MOTHER'S KNOWLEDGE AND PARTICIPATION IN MEASLES RUBELLA (MR) IMMUNIZATION FOR TODDLERS

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A B S T R A C T

Measles rubella (MR) immunization is to provide immunity against measles and rubella. To reduce measles and rubella, the government carried out the MR immunization campaign. The target of MR immunization achievement is at 95%; however, in West Sumatra Province it is still at 38,98% and Padang City is at 47%. The purpose of this study was to determine the determinant factor as participation in MR immunization for toddlers. This analytic survey used a cross sectional study design. The population was mothers who had toddlers with a sample of 86 respondents taken by proportional random sampling technique. The instrument used was a questionnaire. Data processing was analyzed by bivariate and multivariate using chi square test and logistic regression. The results of the bivariate analysis showed factors related to MR immunization, namely knowledge ($p = 0.003$), level of education ($p = 0.006$), and attitude ($p = 0.006$), while employment ($p = 0,222$) and number of children ($p = 0,160$) were not related to MR immunization and the most influential variable was the level of knowledge with p value 0.009 and OR 0.28. It can be concluded that knowledge, education and attitude are related to maternal participation in MR immunization with the most influential variable being knowledge. Therefore, there needs to be innovation in providing counseling to mothers and families about the importance of MR immunization.

INTRODUCTION

Indonesia is one of the countries with the most cases of measles and rubella in the world. In 2014 to July 2018, there were 57,056 suspected cases of measles and rubella reported, and in 2015-2016, there were 226 cases of Congenital Rubella Syndrome (CRS) in newborns. To reduce the incidence of measles and rubella, starting in 2017 the government has added the MR vaccine as routine immunization, in accordance with the agreement of the WHO countries (Dirjen P2P, 2018).

Mothers play an important role in giving immunizations to children. Many factors that greatly influence mothers to participate in immunization are, among others, mother's knowledge level, attitudes, beliefs, values, traditions, and others such as education level, family income, number of children in the family and family support (Soekidjo Notoatmodjo, 2007).

Mother's knowledge and education will influence their attitude in making decisions to provide additional immunizations such as MR to their children. Therefore, the number of children and free time owned by working mothers also determines the participation of mothers in immunizing their children (Merlinta, 2017).

Based on the results of the preliminary observation at one of the Health Center in Padang City, out of 10 mothers who had toddlers, only 3 of the mothers participated in the MR immunization. This then became the background for research on the determinant factors of mother's participation in providing MR immunization to toddlers.

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METHOD

This was an analytic survey study with a cross sectional design. It was conducted in the working area of a community health center. The population in this study were 833 mothers who had toddlers aged 12-59 months at 16 *Posyandu* (health post either for toddlers). Sampling was proportional random sampling with a total sample of 86 people. The data source used was primary data obtained through a structured questionnaire to assess knowledge, education, attitudes, occupation and the number of children. Bivariate analysis employed the Chi-Square test with a p value <0.05, and then the variables in the bivariate analysis which had a p value <0.25 would be followed by multivariate analysis with logistic regression tests.

RESULT AND DISCUSSION

Based on table 1 below, it can be seen that, of the 47 mothers with low knowledge, 72.3% did not participate in the MR immunization. The results of statistical tests with Chi-Square obtained p value = 0.003 (p <0.05); of 10 mothers with basic education, 80% of them did not participate in MR immunization; of 57 mothers with secondary education, 63.2% did not participate in MR immunization. Of more than the 19 respondents with advanced education, only 26.3% of mothers did not participate in giving MR immunization to toddlers and obtained p value = 0.006.

Table 1. Relationship between Mother Characteristics and Participation in MR Immunization

Characteristics	Participation				p value
	No		Yes		
	f	%	f	%	
Level of knowledge					
Bad (< mean)	34	72.3	13	27.7	0.003
Good (≥ mean)	15	38.5	24	61.5	
Level of education					
Basic	8	80	2	20	
High School	36	63.2	21	36.8	0.006
Univ	5	26.3	14	73.7	
Attitude					
Negative	33	71.7	13	28.3	0.06
Positive	16	40	24	60	
Employment					
No	8	42.1	11	57.9	0.222
Yes	41	61.2	26	38.8	
Number of children					
At risk	14	73.7	5	26.3	0.160
Not at risk	35	52.5	32	47.8	

Based on the research results, it shows that there was a relationship between the level of mother's knowledge and participation in giving MR immunization to toddlers, with a p value of 0.003 (p value <0.05). There was a relationship between the mother's level of knowledge and the participation of the mother in giving immunization for toddlers in accordance with the theory that someone will act based on knowledge. This is because knowledge is a very important domain for the formation of one's actions.

The results showed that there was a relationship between the level of maternal education and the participation of mothers in providing MR immunization with a p value of 0.006 (p value <0.05). This was because mothers who have advanced levels of education are thought to be easier to receive and understand information about immunization.

Based on the results of the analysis with the Chi Square statistical test, the results obtained was a

p value = 0.006 (p <0.05), so it can be concluded that there was a significant relationship between maternal attitudes and participation in giving MR immunization to toddlers. Parents' attitudes have a relationship with immunization. Differences in the attitudes of mothers have a significant relationship with the behavior of giving immunization: mothers who have negative attitudes have a greater chance of having negative behaviors including immunization.

The results showed the Chi Square test with a p value of 0.222 (p> 0.05), so there was no significant relationship between maternal occupation and participation in MR immunization. According to the theory of Pandji Anoraga, working mothers will have less opportunity and time to come to immunization services so that children will not get immunizations. The researcher assumed that the mismatch between the results of this study and the theory might be due to the fact that most of the working mothers were private workers, so that the mothers could spend time on the Posyandu schedule so that they could still provide immunizations to their children.

The results showed the Chi Square statistical test with a p value of 0.160 (p> 0.05), so it can be concluded that there was no relationship between the number of children and participation in giving MR immunization to toddlers. Lienda's 2009 research in Rica Novi stated that The number of living children ≤ 2 people had 1.19 times their children to be fully immunized compared to those who had more than 2 living children. The greater the number of children, the more likely it is that the immunization is inaccurate to the child.

Table 2 Preliminary Modeling

No.	Variable	p value
1.	Education	0002
2.	Knowledge	0.002
3.	Attitude	0.003
4.	Employment	0.138
5.	Number of children	0.096

Table 3 Final Modeling

Step 1

	Variable	Coefficient	p	OR (CI 95%)
Step 1	Level of education		0.068	
	Education (1)	-2.308	0.047	0.10 (0.01-0.97)
	Education (2)	-1.736	0.029	0.18(0.03-0.83)
	Level of knowledge	-1.195	0.027	0.30 (0.10-0.86)
	Attitude	-786	0.132	0.46 (0.16-1.27)
	Employment	964	0.225	2.6 (0.56-12)
	Children	-5.60	0.403	0.57 (0.15-2.1)
	Constanta	1.521	0.015	4.56
Step 2	Level of education		0.050	
	Education (1)	-2.417	0.034	0.09 (0.01-0.8)
	Education (2)	-1.805	0.022	0.16(0.03-0.7)
	Level of knowledge	-1.155	0.032	0.32 (0.11-0.9)
	Attitude	-807	0.121	0.44 (0.16-1.23)
	Employment	857	0.274	2.36 (0.50-10.9)
	Children			
	Constanta	1.541	0.014	4.67
Step 3	Level of education		0.067	
	Education (1)	-1.849	0.063	0.16 (0.02-1.10)
	Education (2)	-1.310	0.034	0.27(0.08-0.9)
	Level of knowledge	-1.018	0.048	0.36 (0.13-0.99)
	Attitude	-826	0.108	0.44 (0.16-1.20)
	Constanta	1.748	0.004	5.74
Step 4	Level of education		0.034	
	Education (1)	-2.030	0.039	0.13 (0.02-0.90)
	Education (2)	-1.459	0.017	0.23(0.07-0.7)
	Level of knowledge	-1.267	0.009	0.28 (0.10-0.73)
	Constanta	1.582	0.008	4.87

Step 2

	Variable	Coefficient	*p*	OR (CI 95%)
Step 1	Level of education		0.067	
	Education(1)	-1849	0.063	0.157
	Education(2)	-1.310	0.034	0.270
	Level of knowledge	-1.018	0.048	0.361
	Attitude	-826	0.108	0.438
	Constanta	1748	0.004	5.742
Step 2	Level of education		0.034	
	Education(1)	-2.030	0.039	0.131
	Education(2)	-1.459	0.017	0.233
	Level of knowledge	-1.267	0.009	0.282
	Constanta	1.582	0.008	4.863

The final result of the multivariate analysis showed that, with the level of knowledge was the highest variable, the value of the B and OR coefficients were -1.267 and 0.282, respectively. This means that the knowledge level variable had an effect of 0.282 times compared to other variables. These results indicated that the level of knowledge was the most dominant variable associated with participation in giving MR immunization to toddlers..

CONCLUSION

The participation of mothers who have toddlers in giving MR immunization is influenced by several factors, including the level of knowledge, education level, and mother's attitude. Mothers who have good knowledge and have an open attitude towards immunization tend to participate in giving MR immunizations to their toddlers. For this reason, *posyandu* cadres and health workers should increase activation in health promotion such as counseling to increase the knowledge of mothers regarding MR immunization.

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