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FACTORS RELATED TO COMPLETNESS BASIC IMMUNIZATION OF CHILD 12-23 MONTHS AT PULAU TELO PUBLIC HEALTH CENTER SUB-DISTRICT OF SELAT KAPUAS DISTRICT IN 2019

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ABSTRACT

Completeness basic immunization is an effort that aims to reduce morbidity and mortality of children with improving immunity to the child at an early stage by providing a useful vaccine to prevent diseases that can be prevented through immunization. This study aims to analyze the factors associated with the completion of basic immunization in children aged 12-23 months in Pulau Telo Public Health Center, Selat Sub-District, Kapuas District in 2019. This research method is a cross-sectional study. The sample in this study was 106 mothers who have children aged 12-23 months. The sampling technique uses proportional random sampling technique with the proportional stratified random sampling formula. The independent variable is the mother's education level, mother's occupational status, family income, number of children in the family, affordability of health facilities, religious and cultural facilities and completeness of basic immunization for children aged 12-23 months as the dependent variable. Statistical analysis using the chi-square test showed p-value of mother's education level (p=0.828), mother's employment status (p=0.701), family income (p=0.384), religion (p=0.281), number of children in the family (p=0.031; Exp.B=0.396), affordability of health facilities (p=0.013; Exp.B=2.649), and culture (p=0.044; Exp.B=2.617) on the completeness of basic immunization for children aged 12-23 months. There was no relationship between the level of maternal education, maternal employment status, family income, and religion with complete basic immunization of children aged 12-23 months and there was relationship between the number of children in the family, the affordability of health facilities, and culture with complete basic immunization of children age 12-23 months in Pulau Telo Public Health Center Selat Sub-District Kapuas District 2019.

The first page should be used only for Title/ Keyword/ Abstract section. The main paper will start from second page.

Introduction

According to the Regulation of the Minister of Health of the Republic of Indonesia No. 12 of 2017 that in order to realize the highest degree of public health an effort is needed to prevent the occurrence of a disease through immunization. Basic immunization is one of the programs made by the government to establish or increase children's immunity so that they can avoid a disease so that if one day they get the disease that can be avoided by immunization they will not get sick or only experience mild illness.

Basic immunization is very important given as a baby (aged 0-11 months) to provide immunity from diseases that can be prevented by immunization (PD3I). Babies must receive complete basic immunization consisting of BCG 1 time, DPT 3 times, hepatitis B 3 times, polio 4 times, and measles once (Central Kalimantan Health Office, 2018). The complete coverage of immunization from Riskesdas (2018) in Indonesia is 57.9% getting complete immunization, 32.9% incomplete immunization, and 9.2% never having been immunized.

The achievement of basic immunization indicators in Central Kalimantan Province in 2017 was 86.1%. Greater than the achievements in 2016 by 75%. However, this figure has not met the set target of 90%. The lowest complete immunization indicator achievement in Kapuas Regency is the lowest in Central Kalimantan Province with a percentage of 59% (Central Kalimantan Health Office, 2018). Based on data obtained from the Kapuas District Health Office, the Immunization in Kapuas District in 2016 and 2017 has decreased. Viewed in the Selat Subdistrict, of the four public health center in the Seluas Subdistrict, Kapuas District, Pulau Telo Public Health Center is the health center that has the lowest complete basic immunization coverage with a percentage of 57.4% (DHO Kapuas Regency, 2018).

According to Notoatmojo (2007) factors that can influence health behaviors that can be in the form of basic immunization of children are determined by several factors namely the level of maternal education, mother's occupation, family income, number of children and affordability of health facilities. Education level data shows that in 2017, 71.74% of women in the Selat Subdistrict of Kapuas District had low levels of education, namely not having graduated from elementary school, graduated from elementary school and junior high school. Whereas for tertiary education, there are only 28.86% of high school, vocational and university graduates (BPS, 2019). In the Selat Subdistrict, Kapuas District, women still dominate household care activities, namely 90% of the entire working age population (BPS Selat District, 2019). Individual income based on education level shows that the net income in a month of individuals who have graduated from university is higher compared to other levels of education, which is IDR. 3,151,000 and the lowest with no schooling or completing elementary school is Rp. 466,000 (BPS , 2017). Total Fertility Rate (TFR) in Central Kalimantan Province is 2.8 which is greater than the national figure of 2.6. This shows that each family has 2-3 children. Immunization services at Pulau Telo Public Health Center in Selat Sub-District have 13 posyandu that facilitate childhood immunization (Pulau Telo PHC, 2019).

It was added by Sturm, et. al. (2005) where there is a conceptual model of parental decision making to provide immunization to their children, namely religion and culture. BPS data on the Selat Subdistrict (2019) shows that the Selat Subdistrict has the largest muslim majority with 49,510 inhabitants. Research conducted by Triana (2016) states that respondent with sociocultural or such beliefs tend to have a negative attitude towards immunization, so many children who do not get the complete basic immunization. Thus, the influence of culture also greatly influences the decision of parents to provide immunizations to their children in full.

Method

This study uses quantitative research methods using analytic observational research designs through a cross sectional approach. This research was conducted by observing, measuring and analyzing and finding the relationship between independent variables (mother's education level, maternal employment status, number of children in the family, family income, affordability of health facilities, religion, and culture) with the dependent variable, namely basic immunization completeness.

This study was conducted in the working area of Pulau Telo Public Health Center because according to data from the Kapuas Health Office, PHC had the lowest coverage of basic immunization in the Kapuas District area in accordance with the Kapuas District Health Profile data for 2017. This study was conducted on April 15 -7 June 2019.

The population in this study were mothers who had children 12-23 months in the working area of Pulau Telo Public Health Center, totaling 477 people (Pulau Telo PHC, 2019). The sample of this study is mothers who have inclusion criteria, namely mothers who have children aged 12-23 months and have a card to health (KMS) or a book of maternal and child health (MCH). The number of samples needed to become respondents in this study were 106 people.

The research instrument used in this study was a questionnaire divided into presdiposition factor questionnaire, supporting factor questionnaire, and socio-cultural factor questionnaire. The questionnaire was tested for validity and reliability before being used as a research instrument. The validity and reliability test of the questionnaire was conducted on mothers outside the study location, namely in the area of Barimba Public Health Center with a total of 30 respondents. Data analysis in this study used univariate analysis in the form of looking at the frequency distribution of each variable, bivariate analysis using the Chi-Square test, and multivariate test using multiple logistic regression analysis.

Result

Table 1. Distribution and Frequency Completeness Basic Immunization, Level Education of Mother, Employment Status of Mother, Number of Children in the Family, Income Families, Affordability of Health Care Facilities, Religion and Culture at the Pulau Telo Health Center Selat Sub-District Kapuas District 2019

Parameter	Frequency	Percentage (%)
Completeness of Basic Immunizations		
Complete (if the child has received 1x BCG immunization, DPT 3x, Polio 4x, HB 3x, Measles 1x)	74	69.8%
Incomplete (if the child has not received one of the BCG immunization 1x, DPT 3x, Polio 4x, HB 3x, Measles 1x)	32	30.2%
Mother's Education Level		
High (Graduated from high school or university)	78	73.6%
Low (Not at school, elementary school, junior high school)	28	26.4%
Mother's employment status		
Working (civil servants/military/police, private employees, entrepreneurs, farmers, fishermen, and laborers)	50	47.2%
Not Working (currently looking for work, student, housewife)	56	52.8%
Number of Children in the Family		
1 child	50	47.2%
> 2 children	56	52.8%
Family Income		
High if >IDR. 2,471,250	43	40.6%
Low if <IDR. 2,471,250	63	59.4%
Health Facilities Affordability		
Easy	59	55.7%
Hard	47	44.3%
Religion		
Agree	74	69.8%
Disagree	32	30.2%
Culture		
Agree	77	72.6%
Disagree	29	27.4%

Table 2. Bivariate Analysis Relationship of Level Education of Mother, Employment Status of Mother, Number of Children in the Family, Income Families, Affordability of Health Care Facilities, Religion and Culture with Completness of Basic Immunization for Children Aged 12-23 Months at Pulau Telo Public Health Center, Selat Sub-District, Kapuas District in 2019

Variable	Completeness of Basic Immunizations				Total		*Chi Square*
	Complete		Not Complete				
	N	%	n	%	N	%	p-value
Mother's Education Level							
High	54	69.2	24	30.8	78	100	0.828
Low	20	71.4	8	28.6	28	100	
Mother's employment status							
Work	34	68	16	32	50	100	0.710
Not work	40	71.4	16	28.6	56	100	
Number of Children in the Family							
1 child	40	80	10	20	50	100	0.031
>2 children	34	60.7	22	39.3	56	100	
Family Income							
High	28	65.1	15	34.9	43	100	0.384
Low	46	73	17	27	63	100	
Health Facilities Affordability							
Easy	47	79.7	12	20.3	59	100	0.013
Hard	27	57.4	20	42.6	47	100	
Religion							
Agree	54	73	20	27	74	100	0.281
Disagree	20	62.5	12	37.5	32	100	
Culture							
Agree	58	75.3	19	24.7	77	100	0.044
Disagree	16	55.2	13	44.8	29	100	

Table 3. The Most Dominant Relationship Between Independent Variables and Dependent Variables

Variable	Sig.	Exp (B)	95% CI	
			Lower	Upper
Number of Children in the Family	0.045	0.396	0.160	0.978
Health Facilities Affordability	0.033	2.649	1.082	6.486
Culture	0.046	2.617	1.017	6.736

Discussion

The Relationship between Mother's Education Level and Completeness of Basic Immunization for Children Aged 12-23 Months

The results showed that there was no relationship between maternal education level and the completeness of basic immunization for children aged 12-23 months. The results showed that the level of education of mothers both high and low had largely fully immunized their children. This is in line with research conducted by Triana (2016), Prihanti, et.al (2016), Mugada et.al (2017), and Riza, et.al (2018) which states that there was no significant relationship between maternal education with basic immunization completeness. The level of maternal education is important in determining maternal health behavior, especially in terms of immunization. The higher the level of maternal education, the higher the awareness of health behavior that allows children to be fully immunized. However, the results of the above study indicate that the level of education does not determine the completeness of a child's immunization. According to Riza, et. al (2018) if it is examined again why the level of education does not affect the completeness of immunization, this is also related to the level of knowledge of the mother because of the many health promotions carried out by the health centers and cadres in reducing infant/toddler mortality rates.

The Relationship between Mother's Employment Status and Completeness of Basic Immunization for Children Aged 12-23 Months

The results showed that there was no relationship between the mother's employment status with complete basic immunization of children aged 12-23 months. The results showed that the status of working and non-working mothers had fully immunized their children. The status of working mothers can still fully immunize their children because mothers realize the importance of basic immunization in full so that mothers will take the time from their work to go to the nearest health facility and fully immunize their children. This is also influenced by where mothers who work have a high level of education where knowledge about possessed influences their health behavior so that they decide to fully immunize children. However, there are still working mothers who do not fully immunize their children this is because most mothers pay more attention to their work so it is reasonable to not have time to go to health facilities and immunize their children.

This is in line with research from Hudhah et.al (2017), Harmasdiyani (2015), Tanjung et.al (2017), and Triana et.al which shows that there was no relationship between maternal employment status with basic immunization completeness. According to the Ministry of Health of the Republic of Indonesia (2000) states that most mothers who do not immunize their children on the grounds are busy with their work. Most mothers who work outside the home pay less attention to the condition of their children because mothers get a new burden besides taking care of their children. So the mother can not follow the development of their children including the needs of their children to get immunizations.

The Relationship of the Number of Children in the Family with the Completeness of Basic Immunizations for Children Aged 12-23 Months

The results showed that mothers who had more than 2 children in the family did not fully immunize their children as many as 22 mothers (39.3%) and mothers who had 1 child more fully immunized their children as much as 40 mothers (80%), with prevalence results of 2.588 which means the number of children in the family is a risk factor for completeness of basic immunization in children where it means mothers who have more than 2 children 2.5 times have the risk of not getting complete basic immunization in children aged 12-23 months. This is because, the number of children more than 1 child makes the mother does not have time to go to health facilities because of the many tasks in caring for children and homes so that the time that should be used to go to health facilities is better used for working at home.

The results of this study are in line with research from Nainggolan, et. al (2017) with a p-value of 0.001 (<0.05) which means that there was a relationship between the number of children in the family and the completeness of basic immunization in children. The number of children can affect the willingness of mothers to take the time to leave the house to the nearest health facility. Mothers who have many children will more to take care of home and family members, so the time provided for the mother to come to the place of immunization service becomes much. This is in line with research conducted by Russo et.al (2015) which states that the number of children in a family of more than 1 child is related to the reduction in maternal attention in fully immunizing their children due to increased duties in caring for children and households.

Mothers who have 1 child have higher completeness of basic immunization due to the lack of mother's experience in caring for children's health so that they make the decision to immunize their children to avoid the

occurrence of an illness. This is in line with research conducted by Prayogo et.al (2009) which states that the first child gets better immunization completeness when compared with the basic immunization completeness of children not first order. This is because parents pay more attention to the child's health because it is caused by lack of experience so choose to immunize their children rather than take the risk of fear of an illness.

The Relationship of Family Income with Basic Immunization for Children Aged 12-23 Months

Based on the results of this study, there was no relationship between family income and the completeness of basic immunization for children aged 12-23 months. This shows that family income cannot be a benchmark for completeness of the child's basic immunization. Even though your family's income is low, you can still immunize your child to a health facility because immunization services at a health facility are free of charge. This is in line with research conducted by Rahmawati, et. al (2014), Suryawati, et. al (2016), Prihanti, et. al (2016), and Harmasdiyani (201 5) which states that there was no relationship between family income and the completeness of children's basic immunizations. The local government district/city is responsible for preparing the operational costs for the implementation of immunization services required in the form of transport and accommodation officer, consumables, community mobilization, as well as maintenance and repair of vaccine chain equipment. It was also mentioned by the BPJS health insurance system that the type of vaccine provided by the government was BCG, polio, measles, DPT-Hib vaccine, while HB0 was included in the newborn package (BPJS, 2014).

The Relationship of Health Facilities Affordability with Completeness of Basic Immunization for Children Aged 12-23 Months

The affordability of health facilities is one of the determinants of the completeness of children's basic immunization. The results showed a p-value of 0.013 and a PR of 2.901 which means that the affordability of health facilities is a risk factor for completeness of basic immunization in children, which means that mothers who have hard health care affordability are 2.9 times have the risk of not getting complete basic immunization in children aged 12-23 months. The results showed that the longer the distance traveled to immunize the more incomplete immunizations in children because mothers whose homes are too far from the immunization service think to come to the service repeatedly according to the schedule set by the health worker.

The results of this study are in line with research conducted by Suryawati, et. al (2016) which states that there was a relationship between the affordability of health facilities and the completeness of basic immunization for children. In the study mentioned that there is a relationship between the distance to the public health center with basic immunization completeness with a p-value of 0.000 (<0.05) and there was a relationship of transportation to public health center with basic immunization completeness with a p-value of 0.005 (<0.05). According to Smith, et.al (2011) perceived obstacles to health facilities to immunize their children due to the distance to the health facility, the time to wait at the health facility, their child's health after being immunized, the convenience of immunization, inconsistent schedule, transportation, costs incurred to go to health facilities, the number of vaccines to be injected, the ignorance of the vaccine, the effectiveness of vaccines given, side effects of vaccines, and poor information about immunization.

This is in line with the results of research conducted by Li Bunelo, et. al (2018) which states that there was a relationship between the distance of health services with the completeness of basic immunization of children with a p-value of 0.002 (<0.05). The research states that some mothers think that instead of spending money to the immunization place, the money is better used for daily needs, and vice versa to go to the place on foot according to them will spend time, it is better if the time is used for other work for example, taking care of homework.

The Relationship of Religion to the Completeness of Basic Immunization Children Aged 12-23 Months

Based on the results of this study it was found that most of the respondents did not agree that the side effects of immunization (fever, etc.) were very dangerous to health and the majority of respondents did not agree that immunization is an act that includes something foreign (vaccine immunization) in the body and then causes a reaction the negative one is called self-harming (self-harming) so that there is no relationship between Mother's attitude based on religion on the completeness of basic immunization in children . This is in line with research conducted by Sulaiman (2014) which states that immunization functions as a prevention and halal mechanism and needs to be carried out in Islam according to the teachings of the Qur'an and Hadith. One of the traditions which becomes the basic rule is "Do not harm yourself or others", which according to sharia means one must avoid all that can cause damage to oneself or others. This includes the types of diseases that can be prevented by immunization to avoid children suffering from diseases that can endanger children and others.

There are still mothers who behave not agree to fully immunize their children due to the belief that the pro-

vision of immunization does not form immunity in children. This is because there are many misconceptions about immunization. According to Hidayat (2008), there is a growing understanding in the community that one of the elements of making vaccines comes from pigs, so mothers have a negative value on immunization and mothers will refuse their children to be immunized because in Islamic teachings it is not allowed.

The Relationship of Culture with Completeness of Basic Immunizations for Children Aged 12-23 Months

The results showed that the relationship between culture with complete basic immunization in children 12-23 months with p-value=0.044, and PR of 2.480 means that culture is a risk factor in children complete basic immunization, which means the mother who does not support the angle 2.4 cultural views have the risk of not getting complete basic immunization in children aged 12-23 months.

Based on the results of this study, the majority of respondents agreed that there are myths of side effects from immunization that make mothers hesitate in giving immunizations to children so that there is a relationship between mother's attitude based on culture with the completeness of basic immunization in children. This is in line with research from Sulistiyani, et. al (2017) states that the experience expressed is a negative experience that is included in the myth of immunization. Research subjects stated that the child remained healthy even if not immunized, after the child was immunized the child became sick, hot, exposed to measles, paralyzed, mentally disabled, autistic, and even died.

The results of research conducted by Syiroj, et. al (2019) states that the reason parents do not immunize their children is because there is still a belief in the existence of natural immunity in a child's body, confidence in using alternative medicines and misinformation obtained about immunization. According to the results of research conducted by Rabinowitz, et. al (2016) shows that liberals are significantly more likely to support immunization and consider it important to do so based on existing facts. However, conservatives and moderates still believe the myth of immunization so that conservative and moderate parents are less likely to fully immunize their children before the age of 2 years.

Conclusion

This study shows that there was no relationship between mother’s education level, mother's employment status, family income, and religion with completeness of basic immunization of children aged 12-23 months and there was a relationship between the number of children in the family, affordability of health facilities, and culture with completeness of basic immunization children aged 12-23 months at Pulau Telo Public Health Center in Selat Sub-District, Kapuas District in 2019. In this study the affordability of health facilities has the strongest relationship with the completeness of basic immunization for children aged 12-23 months at Pulau Telo Public Health Center, Selat Sub-District, Kapuas District in 2019.

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