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Factors Related to Giving Hb0 Immunization at Batu Anam Health Center, Simalungun

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ABSTRACT

More than 11 million people with Hepatitis-B in Indonesia, with a low prevalence of hepatitis B, most of the sufferers were aged 20-40 years, while in countries with a high prevalence of hepatitis B, the majority of people with hepatitis B were children.. The purpose of this study was to determine the factors associated with giving Hb0 immunization to infants. The design of research was analytical. The study population was all mothers who had babies 0-7 days in Batu Anam Community Health Center. The sample size was 60 people. The research results were obtained based on the provision of Hb0 immunization, it was known that the majority of respondents were not given the Hb0 immunization as many as 33 respondents (55.0%) and the minority of respondents were given the Hb0 immunization as many as 27 respondents (45.0%) and it could be concluded that there was a relationship between education, work, number of children, knowledge, helpers. delivery, delivery assistance and family support for Hb0 immunization in infants. It is hoped that this research can become input for health workers to improve the quality of health services and education as well as information about Hb0 immunization in infants by providing counseling.

Keywords: Hb0 immunization; infants

INTRODUCTION

According to International Task Force on Hepatitis-B Immunization, Indonesia was included in the moderate and high hepatitis B endemic group, with a prevalence in the population of 7% -10%. At least 3.9% of Indonesian pregnant women have hepatitis with a risk of maternal transmission of approximately 45%. Currently it was estimated that there were more than 11 million people with Hepatitis-B in Indonesia. In countries with a low prevalence of hepatitis B, most of the sufferers were aged 20-40 years, while in countries with a high prevalence of hepatitis B, the majority of people with hepatitis B were children [(1)].

The risk of developing chronic hepatitis B was much greater (90%) when the infection occurs early in life compared to infection that occurs in adulthood. Meanwhile, infection in young adulthood usually causes acute hepatitis clinically, but the risk of becoming chronic was only 1% - 2%. The vertical transmission depends on the gestational age at infection. Infection in the first two trimesters has a risk of 8% - 10% and increases significantly in the third trimester of pregnancy by 67% [(2)].

In Indonesia, 460 babies die every day due to diseases that are mostly preventable through vaccination. To prevent this from happening, the United Nations Children's fund (UNICEF) and the Indonesian government are working together to ensure that around 5 million babies every day receive complete and timely immunizations against seven deadly diseases, namely: tuberculosis, polio, diphtheria, tetanus, pertussis, hepatitis B and measles [(3)].The absence of a hepatitis B screening test for pregnant women in Indonesia suggests that the first hepatitis B immunization was carried out at the age of 0-7 days. HB immunization in infants was given 3 doses with a schedule of HB 1 immunization at the age of 0-7 days, HB2 and HB3 at the age of 2 and 3 months. This schedule can be adjusted in the field with the provision of a time period between the first and second injection and the second and third injection of at least one month. Hepatitis B immunization given to infants before contact or immediately after contact can protect babies from hepatitis B infection. The immunization schedule given to newborns was intended to prevent vertical transmission of hepatitis B from mother to baby [(4)].

Viral hepatitis was a systemic infection that mainly affects the liver. Hepatitis B was widespread with different levels of endemicity according to geography and ethnicity. The level of endemicity in Indonesia was classified as medium-high with the prevalence of HBsAg varying geographically. The prevalence of HBsAg in Indonesia varies greatly, it was understandable considering that Indonesia has a very large area, with diverse behaviors and cultures [(5)].

Nonpercutaneous transmission through ingestion oral has been noted as a potential path of exposure but the efficiency was quite low. On the other hand, the two nonpercutaneous routes of transmission that are thought to have the greatest impact are sexual intercourse and perinatal transmission. Perinatal transmission was mainly found in infants born to HBsAg carrier mothers or mothers who had acute hepatitis B during the third trimester of pregnancy or during the early postpartum period. Although about 10% of infections can be acquired*in utero,*epidemiologic evidence suggests that nearly all infections occur at approximately the time of delivery and were unrelated to breastfeeding. In almost all cases, acute neonatal infection was clinically asymptomatic, but the child was likely to be an HBsAg carrier [(6)].

Lack of family knowledge including the wrong perception about the importance of immunization and the severity of a disease was an important factor that hinders the success of immunization. Misperceptions about the severity of a disease are influenced by local beliefs and lack of knowledge about health. This belief and lack of knowledge makes individuals assume that diseases are not dangerous, rare, non-contagious, it was normal for children or individuals to be resistant by themselves. Environmental and logistical constraints in the form of climate, geography or difficulty in accessing health services due to bad roads, working hours that were not suitable for community conditions or long waiting times to get health services. A health program will fail if there was less interaction between service providers and the community. The rude behavior of health workers when providing information makes parents reluctant to immunize their children. This kind of situation was often not realized by health workers [(7)]. Several factors were thought to play a role in providing HB 0-7 days of immunization, including: education, employment, number of children, maternal knowledge about immunization, birth attendants, delivery assistance and family support [(8)].The purpose of this study was to analyze the factors associated with giving Hb0 immunization to infants at Batu Anam Health Center in 2021.

METHODS

The research design was quantitative which was analytic in nature, that was to know factors associated with giving Hb0 immunization to infants at Batu Anam Health Center in 2021 with an observational design through a cross-sectional approach in which the independent and dependent variables were asked at the same time [(9)]. The location of this research will be carried out at the Batu Anam Health Center. The population in this study were all mothers who had babies 0-7 days at Batu Anam Health Center in 2021, as many as 60 people. The sampling technique used was total sampling, in which the entire population was sampled as many as 60 people.

The instrument used in this study was a questionnaire about factors associated with Hb0 immunization. This study was approved by the Ethics Review Board of the Medicine Faculty of Kadiri University Kediri, East Java, Indonesia (No.001/10/III/EC/KEP/UNIK/2021). The data source used in this research was primary data, obtained directly from mothers who have babies at the Batu Anam Health Center in 2021. The first step, the researchers submitted a letter of application from Efarina University to the research area, namely the Batu Anam Community Health Center. After obtaining the consent, the researcher distributed the willingness and approval sheet to the respondent to fill out a questionnaire that had been written the questions being studied. After the questionnaire was filled in by the respondent, the researcher made observations and recorded the completeness of the respondent's data. Data analysis was carried out in stages which included descriptive and hypothesis testing. Descriptive analysis was presented in the form of frequency tables and presentations because the data collected was categorical data [(10, 11)]. Hypothesis testing was carried out by Chi-square test with a confidence interval of 95% ($\alpha = 0.05\%$).

RESULTS

Descriptive Analysis

Based on table 1, it can be seen that the majority of respondents were not given Hb0 immunization (55.0%). Based on table 2, it can be seen that the majority of respondents had low education (63.3%). Based on table 3, it can be seen that the majority of respondents did not work (78.3%). Based on table 4, it can be seen that the majority of respondents had 1-2 children (55.0%). Based on table 5, it can be seen that the majority of respondents had less knowledge (61.7%). Based on table 6, it can be seen that the majority of respondents who gave birth assisted by non-health workers (63.3%). Based on table 7, it can be seen that the majority of respondents gave

birth at non-health facilities (75.0%). Based on table 8, it can be seen that the majority of respondents had no family support (73.3%).

Table 1. Distribution of Hb0 immunization at Batu Anam Health Center in 2021

Giving Hb immunization 0	Frequency	Percentage
Not Given	33	55.0
Given	27	45.0

Table 2. Distribution of maternal education at Batu Anam Community Health Center in 2021

Education	Frequency	Percentage
Elementary/junior/high school	38	63.3
Diploma/Bachelor degree	22	36.7

Table 3. Distribution of occupation of mothers at Batu Anam Community Health Center in 2020

Occupation	Frequency	Percentage
Does not work	47	78.3
Work	13	21.7

Table 4. Distribution of the number of children at Batu Anam Community Health Center in 2021

Number of children	Frequency	Percentage
1-2	33	55.0
3-5	27	45.0

Table 5. Distribution of knowledge of mothers at Batu Anam Health Center in 2021

Knowledge	Frequency	Percentage
Score less than 50%	37	61.7
Score more than 50%	23	38.3

Table 6. Distribution of maternal delivery assistance at Batu Anam Health Center in 2021

Childbirth helper	Frequency	Percentage
Non health workers	38	63.3
Health workers	22	36.7

Table 7. Distribution of place of delivery at the Batu Anam Health Center in 2021

Place of delivery	Frequency	Percentage
Non health facilities	45	75.0
Health facilities	15	25.0

Table 8. Distribution of family support at Batu Anam Health Center in 2021

Family support	Frequency	Percentage
No family support	44	73.3
Family support	16	26.7

Hypothesis Testing

Table 9. Relationship between education and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Education	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
Elementary/junior/high school	29	76.3	9	23.7	38	100	0.000	3.887-54.088
Diploma/Bachelor degree	4	18.2	18	81.8	22	100		

Based on table 9, p-value of Chi-Square test was 0.000 (there was relationship between education and Hb0 immunization in infants).

Table 10. Relationship between occupation and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Occupation	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
Does not work	30	63.8	17	36.2	47	100	0.012	1.421-24.355
Work	3	23.1	10	76.9	13	100		

Based on table 10, p-value of Chi-Square test was 0.012 (there was relationship between occupation and Hb0 immunization in infants).

Table 11. Relationship between number of children and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Number of children	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
1-2	26	78.8	7	21.2	33	100	0.000	3.200-35.195
3-5	7	25.9	20	74.1	27	100		

Based on table 11, p-value of Chi-Square test was 0.000 (there was relationship between number of children and Hb0 immunization in infants).

Table 12. Relationship between knowledge and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Knowledge	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
Score less than 50%	29	78.4	8	21.6	37	100	0.000	4.543- 65.259
Score more than 50%	4	17.4	19	82.6	23	100		

Based on table 12, p-value of Chi-Square test was 0.000 (there was relationship between knowledge and Hb0 immunization in infants).

Table 13. Relationship between childbirth helper and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Childbirth helper	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
Non health workers	29	76.3	9	23.7	38	100	0.000	3.887-54.088
Health workers	4	18.2	18	81.8	22	100		

Based on table 13, p-value of Chi-Square test was 0.000 (there was relationship between childbirth helper and Hb0 immunization in infants).

Table 14. Relationship between place of delivery and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Place of delivery	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
Non health facility	30	66.7	15	33.3	45	100	0.002	1.955-32.729
Health facility	3	20.0	12	80.0	15	100		

Based on table 13, p-value of Chi-Square test was 0.002 (there was relationship between place of delivery and Hb0 immunization in infants).

Table 15. Relationship between family support and giving Hb0 immunization to infants at Batu Anam Health Center in 2021

Family support	Giving Hb immunization 0				Total		p-value	OR
	No Hb0		Hb0					
	f	%	f	%	n	%		
No family support	30	68.2	14	31.8	44	100	0.001	2.275-37.903
Family support	3	18.8	13	81.3	16	100		

Based on table 13, p-value of Chi-Square test was 0.001 (there was relationship between family support and Hb0 immunization in infants).

DISCUSSION

Based on the above research results, there is relationship between education and Hb0 immunization in infants. This study was in accordance with research which concludes that there was a relationship between education and Hb0 immunization in infants [12]. People who are better educated tend to be better knowledgeable than those with limited education [13]. With education we can get knowledge from anywhere. Education was a human demand to act and fill a life that can be used to obtain information so as to improve the quality of life and broader knowledge so that it can be interpreted that education affects knowledge [14].

The results of this study were in line with the research conducted showing a relationship between maternal occupation and provision of Hb0 immunization to infants [15]. Work was an obligation that must be done, especially to live the life of the family. This research is in line with the research conducted [16]. Work is generally a time consuming activity. Working for mothers will have an impact on family life and the time for caring for children will be reduced, so that mothers who have to work outside the home have less time to participate in immunization, perhaps even less time at all. Meanwhile, it was possible for housewives to have time to bring their children with immunizations. The role of mothers who work without working greatly affects family care.

Based on the research results, there is relationship between the number of children and the provision of Hb0 immunization to infants. This study was in accordance with research which concludes that there was a relationship between the number of children and the provision of Hb0 immunization in infants [17]. According to the theory, there was a tendency for maternal health with low parity to be better than high parity [13].

Knowledge basically consists of facts and theories. It was possible for a person to be able to solve problems both from direct experience and through the experiences of others [18]. According to the author's assumption, the more children born, the better the mother's experience.

Based on the above research results, there is relationship between knowledge and giving Hb0 immunization to infants. This study was in accordance with research which concludes that there was a relationship between knowledge and giving Hb0 immunization to infants [19]. The theory says that if someone has good knowledge, the information conveyed will be clearer and easier for the recipient of the information to accept, but if the knowledge was lacking it will result in less information [20]. This is in line with the opinion that knowledge was an important factor that can influence a person's attitude and behavior. The lower a person's level of knowledge about something, the less good the attitude shown towards that something [18].

Based on the research results, there is relationship between birth attendants and the provision of Hb0 immunization to infants. This study was in accordance with the research of Ismail et al. However, it was different from Rois, who stated that there was no relationship between birth attendants and immunization. In Rois' research, the expected output is the completeness of immunization until the child was one year old, regardless of the accuracy of the age of immunization. This causes even though at birth the child had contact with health workers, but at the next stages of immunization, this contact may be cut off for various reasons. In contrast to this study, the expected output was the timeliness of immunization, namely immediately after birth or around neonatal visits. If the birth attendant is a health worker, the child can get HB immunization on time, namely 0-7 days at the time of first contact with the health worker or on the day of his birth.

Based on the research results, there is a relationship between the birth attendance center and the provision of Hb0 immunization for infants. According to research, health behavior was influenced by the availability of health facilities that can be used by the community [21]. The results of this study were in line with the research which showed a significant relationship between the place of delivery assistance and the provision of Hb0 immunization to infants [22].

Based on the research results, there is relationship between family support and Hb0 immunization for infants. Encouragement and suggestions from family or closest people to achieve higher health potential will have a major effect on the desire and motivation to get health services [9]. This study was in line with the results of the study which stated that mothers who received family support would behave in giving Hb0 immunization to their babies compared to mothers who did not receive support from their families [23]. It can be concluded that family support is very important in motivating, delivering, reminding and supporting toddlers' mothers to come to the toddler posyandu.

CONCLUSION

Based on the results and discussion, it could be concluded that there was a relationship between education, work, number of children, knowledge, helpers. delivery, delivery assistance and family support for Hb0 immunization in infants. Therefore, it is hoped that this research can become input for health workers to improve the quality of health services and education as well as information about Hb0 immunization in infants by providing counseling.

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