Not Working	39	69,6	17	30,4	56	100	

Based on table 11 above, it is found that there are fewer babies with complete basic immunizations among mothers whose employment status is working, as many as 15 respondents (42,9%) when compared to mothers whose employment status is not working, while there are more babies with incomplete basic immunization requirements. There were 20 respondents (57,1%) in mothers whose employment status was working compared to mothers whose employment status was not working. From the statistical test results, the p value was obtained (0,021), where this value is < α (0,05), which means that H0 is rejected so it can be concluded that there is a significant relationship between the completeness of basic immunization for babies and the mother's employment status.

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Table 12 Bivariate Analysis of the Relationship between Completeness of Basic Immunizations for Babies Based on Family Support

Variable	Completeness						P Value
	Complete		Incomplete		Total		
	n	%	N	%	N	%	
Family Support							0,074
Supported	29	70,7	12	29,3	41	100	
Not Supported	25	50,0	25	50,0	50	100	

Based on table 12 above, it is found that there are more babies with complete basic immunizations among mothers whose family support is supported by 29 respondents (70,7%) when compared to mothers whose family support is not supported, while there are fewer babies with incomplete basic immunization equipment. There were 12 respondents (29,3%) in mothers whose family support was supported, compared to mothers whose family support was not supported. From the statistical test results, the p value was obtained (0,074), which is > α (0,05), which means that H0 is accepted so it can be concluded that there is no significant relationship between the completeness of basic immunization for babies and family support.

DISCUSSION

Education is essential for improving a person's skills via hands-on training or practical learning methods. In keeping with predetermined principles and objectives, it promotes self-direction, offers fresh knowledge, and attempts to assist people in making defensible judgements (Adventus et al., 2019). Informal education influences everyday behaviours and routines in families, including eating, speaking, dressing, and etiquette. While non-formal education in society is acquired via life experiences and interactions including language, ethnicity, and religion, formal education in schools gives information, skills, and socialisation. In the end, education helps a generation become more educated (Aas Siti Sholichah, 2018).

With a p-value of 0.008, research by Mira Silviana (2021) at the Pangkalan Balai Community Health Center's work area in Banyuasin Regency revealed a strong correlation between the degree of maternal education and the completeness of newborns' basic immunisations. Similarly, with a p-value of 0.000, Yanti Mulyanti (2013) found a substantial correlation between education level and immunisation completion.

Making decisions and addressing problems needs knowledge, which is described as the outcome of feeling and comprehending via the five human senses (Adventus et al., 2019). According to Lawrence Green (1980), predisposing factors, such as ignorance about the advantages of immunisation, may prevent people from participating in immunisation programs. Behaviour is also influenced by reinforcing and enabling variables, such as community support and the availability of health services. A substantial association (p-value of 0.001) was seen between maternal knowledge and the completion of fundamental immunisations,

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according to Rafidaini Sazarni Ratiyun (2019). Similarly, a substantial correlation (p-value of 0.000) was found between maternal knowledge and immunisation completion by Atika Putri Dewi et al. (2014).

Another factor relating to the completion of immunisations is the job position of the mother. Working mothers may have time restrictions that prevent them from taking their kids to be immunised, which increases the risk of incomplete immunisation. Despite often facing extra fees, some moms can vaccinate their children despite their work (Rizki Amalia et al., 2021). A substantial correlation (p-value of 0.004) was found between mother work status and immunisation completion in a study by Rizki Amalia et al. (2021); a p-value of 0.026 was observed by Gita Sekar Prihanti et al. (2016).

When it comes to putting information into practice, attitudes are crucial. Encouraging circumstances like family support and access to immunisation services are necessary to make this possible (Adventus et al., 2019). A mother's capacity to vaccinate her kid is greatly impacted by the support she receives from her spouse, parents, and other family members. Nonetheless, a few participants have mentioned that their spouses don't provide enough support, especially when their kids have negative side effects like fever after vaccination. Mothers may be discouraged from finishing their children's vaccination regimens because of this lack of assistance. With a p-value of 0.124, research by Riska Ramadhani Hendrik (2022) revealed no discernible link between immunisation status and family support. Nevertheless, Wahyuni Hafid et al. (2017) found a substantial correlation—with a p-value of 0.000—that shows how much a mother's chance of completely immunising her kid is increased by family support, especially from husbands.

CONCLUSION

This research was carried out in 2023 at the Simpangtis Community Health Center's Catchment Area in Central Bangka Regency found a number of significant connections between several parameters and the completion of newborns' basic immunisations. Notably, it was shown that there was a substantial relationship between the mother's education level and the completeness of her immunisation record. This suggests that moms with higher education levels may prioritise and comprehend immunisations better. Furthermore, mothers' knowledge had a major role in how comprehensive their children's basic immunisations were, as moms who knew more about the value of immunisations were more likely to make sure their kids got all the shots they needed. The mother's job position also shown a strong correlation with the completion of her child's immunisations, suggesting that working women may have time restrictions that affect their capacity to bring their kids to the doctor for shots.

On the other hand, the research found no evidence of a significant correlation between the completeness of a baby's immunisations and parental support, indicating that other variables may be more important in determining immunisation behaviours. up of all the variables examined, education stood up as the most important factor pertaining to how comprehensive an infant's basic immunisation program is. This

suggests that although family support may not be as important a factor as previously thought, educational initiatives targeted at raising mother awareness about immunisation might successfully raise vaccination rates in this location.

REFERENCES

Adisasmito, W. (2007). National Health System. Jakarta:PT. Rajagrafindo Persada.

Aini, Nur Mail., A. Pius L. Berek., Besin Vincent (2020). Description of the level of knowledge of adolescents about reproductive health at SMPN Haliwen. Journal of Nursing Friends, Vol. 2; No; 2; August 2020.

Alesia, C. A. C., Lapau, B., Harnani, Y., Priwahyuni, Y., & Miklon, M. (2021). Factors associated with incomplete basic immunization at the Sidomulyo Community Health Center, Pekanbaru City. Journal of Community Health, 7(1), 18-23.

Amalia, R., Rahmadhani, S. P., & Sari, L. M. (2021). Relationship between Knowledge Level, Educational Level and Type of Mother's Job with Immunization Status at Age 9-12 Months. Journal Of Midwifery Science, 1(1), 68-78.

Bangka Belitung Islands Province, (2021). 2021 Health Profile.

Budiarti, A. (2019). The relationship between education, employment, attitudes and family support factors towards basic immunization in RW 03, Kedung Cowek Kenjeran Village, Surabaya. Journal of Mesencephalon Health, 5(2).

Central Bangka District Health Service, 2022, Central Bangka District Health Profile for 2022.

Dewi, A. P., Darwin, E., & Edison, E. (2014). The Relationship between Mother's Knowledge Level and Providing Complete Basic Immunization to Babies in Parupuk Tabing Village, Lubuk Buaya Health Center Working Area, Padang City, 2013. Andalas Health Journal, 3(2).

Hendrik, Riska Ramadhani (2022). Factors related to the completeness of basic immunization for babies during the pandemic in Wolio District, Baubau City. Hasanuddin University Makassar thesis.

Hafid, W., Martini, S., & Devy, S. R. (2017). Determinant factors for complete basic immunization status in babies at Konang and Geger Community Health Centers. Wiyata Journal: Science and Health Research, 3(1), 38-45.

Heraris, Selina (2015). The relationship between mother's knowledge about basic immunization and the completeness of basic immunization for children at Posyandu in the work area of Pembina Plaju Palembang Health Center. Muhammadiyah University of Palembang thesis.

Istriyati, Elly (2010). Factors related to the completeness of basic immunization for babies in Kumpulrejo Village, Argomulyo District, Salatiga City. Semarang State University Thesis.

Kharin, Anggun Nanda (2021). Knowledge, education and attitudes of mothers towards complete basic immunization in Bogor Regency. Journal of Public Health Service, University of Indonesia. Vol. 1, No. 1, April 2021. Pg. 25-31.

Kusnandar (2022). Complete Basic Immunization Coverage for Babies 0-11 Months Below Target https://databoks.katadata.co.id/datapublish/2022/08/09/cakupan-immunisasi-dasar-komplet-pada-bayi accessed on 14 June 2023.

Lumbanbatu, A. M., Mertajaya, I., & Mahendra, D. (2019). Health Promotion Textbook.

Magdalena, Veronica Pinontoan., G. Sandra J Tombokan (2015). The relationship between age and maternal parity with the incidence of low birth weight babies. Midwife Scientific Journal. Volume 3 Number 1. January-June 2015.

Mahabbah, R. Nurul (2019). https://repository.unsil.ac.id accessed on 15 May 2023.

Ministry of Health Health Profile 2020 https://kemkes.go.id accessed on 12 June 2023.

Minister of Health Regulation (2017). About Immunization Implementation https://hukor.kemkes.go.id accessed on 15 May 2023.

Mulyati, E., & Ratnaningsih, E. (2014). Immunization Textbook. South Jakarta: Ministry of the Republic of Indonesia.

Mulyanti, Y. (2013). Internal factors related to the completeness of basic immunization for toddlers aged 1-5 years in the work area of PUSKESMAS Situ Gintung Ciputat in 2013.

Nasution, E. Y. (2022). Providing Complete Basic Immunization. PT Innovation Pratama Internasional.

Nuryanah, I. (2020). Implementation of Immunization Implementation Policy in Tasikmalaya Regency. JAK PUBLIC (Journal of Public Administration & Policy), 1(3).

Pamungkas, R. N. (2016). The relationship between the number of children in the family and the completeness of children's basic immunizations in Sukowiryo Village, Jelbuk District, Jember Regency.

Prihanti, G. S., Rahayu, M. P., & Abdullah, M. N. (2016). Factors that influence the status of basic immunization equipment in the work area of Puskesmas X, Kediri City. Medika Science, 12(2), 120-128.

Ratiyun, R. S. (2019). The Relationship between Mother's Knowledge and Basic Immunization Completeness in the Sindang Belitir Ilir Community Health Center Working Area. Journal of Nursing Media Research, 2(1), 34-42.

Regulation of the Governor of the Bangka Belitung Islands (2023) Concerning Determination of the Minimum Wage for the Province of the Bangka Belitung Islands. https://disnaker.babelprov.go.id/sites/default/files/document/pengumuman/UMP%20tahun%202023.pdf accessed on 14 August 2023.

Rizaty, Monavia Ayu (2022). Early Childhood in Indonesia https://dataindonesia.id/varia/detail/anak-usia-dini-di-Indonesia-soleh-3073-juta-jiwa-pada-2022 accessed on 06 July 2023.

Rully (2022). SDGs Are: Definition and 17 Goals for World Prosperity https://www.detik.com/bali/berita/d-6448066/mengenal-sdgs-dapat-dan-besar-di- Baliknya accessed on 24 June 2023.

S, Sudarwin Rinti (2020). The role of family income level in the continuity of children's education in Kajulangko Village, Ampana Tete District, Tojo Una-una Regency. Thesis of the Palu State Islamic Institute (IAIN).

Sahir, S. H. (2021). Research methodology. Jogjakarta: KBM Indonesia.

Sampurna, M. T. A. (2022). Protect Yourself With Immunization. Airlangga University Press.

Sholichah, A. S. (2018). Educational theories in the Koran. Isami education: Journal of Islamic Education, 7(01), 23-46.

Silviana, M. (2021). Factors Associated with Completeness of Basic Immunization for Babies at the Pangkalan Balai Community Health Center, Banyuasin Regency in 2021 (Doctoral dissertation, STIK Bina Husada Palembang).

Simpangkatis Health Center, 2022. Profile of Simpangkatis Health Center in 2022.

Sriatmi, Ayun. Get to know Complete Routine Immunization. Pocket book. Diponegoro University Semarang. https://doc-pak.undip.ac.id//11407/1/Mengenal-IMUNIZATION-RUTIN-LENGKAP.pdf. Accessed 09 June 2023.

Sugianto (2011). Factors related to the completeness of basic immunization for babies in the working area of the Payung Health Center, South Bangka Regency in 2011. Abdi Nusa Pangkalpinang College of Health Sciences (STIKES) Thesis.

Tse, A. D. P., Suprojo, A., & Adwidjaja, I. (2017). The role of posyandu cadres in community health development. Journal of Social and Political Sciences (JISIP), 6(1).

Trianto, A. A., Dasman, H., & Lestari, Y. (2022). Analysis of the Achievement of the Complete Basic Immunization Program During the COVID-19 Pandemic in Pesisir Selatan Regency 2021. Andalas Health Journal, 10(3), 150-158.

Widi, Shilvana (2022). Child Mortality Rate in Indonesia https://dataindonesia.id/kesehatan/detail/angka-demitian-anak-di-Indonesia-terus-turun-pada-2021 accessed on 06 July 2023.

Wijayanto, Restu (2015). Educational Theory. https://restuwijayanto.blogs.uny.ac.id/wp-content/uploads/sites/2030/2015/11/Edisi-05-Teori-Pendidikan.pdf.

Wulandari, Duwi (2012). Factors related to the completeness of basic immunization for babies in the working area of the Pasir Putih Health Center in 2012. Abdi Nusa Pangkalpinang College of Health Sciences (STIKES) Thesis.