

MEASLES PROFILE AND RISK FACTORS IN PATIENTS WITH MEASLES IN WORK AREA HEALTH CENTER GRIBIG

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Abstract

Measles is an infectious disease caused by a virus and occurred in children, but it can be prevented by immunization. In 2011 at Puskesmas Gribig Malang, measles immunization had 83.6 % coverage which not reached the target that set by the Health Department Malang at 90%. In addition there are 15 cases of measles there. This study aimed to determine parent health-social's profile and also the other factors associated with the incidence of measles in children in the area of Gribig Health Center, Malang. The research design used descriptive exploratory with cross sectional approach. Sampling method used was purposive sampling were divided into groups of cases (n = 15) and control group (n = 15). The independent variables measured were mother's education level, knowledge, attitudes, motivation, and the child's immunization status. The dependent variable is measles incidence. The technique of collecting data through interviews using questionnaires. Processing data using a computer program, and analyzed by using univariate, bivariate, and multivariate. The results of this study found that there were influence between education [$p > \alpha$ (5%)], and knowledge [$p > \alpha$ (5%)] mother of the child's immunization status but not significant and it has significant relationship between attitude [$p < \alpha$ (5%)] and motivation [$p < \alpha$ (5%)] mother of the child immunization status. And the Immunization status [$p < \alpha$ (5%)] also had significant correlation with the incidence of measles.

Keywords : *Level of education; knowledge; attitudes; motivation; status immunization; and incidence of measles*

INTRODUCTION

Measles is a infectious disease that often to infect children and have high incidence in the world. Measles infection is caused by RNA virus from Paramixiviridae family, genus Morbilivirus. It is characterized by fever, coryza, conjunctivitis, cough, and koplik sign. transmission of the diseases can be occurred when a immune system drops and inhales droplets virus from nasopharyngeal patient.¹

The incidence rate of measles is still quite high about 30.000.000 every year. In 2002, it was reported that 777,000 people died because of measles in worldwide. In Asean countries 202.000 people died because of measles and 15 % (30.300) from Indonesia.¹

Measles immunization program in Indonesia started in 1982 and in 1991 Indonesia has achieved Universal Child Immunization (UCI) nationally. In some areas, especially areas with measles

immunization coverage is low or in areas with accumulations of vulnerable groups not covered immunization in several years (3-5 years) frequent outbreaks of measles.²

In 2011 the Health Office Malang set targets measles immunization coverage in each health center in the city of Malang by 90%, but the target has not been achieved by Gribig Health Center only achieve the target of 83.6%, while other health centers have achieved the target with Kedungkandang Health Center with the achievements of measles immunization coverage of 111.38% and Arjowinangun Health Center with the achievements measles immunization coverage of 114.75%.³

In 2011 there were 123 cases of measles in Malang, there are 6 cases of measles in Arjuno Health Center, 41 cases in Rampal Celaket Health Center, 5 cases in Cisadea Health Center, 15 cases in Pandanwangi Health Center, 9 cases in Kendal Kerep Health Center, 13 cases in Kendungkandang Health Center, 15 cases in Gribig Health Center, 5 cases at Arjowinangun Health Center, 5 cases at Ciptomulyo Health Center, 5 cases at the Janti Health Center, 2 cases in Dinoyo Health Center, and 2 cases in Kendalsari Health Center.³

Based on data obtained from Gribig Health Center shows that the area is still prone to contracting measles. This is because of low immunization coverage obtained toddlers and children. But the data did not specify some variables that can be used as a basis for policy made in efforts to prevent the spread of measles.

This study aimed to determine the profile of the social health of older people as well as factors related to the incidence of measles in children in Gribig Health Center. This study aimed to benefit of this research is as an input or recommendation for further research on the factors that influence the immunization status and the incidence of measles and for health centers Gribig in planning prevention strategies and policy making towards the eradication of measles to reduce morbidity and to determine policy in the immunization program has been planned

The pathogen and the disease, Measles virus (genus *Morbillivirus*, family *Paramyxoviridae*) is an enveloped, single-stranded RNA virus that has globally retained its monotypic antigenic structure for decades. The genome encodes 8 proteins, including the haemagglutinin (H) and the fusion (F) proteins. The lifelong immunity that follows infection is attributed to neutralizing antibodies against the H protein. Sequencing of the measles virus genome has so far identified 23 different genotypes that can be used to track transmission.⁴

Towards the end of the incubation period, patients develop prodromal symptoms of high fever, cough, coryza and conjunctivitis. The typical maculopapular rash appears after another 3-4 days, often accompanied by a fever that peaks at 39-40° C. At the onset of rash, bluish-white Koplik's spots, which are pathognomic of measles, are seen in the oral mucosa. Patients normally improve by the third day after rash onset and are fully recovered 7-10 days after onset of disease.⁴

The severity of measles varies widely, depending on a number of host and environmental factors. The risk of developing severe or fatal measles increases for those aged <5 years, living in overcrowded conditions, who are malnourished (especially with vitamin A deficiency), and those with immunological disorders, such as advanced HIV infection. In developing countries, case-fatality rates among young children may reach 5-10%. In industrialized countries, deaths from measles are rare, although severe forms of the disease and even death may occur in previously healthy individuals. Relatively common complications of measles include otitis media, laryngo-tracheobronchitis and pneumonia in 5-10%. In developing countries, persistent diarrhea with protein-losing enteropathy may ensue, particularly in infants. Post-infectious measles encephalitis, a slowly progressing infection of the central nervous system, occurs in about 1/10,000-100,000 cases.⁴

Protective immunity following measles, whereas the presence of circulating, neutralizing antibody against the H antigen is sufficient to prevent infection with measles virus, cell-mediated immunity is required to clear virus once infection has occurred. The long-lasting, possibly lifelong, immunological memory of measles virus following natural infection includes both continued production of measles virus-specific antibodies and the circulation of measles virus-specific CD4+ and CD8+ T lymphocytes. Although the levels of anti-measles-virus antibodies may diminish over time, the ability to rapidly mount secondary humoral and cellular immune responses is important in providing protection from infection. Depending upon the titre of passively acquired maternal

antibodies, infants are usually protected against measles for 6-9 months. A large infectious dose may occasionally overcome the protection afforded by maternal antibodies, and measles has also been observed in neonates whose mothers escaped natural infection and had never been vaccinated against measles.⁴

Measles Vaccine, a number of live, attenuated measles vaccines are available, either as monovalent vaccine or as measles-containing vaccine (MVC) in combination of these. When using the combined measles-rubella vaccine, measles-mumps-rubella-varicella (MMRV) vaccine, the protective immune responses to each individual vaccine antigen as well as vaccine-associated adverse events remain largely unchanged (see below).⁴

Social Characteristics Influencing Behavior Parents, 1). Education. So where the level of education strongly influence how a person to act and find the cause and solution in his life. People who are more educated will usually act more rationally. Therefore people are educated to be more receptive to new ideas. Education also influences patterns of thinking pragmatically and rationally to customs, with higher education people can be easier to accept new ideas or issues.⁵ 2). **Knowledge**,

Knowledge covered in the cognitive domain has 6 levels .a). Know interpreted as considering a material that has been studied previously. Included in the level of knowledge this is the recall something specific of all the materials studied or stimuli that have been received. Therefore, know that this is the lowest level of knowledge. The verb to measure that people know about what they learned, among others mention, describe, define, express and so on. b). Comprehension, understanding is defined as an ability to explain properly about the object known and can correctly interpret the material. A knowledgeable person to the object or material must be able to explain, infer, predict, and so forth of the object being studied. c). Application is defined as the ability to use materials that have been studied on the actual situation or condition. Application here can be defined as the application or use of the laws, formulas, methods, principles, and so in the context or other situations. d). The Analysis is the ability to describe the materials or objects into components, but still within an organizational structure, and still something to do with one another. The ability of this analysis can be seen from the use of verbs, such as plotting a (draft), distinguish, separate, classify, and so forth. e). Synthesis to an ability to lay or connect the parts in a whole new form. In other words, the synthesis is an ability to prepare new formulations of existing formulations. For example, it can be compiled, can plan, can sum up, it can adjust, and so on to a theory or formulas that already exist. f). This Evaluation

relates to the ability to justify or assessment of a material or object that is determined, or using criteria that have been there.⁵ 3). **Attitude** is a reaction or response which was still closed from one to the stimulus or object. Manifestations of this attitude can not be seen directly, but only interpreted in advance of behaviors that are closed. Attitude clearly shows their suitability connotation reaction to certain stimuli in everyday life is an emotional reaction to the social stimulus. Attitude is a readiness or willingness to act, and not an implementation of a particular motif. Attitude is not an action or activity, but predisposes action behavior. That attitude is still a closed reaction, not an open or correcting behavior that open. Attitude is a readiness to react to certain objects in the environment as an appreciation of the object. Attitudes have three principal components including the following: a). Belief / faith, ideas and concepts to an object. b). The life of emotional or evaluation of an object. c). The tendency to act (growing niche to behave). These three components together form a unified stance (total attitude). In determining this whole attitude, knowledge, thoughts, beliefs, and emotions play an important role. Various Levels in attitude, namely: a). Receiving, accepting means that the person (subject) want and pay attention to a given stimulus (the object). For example attitudes towards immunization can be seen from the willingness and the man's attention to lectures about immunization. b). Responding, providing an answer when asked do and accomplish a given task is an indication of the attitude. Because with an attempt to answer a question or perform a given task, regardless of the job is right or wrong means that one accepts the idea. c). Valuing, Invite others to do or discuss a problem is indicative of the attitude of the three levels. For example, a mother took another mother (his neighbor, his brother, and so on) to go take their children to neighborhood health center for immunization, is an evidence that the mother has had a positive attitude.

Responsible.

Responsible for everything that has been chosen with all the risks of an attitude that most tinnggi. For example, a mother willing to immunize their children, despite the challenges of in-laws or her husband. 1). Practice, An attitude not automatically materialize in an action (over behavior). To realize the attitude becomes a real acts necessary supporting factors or conditions permitting, one facility. A positive attitude towards immunization mothers should receive confirmation from her husband, and no immunization facilities are within easy reach, also necessary factor support (support) from another party, for example, of a husband or wife, parents or in-laws, and others. This practice has several levels, among others: 2). Perception, identify and select different objects with respect to the action to be taken is a first-rate practice.3). Guided response Can do things in the correct order and in accordance with examples of practice was largely an indicator of the level two.4). Mecanism

If someone has been able to do anything right automatically on something that is already a habit, then he has reached the third level of practice. 5) Adaptation is a practice or action which is already well developed. This means that action is already dimodifikasikannya without compromising the truth of such action.⁶

Motivation is a force or factors contained in human beings, cause, directing and organizing behavior. Factors referred to here is the perceived needs of the individual, if the individual feels a need, it will encourage the individual to do something to meet their needs. There are two factors that affect the motivation is internal factor is anything that comes from within individu include personality, attitudes, education, ideals. While the second is the external factor is any influence or impulse that comes from outside the individual include the encouragement of parents, friends, relatives or the environment.⁷

METHODOLOGY

The design of this research uses a descriptive exploratif with cross sectional approach .the study aims to analyse factors to contribute to the profile measles patients in PuskesmasGribig Malang. This study uses a descriptive exploratory design with cross sectional approach. That is the kind of research that aims to analyze the factors thought to contribute to the profile measles patients in Gribig Health Center .Population of the research are parents and children who visited at Gribig Health Center. Samples are parents and children with measles who visited at GribigHealt Center from April-December 2011.

The sampling technique is taken by non random sampling with a total sampling technique with an age range of 9 months to 10 years, the number of samples is the total population of patients with measles who visited atGribig Health Center during 2011. In this study, data collection was done by using a questionnaire to the respondent with measles cases and controls were not exposed to measles Kedungkandang District of Malang. The questionnaire used is based on the Likert Scale. The scale used to measure attitudes, opinions, one's perception of symptoms or problems that exist in the community or experienced.

Analysis of the data used theunivariate analysis aims to explain or describe each variable to be studied either the dependent variable and independent variables using observational analysis and presented in chart form. The bivariate analysis using Chi-square test was conducted to determine the relationship between the level of education, knowledge, attitude and motivation toward immunization status and the relationship between the incidence of measles immunization status. If the test results obtained X^2 arithmetic greater than X^2 table and signifikasi less than α (0.05), then the relationship formed signifkan. Conversely, if the X^2 count is smaller than X^2 table and significance of α (0.05), the relationships that are formed are not significant.

The bivariate analysis conducted by using statistical software SPSS and Multivariate Analysis is used to determine the relationship of more than one independent variable with the dependent variable. The statistical test used to determine the relationship between variables is a multiple logistic regression test.

RESULT

The results of this study with the respondents with primary education were 20 people (66.7%), while respondents with secondary education as many as 10 people (33.3%). Respondents with a low level of knowledge of 25 people (83.3%) and respondents with high knowledge of as many as five people (16.7%). Respondents with an attitude to support as many as 10 people (33.3%) and respondents with an attitude does not support as many as 20 people (66.7%). Respondents with low motivation as many as 16 people (53.3%) and respondents with high motivation sebanyak (46.7%). Respondents who immunize Reviews their children as many as 10 people (33.3%) and respondents who do not immunize Reviews their children as many as 20 people (66.7%).

Table 1 Results of Analysis of Relationship Education, Knowledge, Attitude and Motivation on Immunization Status

Variable	Immunization		$X^{2\text{arithmetic}}$	X^2_{table}	p value	B	Sig
	yes	no					
educated	Elementary School	15	1,875	3,841	0,171	0,055	0,985
	Junior High School	5	5				
knowledge	low	6	5,880	3,841	0,015	0,206	0,516
	high	4	1				
Attitude	does not support	1	21,675	3,841	0,000	0,322	0,039
	Support	1	9				
Motivation	Low	0	17,143	3,841	0,000	0,220	0,046
	High	10	4				
Total	30	30					

Table 2 Analysis of results Relations with Genesis Measles Immunization Status

Variablel	measles		$X^2_{\text{arithmetic}}$	X^2_{table}	p value
	Yes	no			
immunization status	yes	1	9,600	3,841	0,002
	no	14	6		
Total	30	30			

Education has a significance value ($p = 0.171$) it can be concluded that education does not have a significant association with immunization status. While the knowledge, attitude, and motivation to

have a meaningful relationship with the immunization status (Table 1). Immunization status has a significance value ($p = 0.002$) it can be concluded that the immunization status has a significant relationship with the occurrence of measles.

Based on the results obtained multivariate statistical analysis of education and knowledge have an influence on the immunization status but not significant. While attitudes and motivation have a significant effect on the immunization status

Discussion

Based on the results of bivariate analysis showed that there was no significant correlation between the education of parents of children immunization status. This is supported by the results of research Permata (2009), which explained that no meaningful relationship between parents' education with immunization status, the study states that the percentage of immunization status is higher in children with parents whose background low / moderate, while the percentage of immunization status lower most of it comes from the parents of children with high educational background. This is reinforced by the statement contained few respondents in the survey locations that have lower educational status remains immunize children. Additionally immunization program that has been performing well this time had reached virtually the whole society so that it can also cause parental educational level did not affect the status of immunization in children. Based on the results of the bivariate analysis showed that there is a significant relationship between the knowledge of the child's immunization status. This is consistent with the results of research Nurapriyanti (2009) which states that there is a relationship between the level of knowledge of the mother's behavior in immunisasi.⁷ This statement is also supported by research Sulistiadi (2000) which states that there is a relationship between knowledge and behavior of his mother in measles immunization. This research shows that there is a relationship between the level of knowledge of the behavior of parents to immunize anaknya.

Based on the results of the bivariate analysis showed that there is a significant relationship between attitudes of parents toward the immunization status of children. This is supported by the results of research conducted Sulistiadi (2000) which states that attitudes have a relationship with the mother's behavior in their children immunized against measles, mothers who have disagreed attitude towards immunization against measles are at risk 9.92 times for not giving his imuniasi.

CONCLUSION

Based on the results of the bivariate analysis showed that there is a significant relationship between motivation of parents against the child's immunization status. This is supported by research conducted Hayati et al. (2009) which states that there is a relationship between immunization and motivation ibu.⁹ It is powered from the fact the field, the respondents stated that their desire to immunize children is influenced by factors husband, where the husband takes a decision on the action to be obtained as menimmunisasikan his son. Respondents also reported that their husbands do not agree with the action to immunize children.

Based on the results of the bivariate analysis showed that there is a significant relationship between the incidence of measles immunization status in children. This is supported by research Sulistiadi (2000) which states that children who are not at risk of measles dimunisasi 3.2 times more likely to suffer from measles than children who diimmunisasikan.⁸ According to MOH RI, immunization is a way to increase one's immunity actively to an illness, so one day he is exposed to the disease will not pain or mild pain.

From multivariate testing, it can be concluded that the educational effect on immunization coverage of children but not significant. Parent education reflects the insight and knowledge to parents, who can influence decision making. The level of education strongly influence how a person to act and find the cause and solution in his life. People who are more educated will usually act more rationally. Therefore people are educated to be more receptive to new ideas. Education also influences patterns of thinking pragmatically and rationally to customs, with higher education people can be easier to accept new ideas or issues and not obtainment significant relationship between education and immunization coverage can be caused by the mother's attitude and motivation are low in immunize

their children. Based on multivariate testing, it can be concluded that the level of knowledge about immunization have an influence on the immunization status but not significant. This is because everyone has a different response to the stimulus. The level of knowledge does not have a significant effect because people may know, understand or even know a thing but not necessarily the person doing it.

Attitudes about the behavior of a mother for her child immunized significant effect on immunization status. The higher the mother's attitude to immunize their children, the child's immunization status will be higher. Conversely, the lower the mother's attitude to immunize their children, the child's immunization status ate more low. The motivation of the behavior of a mother for her child immunized significant effect on immunization status. The higher the motivation of mothers to immunize their children, the child's immunization status will be higher. Conversely, the lower the motivation of mothers to immunize their children, the child's immunization status would be lower.

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