Jurnal Kesehatan Ibu dan Anak
Vol.13, No. 2, November 2019, pp. 79~87
: https://doi.org/10.29238/kia.v13i2.441

ISSN: 2599-3224 (Online)
ISSN: 2302-6014 (Print)

Factors influence parents' actions in providing advance measles immunization

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ARTICLE INFO

Article history:

Received: Feb 4th 2020
Revised : July 13th 2020
Accepted: July 15th 2020

Keyword:

Immunization
Measles
Behavior

ABSTRACT

Measles is a dangerous disease that is highly contagious through respiratory droplets. Measles can cause complications such as pneumococcal disease, diarrhea, and meningitis. Measles immunization is one of the government's efforts to achieve the measles elimination target by 2020. High and even immunization coverage will form herd immunity and break the chain of measles transmission. The purpose of this study was to know the factors that influence parent's actions in providing immunization measles children in primary school. The research was conducted with a case-control design. The number of samples consisted of 104 case groups and 78 control groups of mothers who have primary school children in the area of Banguntapan Public Health Center, Bantul. Data collected with questionnaires analyzed with Chi-Square and multivariate tests. Variables related to the provision of advanced measles immunization are education level (p-value = 0.03), work status (p-value = 0.01), level of knowledge (p-value = 0.01), family support (p-value = 0, 01) and support of health workers (p-value = 0.01) Whereas unrelated variables are attitude (p-value = 0.17) and the reach of health facilities (p-value = 1.00).The variable that most influences the actions of the parent's in giving advanced immunization against measles are family support with OR = 15,458. Related factors are the level of education, work status, level of knowledge, family support, and support of health workers. The most influential factor in the actions of parents in providing continued immunization against measles was family support.

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INTRODUCTION

Measles is also known as *Morbili*. Measles is a highly contagious disease caused by a virus and is transmitted through coughing, sneezing and direct contact. Measles can not be treated, the treatment given to sufferers is only treatment in a supportive form. Symptoms of Measles are high fever, reddish spots on the skin (rash) accompanied by coughing and / or colds and / or red eyes (conjunctivitis). This disease can be dangerous, data from WHO more than 140,000 people died from measles in 2018, most of the deaths related to measles are caused by complications, serious complications that often occur namely blindness, pneumonia, diarrhea and meningitis.(1)

Measles cases in 2017 in Indonesia are estimated about 14,640 cases, and in DIY Province amounted to 2,186.(2) The number of measles cases in Bantul Regency in 2016 amounted to 124 cases and increased in 2017 to 138 cases.(3) The results of the data

ISSN: 2599-3224 (Online), ISSN: 2302-6014 (Print)

obtained indicate the phenomenon of the iceberg because it is suspected that the results in the field are much higher.

The government has made various efforts to achieve the elimination measles target by 2020, by conducting a measles immunization campaign as an additional immunization before being included in routine immunizations. Measles Rubella immunization campaigns are held simultaneously in schools and health service posts and are aimed at children aged 9 months to <15 years.(4) It is known from the data that there is a decrease in measles immunization coverage in 2014 and 2015, with the incidence of measles tends to increase. The percentage of districts that have measles coverage of the first dose> 95% tends to decrease, from 45% in 2013 to 28% in 2015.(5)

The target coverage of measles immunization for 1st grade elementary school children in Bantul Regency is currently 98%. In 2018 in the Banguntapan Community Health Center, this target has not yet been achieved, which unfortunate is considering the measles case in Bantul District is quite high. Surveillance data for the past five years shows that 70% of measles cases occur in the age group <15 years.

Immunization is an effort to actively raise / increase one's immunity against a disease, so that if one day a person is exposed to the disease it will not be sick or only experience mild illness. Advance immunization is a repeat basic immunization to maintain the level of immunity and to extend the protection period of children who have received basic immunization. Under two years old children, elementary school children; and women of childbearing age. Advanced immunization for elementary school-age children consists of immunization against measles, tetanus and diphtheria. Advance immunization given to elementary school-age children is given in the month of school children immunization (BIAS) which is integrated with school health efforts.(6)

High and even immunization coverage will form herd immunity and break the chain of measles transmission. With the enactment of PMK No. 12 of 2017 concerning the Implementation of Immunizations, the provision of immunizations to BIAS is carried out in grades 1, 2 and 5 of elementary school. In 2017-2018, the provision of immunizations to BIAS will only be conducted in grades 1 and 2, and grade 5 in elementary schools will begin in 2019. Providing immunizations at school age is an effective strategy to achieve high coverage and prevent outbreaks in schools- school.(4)

According to data from the Indonesian Health Profile the current age structure of the Indonesian population shows the structure of the young population. This can be seen from the high number of young population (0-14 years).(2) Current long-term development focuses on the quality of life of prime human resources, so that young people rely on care and protection against diseases that can inhibit their growth and development into high-quality adults to continue long-term national development, one of which is protection from disease measles.

In previous studies it was known that the measles immunization interest measles that is 78.1% this is not comparable to the benefits that exist as all parents should immunize their children. In another study it was formulated that there was a relationship between knowledge, perceived severity, perceived usefulness, and perceived obstacles with measless immunization, while respondent characteristics, knowledge, perceived vulnerability, family support, and environmental support were not related to immunization acceptance.(7)(8)(9)(10)(11)(12) This study aims to determine the relationship of factors in the level of education, work status, level of knowledge, attitudes of parents, affordability of health facilities, family support, support of health workers with the act of providing advanced immunization against measles.

METHOD

The research was conducted with a case control design.(13)(14) The population is all mothers who have elementary school children in the working area of the Banguntapan

Public Health Center (PHC). The sample size in this study was 104 with a comparison of cases and control groups 1: 3, 26 cases and 78 controls. The sampling technique used was a stratified random sampling technique. Data collected with questionnaires that have been tested for validity and reliability, analized with Chi Square and multivariate tests. This research was conducted in June to August 2019. In this study, the research ethics was fulfilled with the ethics approval from the Ethics Commission of the Health Ministry of Health of Yogyakarta with number: No.e-KEPK / Polkesyo / 0035 / V / 2019 dated May 13, 2019

RESULTS

Characteristics of research subjects

The frequency distribution of variables in this study includes the level of education, employment status, level of knowledge, affordability of health facilities, attitudes of parents, family support, and support of health workers. The following is a table of research subject characteristics:

Table 1. Frequency distribution subject characteristics

Variabel	Frekuensi (f)	Persentase (%)
Level of education		
Low	33	31,7
High	71	68,3
Job status		
worker	44	42,3
not a worker	60	57,7
Level of knowledge		
Less	17	16,3
Good	87	83,7
Parent's Attitude		
Negatif	44	42,3
Positif	60	57,7
Health facility		
Not affordable	8	7,7
Affordable	96	92,3
Family suport		
Negatif	27	26
Positif	77	74
Health worker's suport		
Negatif	46	44,2
Positif	58	55,8
Total (n)	104	100

From table 1 it is known that the characteristics of the research subjects are the majority of subjects with a high education level of 68.3%, not working 57.7%, good knowledge level 83.7%, positive parental attitudes 57.7%, affordability of affordable health facilities 92.3 %, family support 74%, support of health workers 55.8%.

ISSN: 2599-3224 (Online), ISSN: 2302-6014 (Print)

Factors that influence the actions of parents in providing advanced measles immunization

Table 2. Analysis of factors that influence parent's actions in providing advanced measles immunization to elementary school children

Variable		Immunization measure				p
		Yes		Not		
		N	%	n	%	
Level of education	Low	29	37,2	4	15,4	0,03
	High	49	62,8	22	84,6	
Job status	Worker	27	34,6	17	65,4	0,01
	Not a worker	51	65,4	9	34,6	
Level of knowledge	Less	8	10,3	9	34,6	0,01
	Good	70	89,7	17	65,4	
Attitude	Negatif	36	46,2	8	30,8	0,17
	Positif	42	53,8	18	69,2	
Health facility	Not affordable	72	92,3	24	92,3	1,00
	Affordable	6	7,7	2	7,7	
Family suport	Negatif	10	12,8	17	65,4	0,01
	Positif	68	87,2	9	34,6	
Health worker's suport	Negatif	29	37,2	17	65,4	0,01
	Positif	49	62,8	9	34,6	

From table 2, it is known that there is a significant relationship (p <0.05) at the level of education, work status, level of knowledge, family support and support of health workers with the actions of mothers in the provision of advanced measles immunization. While attitudes and affordability of health facilities are known to have no significant relationship with the actions of mothers in providing continued immunization against measles (p> 0.05).

The most influential factor against parent's actions in providing advanced measles immunization

Table 3 Analysis of the most influential factors against parents' actions in provision of advanced measles immunization for elementary school children

Variable	B	Scorep *	Exp(B) (OR)	95% CI for Exp (B)
Early				
Attitude	-,348	0,570	0,706	0,212-2,350
Level of education	-1,304	0,095	0,270	0,058-1,256
Job status	-1,237	0,048	0,290	0,085-0,990
level of knowledge	1,076	0,222	2,934	0,521-16,537
Family support	2,530	0,000	12,548	3,445-45,696
Health worker's support	-,222	0,743	0,801	0,212-3,027
Ending				
Job status	-1,551	0,008	0,212	0,067-0,671
Family support	2,738	0,000	15,458	4,850-49,263

Based on table 3, the results obtained from a multivariate analysis show that family support has the most influence on the actions of mothers in providing continued immunization against measles for their children. Statistical test results obtained an OR value of 15,458 which means that mothers who did not get support from families at risk 15 times did not take further immunization against measles compared to mothers who received positive support from the family.

DISCUSSION

Characteristics of research subjects

Based on table 1, the majority of subjects with the highest level of education are 68.3%. Based on a theoretical study that individuals who have a high level of education tend to be more receptive to information, including information about immunizations provided by health workers.(15) Conversely mothers with low levels of education will have difficulty in receiving information so they do not understand about immunization. It is known that the higher the level of mother's education, the better in receiving information that can increase awareness to carry out immunization and can make the right decision to carry out measles immunization.

Characteristics of research subjects based on work status obtained results most of the subjects did not work that is a number of 57.7%. Then mothers who do not work will have the opportunity of time and attention to bring their children to immunization services, so that it will influence the decision to give immunizations to their children.

Characteristics of research subjects based on the level of knowledge about measles immunization obtained the majority of subjects with a good level of knowledge 83.7%. Knowledge or cognitive is a very important domain in shaping one's actions (over behavior) The higher the level of knowledge, the better the behavior of this behavior in the act of giving immunizations.(7)(15)(16) Characteristics of research subjects based on the affordability of health facilities show the majority results with an affordable distance of 92.3%. One of the factors influencing the achievement of health status, including the status of completeness of basic immunizations, is the affordability of health services by the community.(15)

The characteristics of family support in this study indicate that positive family support is 74% of the total number of study subjects. This family support is psychologically seen as complex. Identify several types of support which include expressions of positive feelings, including showing that someone is needed with a high sense of appreciation, expression of agreement with or notification about the accuracy of one's beliefs and feelings. Mothers who are given support tend to feel that immunization is very important to increase the immunity of their children.(17)

Characteristics of the study based on the support of health workers showed that the majority of subjects received positive support from health workers at 55.8%. Mothers assess the quality of good health services are health services that are empathetic, respectful and responsive to their needs, the services provided must be in accordance with the needs of the community, provided in a friendly manner during a visit. In carrying out their duties, health workers must be in accordance with the quality of service. The behavior of a person or community about health is determined by the knowledge, attitudes and beliefs, traditions and so on of the person or community concerned. The behavior of health workers towards health will also support and strengthen the formation of maternal behavior in immunization actions.(17)(18)

Factors that influence the actions of parents in providing continued immunization against measles.

In table 2 it can be seen that there is a relationship between the level of education with the actions of mothers in the provision of advanced immunization against measles (p = 0.03). 62.8% of mothers who take the act of immunization against measles in their children are high-level educated. Based on the study of educational theory is the process of a person

ISSN: 2599-3224 (Online), ISSN: 2302-6014 (Print)

developing abilities, attitudes, and forms of human behavior in the community in which he lives and social processes, that is, people are exposed to selected and controlled environmental influences especially those coming from school, so that he can obtain or experiencing the development of social abilities, and optimal individual abilities.(17)(9) Behavior can be influenced by knowledge where the ability to understand knowledge can be obtained from formal education. This is in line with the results of research showing that formal education is related to the act of giving measles immunization.(19)(20)

In table 2 it is known that there is a relation between work status and the actions of parents in the administration of continued measles immunization (p = 0.01). Working mothers will reduce the time and attention opportunity to bring their children to immunization services, so that their children will not get immunization services. From the results of the study, it is known that 65.4% of mothers do not work to carry out further immunization against measles to their children. Measles continued immunization is a government program that is implemented in school locations, for certain circumstances sometimes children have not been immunized so parents are encouraged to come to the PHC in the school area. In working mothers, there are often problems related to time because mothers work, so the opportunity to deliver children to be immunized is not there.

From table 2 it can be seen that there is a relation between the level of knowledge and the actions of parents in providing continued immunization against measles (p = 0.01). Knowledge is gained from one's own experience or the experiences of others. Knowledge can be obtained from formal schools or from information from various sources of people who have knowledge about something, that person will apply this knowledge in their daily lives. Like wise with the problem of immunization, parents / mothers with high knowledge about immunization then they will take the action of providing advanced immunization against measles to their children.(21)(22) And vice versa mothers who have low knowledge so they will not know what should be done to their children, especially the problem of immunization. In this study 89.7% of mothers with a good level of knowledge took the action of providing advanced immunization against measles for their children. This is in line with Yosianty's research in 2019 which states that maternal knowledge is related to compliance with measles immunization.(16) Research by Meronika also mentions that the higher the mother's knowledge, the implementation of measles immunization is carried out properly and appropriately.(23)

Based on table 2, there is no relationship between maternal attitudes and measles immunization (p = 0.17). Attitude is a person's internal reaction that is influenced by various factors, namely personal experience, culture, other people who are considered important, religion and emotional factors in individuals who have an important role in the formation of attitudes. The process of occurrence of attitudes due to stimuli such as public knowledge. These stimuli stimulate the public to respond in the form of positive and negative attitudes which will eventually be realized in the form of concrete actions. Someone who already knows the truth about something will also have a positive attitude towards it, as will immunization. However, the results of this study are not in line with the results of Al Rahmad's study which states that attitudes affect measles immunization.(15) This can occur because of the strong influence of other factors, one of which is family support.

Table 2 shows that there is no relationship between the affordability of health facilities and the actions of parents in providing continued immunization against measles (p = 1.00). One of the factors that influence the achievement of health status, including the status of basic immunization completeness, is the availability of health services by the community. The ease of reaching this health service is determined by, among others, the available transportation so that it can reduce the mileage, this will cause the mother's motivation to come to the place of immunization services. This study is not in line with the results of Al Rahmad's study which states that there is an effect of distance of health facilities on measles immunization.(15) In this study the majority of research subjects with affordable health facilities, because all health facilities in Banguntapan are easily accessible

and many health facilities with services immunization so that the facility's affordability variable does not affect the actions of mothers in providing continued measles immunization to their children.

Table 2 shows that there is a relationship between family support and the actions of the mother in providing continued immunization against measles (p = 0.01). Psychological social support is seen as complex. Some types of support include expressions of positive feelings, including showing that someone is needed with a high sense of appreciation, expressions of agreement with or notification about the accuracy of one's beliefs and feelings. An invitation to open up and discuss beliefs and resources is also a form of social support. Besides the facility factor, support from other parties is also needed, for example husband / parents / in-laws. In this study 87.2% of subjects who received positive support from families took action to provide advanced immunization against measles to their children. This is in line with research that states that the lack of support from the family results in no motivation for immunization.(18) The results of Pendit's research (2019) state that there is a significant relationship between family support and immunization by the value of p = 0.005.(24)

Table 2 shows that there is a relationship between the support of health workers and the actions of parents in providing advanced measles immunization (p = 0.05). Health workers for the immunization program are sent from the PHC, usually doctors or midwives, more specifically village midwives. Good quality health services are health services that are empathetic, respectful and responsive to their needs, the services provided must be in accordance with the needs of the community, provided in a friendly manner during a visit. In this study 62.8% of research subjects received support from health workers to take further immunization against measles. This is in line with research by Pendit in 2019 which mentions health worker support related to immunization (p = 0.002).(24)

The factors that most influence the action of parents in providing continued immunization against Measles

Based on table 3, the results obtained from multivariate analysis show that family support is the most influential factor in the actions of mothers in providing advanced immunization against measles. Statistical test results obtained an OR of 15.548, mothers who did not get support from families at risk 15 times did not take measles immunization to their children. This is in line with research that states that there is a significant relationship with immunization.(24) In several studies showing there is a significant relationship between measles immunization status and measles disease incidence, the higher the coverage, the less measles.(25)(26)(27) Events so that it becomes important for measles immunization coverage targets to be met. This situation provides a clue that the success of the measles follow-up immunization program must be carried out with the support of various parties, especially family support, the family referred to here is husband or parents or close relatives of the mother. Family support as the most powerful factor as a form of approval, accuracy of belief to turn attitudes into action in this case providing measles immunization.

CONCLUSION

There is a relationship between education level, work status, level of knowledge, family support and support of health workers with the actions of a mother in providing continued immunization against measles against elementary school children. Family support is the most influential factor for mothers in taking action in providing continued immunization against measles Elementary School children. Need to be researched about increasing knowledge and efforts to increase family support for mothers about the act of giving immunizations.

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