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## FACTORS RELATED TO THE SECOND RUBELLA MEASLES IMMUNIZATION IN KONAWE ISLANDS DISTRICT

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### Abstract

**Background:** National coverage of Rubella-Measles immunization in December 2019 was 87.33%. The coverage of Rubella-Measles 2nd immunization in Southeast Sulawesi Province with the lowest achievement was in Konawe Islands Regency. at 26.35%. This study aimed to analyze the factors associated with measles-rubella 2nd immunization in Konawe Islands Regency.

**Methods:** The design of this study is a quantitative study with a comparative study approach, namely a form of research that compares two groups or more of a certain variable. The study population was 1119 children aged 25 to 30 months, while the study sample was 152 children aged 25 to 30 months, and respondents were mothers who had children aged 25 to 30 months who were selected as samples. The sampling technique used simple random sampling. Descriptive data analysis, inferential analysis, and odds ratio with Chi-square statistical tests were used.

**Result:** The results of the study there is a relationship between knowledge (p-value = 0.000; OR = 1.1) with Rubella Measles immunization.

**Conclusion:** There is a knowledge relationship with measles-rubella 2 immunization in Konawe Islands District.

**Key words:** *immunization, Measles Rubella*



## INTRODUCTION

Measles-Rubella immunization is one type of immunization that is included in the national basic immunization program, which functions to protect the child's body from two diseases at once, measles and German measles (rubella)(1). Meanwhile, both common measles and rubella or German measles disease cases are still common, especially in children (2). German measles also need extra attention if pregnant women suffer from the disease. In the first trimester pregnant women, rubella can cause miscarriage(3). Fetal death in the womb and congenital abnormalities in the baby, therefore measles-rubella (MR) immunization needs to be given to prevent these two dangerous diseases(4).

Health improvement depends on the performance of health workers (5). Likewise, to increase the coverage of measles-rubella 2nd (second) immunization, the role of health workers is very important, both in providing direct immunization to targets and in providing education about health problems (6).

The Ministry of Health integrated measles and rubella vaccines into the national basic immunization program in 2019, where before being integrated into the national basic immunization program, measles-rubella (MR)(7). The campaign was carried out in stages, namely, in 2017 carrying out a measles-rubella (MR) campaign on the island of Java and in 2018 outside the island of Java(8). In the program, rubella measles 2 immunization with the combination vaccine is given 2 times, namely measles-rubella 1 at the age of 9-12 months, and measles-rubella 2 at the age of 18-24 months(9).

Nationally, the coverage of Measles-Rubella immunization in 2019 reached 87.33% of the national target of 95%, while the average coverage per province outside Java was 72.79%, even the Provinces of Aceh, West Sumatra, and Riau were only 50%(10). In Southeast Sulawesi Province, the coverage of Rubella Measles 2 (two)

immunization in 2019 reached 32,287 (53.3%) of the target of 60,572 under 3 years old children, still very low when compared to the national target of 95%, with the highest district or city achieving that is Kendari City of 7,365 (83.46%) of the target of 8,824 under 3 years old children and the lowest district coverage was Islands Konawe Regency of 195 (26.35%) of the target of 740 under 3 years old children (11).

Islands Konawe Regency in 2019, the coverage of Rubella Measles 1 immunization as an indicator of accessibility or the amount of service coverage was 731 (99.7%) of the target of 733 babies, while for Rubella Measles 2 immunization coverage as an indicator of effectiveness or success of the protection level was 195 (26, 35%) is still very low when compared with the national target of 95% (12). Based on preliminary studies, knowledge is a factor that causes the low coverage of rubella measles 2 immunization, lack of family support, especially husbands who are still afraid of the illness their children experience after receiving rubella measles immunization and the assumption that their children will be healthy without immunization as well as community belief factors. Still have doubts about the legal rubella measles vaccine.

## METHOD

The research design used a comparative study(1). The research was carried out in 7 Primary health care in the Konawe Islands Regency area. The study population was all toddlers aged 25-30 months, divided into two groups, namely the group that did not receive measles rubella 2 immunization as many as 934 children under five and the group that received 185 measles rubella 2 immunization while the study sample was divided into two. The group that did not get measles rubella 2 immunization was 88 children under five and the group that received measles rubella 2 immunization was 64 children under five. The sample size was determined using the Lemeshow formula.

The sampling technique uses simple random sampling. Data collection using a questionnaire(2).

**RESULT**

**Table-1** shows that out of 152 respondents, 85 (55.9%) of respondents had less knowledge of rubella measles immunization. Family support. It shows that out of 152 respondents, 77 (50.7%) had less family support for MR immunization. Confidence. It shows that out of 152 respondents, 17 (11.2) respondents were not sure about the legal rubella measles immunization vaccine.

**Table-2** shows the results of statistical tests using Chi-squared analysis at  $\alpha = 5\%$  and  $df = 1$ , the value of  $X^2$  is calculated  $X^2$  table (64,597 > 3,841), meaning that there is a relationship between knowledge and rubella measles 2 in Islands Konawe Regency. The results of the relationship closeness test show the Phi ( $\Phi$ ) coefficient of 0.665, this shows the strength of a strong relationship between knowledge and measles-rubella 2nd and the Odds Ratio (OR) value of knowledge against measles-rubella 2nd at the 95% level (CI), obtained OR of 25,468. This means that less knowledge has a risk of 25,468 times greater

than good knowledge. Family support shows the results of statistical tests using Chi-squared analysis at  $\alpha = 5\%$  and  $df = 1$ , the value of  $X^2$  is calculated  $X^2$  table (1,660 < 3,841), meaning that there is no relationship between family support and measles-rubella 2nd in Islands Konawe Regency. Because there was no relationship between family support and rubella measles 2 immunization, the relationship closeness test was not continued, and the Odds Ratio (OR) value of family support for measles-rubella 2nd at the 95% level (CI), obtained an OR of 1.615. This means that less family support has a risk of 1.615 times greater than good family support. The level of confidence shows the results of statistical tests using Chi-squared analysis at  $\alpha = 5\%$  and  $df = 1$ , obtained the value of  $X^2$  count  $X^2$  table (1,919 < 3,841), meaning that there is no confidential relationship with measles-rubella 2nd in Islands Konawe Regency. Because there is no relationship between belief and rubella measles 2 immunization, the relationship closeness test and the confidence Odds Ratio (OR) value for measles-rubella 2 at the 95% level (CI) were not continued, an OR of 2,600 was obtained. This means that beliefs with less risk are 2,600 times greater than good beliefs.

**Table 1.**  
**Distribution of respondents based on Knowledge, Family Support and Faith in Islands Konawe Regency**

Variable	Frequency (n=152)	Percentage (%)
<b>Knowledge</b>		
Good	67	44.1
Less	85	55.9
<b>Family support</b>		
Good	75	49.3
Less	77	50.7
<b>Confidence</b>		
Sure	135	88.8
Unsure	17	11.2

Source: Primary Data 2020



**Table 2**  
**Knowledge Relationship, Family Support and Faith in Konawe Islands District**  
**Rubella Measles**  
**Immunization 2**

Variable	The group that did not receive immunizations		The immunized group		X <sup>2</sup> Count	OR	Phi (Φ)
	n	%	n	%			
<b>Knowledge</b>							
Good	14	15.9	53	82.8	64.597	25.468	0.065
Less	74	84.1	11	17.2			
<b>Family support</b>							
Good	39	44.3	36	56.3	1.660	1.615	0.118
Less	49	55.7	28	43.7			
<b>Confidence</b>							
Sure	75	61.4	60	93.7	1.919	2.600	0.134
Not sure	13	38.6	4	6.3			

Source: Primary Data 2020

## DISCUSSION

### Relationship of knowledge with rubella-measles 2<sup>nd</sup> immunization

Knowledge is the result of knowing, and this happens after someone senses an object. Knowledge is generally obtained from experience, it can also be obtained from books, mass media, and from electronic media(15).

The results showed that of the 67 well-informed respondents, there were 14 respondents (15.9%) who did not receive rubella measles 2 immunization, this indicates that knowledge is not the dominant factor in influencing respondents to immunize measles-rubella 2, because even though they know the importance of immunization rubella measles 2 but because they have other activities sometimes forget to bring their children to get rubella measles 2 immunization. Of 67 respondents who have good knowledge, there are 53 respondents (82.8%) who received measles-rubella 2 immunization, this shows that the better a person's level of knowledge, the more he has the awareness to immunize his child because he already understands and understands the purpose and benefits for his child's health.

Then from 85 respondents who had a low level of knowledge, there were 74 respondents (84.1%) who did not receive rubella measles 2 immunization, respondents who had less knowledge were more likely to not do measles-rubella 2 immunization, this was probably due to measles immunization. rubella is relatively new so not all people know it. Lack of public knowledge of this matter made it unaware that at this time measles-rubella 2 immunization was a continuation of the measles-rubella 1 immunization. The 85 respondents who had a low level of knowledge, there were 11 respondents (17,

The statistical test results show that the calculated chi-square value ( $X^2$  hit) = 64,597 >  $X^2$  tab = 3,841, which means there is a relationship between knowledge and rubella measles 2 immunization in Konawe Islands District, by closeness test (= 0.665) shows the strength of a strong relationship between knowledge and rubella measles 2, with an Odds ratio OR value of 25,468, which means that less knowledge has a risk of 25.46 times greater than good knowledge.

Another study conducted, the results of the chi-square test found that respondents who did not receive rubella measles immunization were found in respondents

with poor knowledge,  $p = 0.006 < 0.05$ , thus concluding that there is a relationship between knowledge and the use of receiving rubella measles an immunization. Rejection of rubella measles immunization is also caused by poor knowledge of mothers because this immunization program is still new and rubella disease is not familiar to mothers(16).

### **Relationship of family support with rubella-measles 2<sup>nd</sup> immunization**

Family support is an attitude, action, and family acceptance of supportive family members who are always ready to provide assistance and assistance if needed. In this case, the recipient of family support will know that other people care, appreciate, and love him(17).

The results showed that of the 75 respondents who stated good family support, 39 respondents (44.3%) did not receive rubella measles 2 immunization and 36 respondents (56.3%) received rubella measles 2 immunization. , mothers or in-laws) to mothers of toddlers are very important, especially support in the form of getting information about measles-rubella immunization and encouragement and attention, so that mothers under five will feel that immunization is very important to increase the child's immunity to a disease.

Of the 77 respondents who stated that the role of health workers was lacking, there were 49 respondents (55.7%) who did not receive rubella measles 2 immunization and 28 respondents (43.7%) who received rubella measles 2 immunization. This was due to a lack of family support ( husbands, mothers or in-laws) where most of the husbands work as farmers so that they do not have free time or prepare facilities or facilities so that their children can go to health service facilities, and some parents or in-laws think that their children will be healthy even though the children do not get rubella measles immunization 2.

The statistical test results show that the calculated chi-square value ( $X^2$  hit) =

1,660  $< X^2$  tab = 3,841, which means no there is a relationship between family support and rubella measles 2 immunization in Konawe Islands District, by closeness test ( $\alpha = 0.118$ ) It shows that the strength of the relationship is very weak between family support and measles-rubella 2, with an Odds ratio OR value of 1.615 which means that less family support has a 4.76 times greater risk compared to good family support.

The results of this study are in line with research conducted by(18), the results of statistical tests using the chi-square test at a 95% confidence level or  $\alpha = 0.273$  obtained  $p\text{-value} > \alpha$  so that  $H_0$  is accepted, which means that there is no relationship between family support and interest in measles-rubella immunization in Bukit Wolio Indah Village, Bau-Bau City (18).

### **Confidence association with rubella-measles 2<sup>nd</sup> immunization**

In the community there are still some groups that do not receive rubella measles immunization, generally ignoring disease prevention and only prioritizing curative. Several factors cause the community to not receive vaccines, including the perception of beliefs based on religion regarding the process of making vaccines containing pork and vaccines without halal certification. These two things lead to a bad perception of the community towards immunization(19).

The results showed that of the 135 respondents who stated that they believed in measles-rubella 2 immunization, 75 respondents (61.4%) did not receive rubella measles 2 immunization and 60 respondents (93.7%) received rubella measles 2 immunization. This is because most mothers under five are aware of the objectives and benefits of the immunization program, so even though there is an issue stating that the vaccine used for rubella measles immunization is forbidden and has not received halal certification from the MUI, but given the large benefits obtained from immunization and the existence of a fatwa from the Indonesian Ulema Council that

allows children to be immunized against rubella measles.

The 17 respondents who stated that they were not sure about rubella measles 2nd immunization, there were 13 respondents (38.6%) who did not receive rubella measles 2 immunization and 4 respondents (6.3%) who received measles-rubella 2nd immunization. This is because in a small number In the community there is still a debate about the legal status of the prohibition of the rubella measles vaccine, there are still parents of toddlers who refuse to give measles-rubella immunization because parents' awareness of the importance of immunization for children under five is still low, so with the existence of issues circulating about the legal status of rubella measles vaccine make it a guideline for them not to immunize their children even though there is a fatwa from the Indonesian Ulema Council that allows children to be immunized.

The result of the statistical test shows that the calculated chi-square value ( $X^2_{hit}$ ) = 1.919 <  $X^2_{tab}$  = 3,841, which means no there is a relationship between beliefs and measles-rubella 2nd immunization in Islands Konawe District, by closeness test ( $r = 0.134$ ) shows the strength of the very weak relationship between beliefs and rubella measles 2, with an Odds ratio OR value of 2,600, which means that fewer beliefs have a 2.60 times greater risk than good beliefs.

This is different from the research conducted by(20) hypothesis testing using the Linear Regression test obtained the Sig value. 0,000 so that it is stated that there is a relationship between Islamic religious beliefs and the acceptance of the measles-rubella vaccination. The coefficient correlation value is 0.469 which shows a moderate correlation with a positive correlation between belief and acceptance of rubella measles vaccination.

## CONCLUSION

Based on the results of research and discussion, there is a relationship between knowledge and measles-rubella (MR) 2 immunization in Islands Konawe Regency and there is no relationship between family support and measles-rubella (MR) 2 immunization in Islands Konawe Regency and there is no relationship between belief and measles immunization. rubella (MR) 2 in Islands Konawe Regency, so it can be concluded that the low coverage of rubella measles 2 immunization is influenced by the factor of maternal knowledge that is still lacking in the Islands Konawe Regency.

## REFERENCES

1. Putri TN. Efektivitas of Islamic organization no. 33 in 2018 about using rubella measles vaccin which is from Indian Serum Institute for immunization : case study from Jetis sub-district in Ponorogo District: IAIN Ponorogo; 2019 (Indonesia).
2. Alimuddin. A case study of extraordinary measles cases in Pikorkolling Primary Health Care in Padang city Symposium in 2019: Helvetia Health Institute; 2019 (Indonesia).
3. Al-Waeli H-AA, Al-Ahmer SD, Ghareeb am. Molecular and immunological investigation of rubella virus isolated from aborted women. *Plant archives*. 2020;20(1):288-91 (Indonesia).
4. Kemenkes R. Analysis of elderly people in Indonesia. Jakarta: Central of Information adata, Health Ministry of Republic of Indonesia. 2017 (Indonesia).
5. Akbar MI, Rachman W, Risky S. Factors relating to the performance of health workers in abeli city health center, kendari city: Performance of health workers. *Indonesian Journal of Health Sciences Research and Development (IJHSRD)*. 2020;2(1):9-14 (Indonesia).

6. Malik M. Factors which affect to mother percieving about rubella measles immunization in Tompo Balang Village, Somba Opu Sub-District, Gowa District in 2019: Universitasy of Islam Negeri Alauddin Makassar; 2019 (Indonesia).
7. Azmi Z. Behaviour of mother who did not get immunization in Toddopuli Primary health care, Makassar City: University of Islam Negeri Alauddin Makassar; 2018 (Indonesia).
8. Pramitasari DA, Puteri IRP. The relationship between mother's knowledge and attitude with obedity to follow Measles-Rubella immunization in comprehensice health services in Nganglik II Primary health care in Sleman District, Yogyakarta. The shine cahaya dunia d-iii keperawatan. 2017;2(2) (Indonesia).
9. Nugraharsi RR. Overview od mother's knowledge about giving Rubella Measles Immunization for under 3 years old children in Ungaran Village: University of Ngudi Waluyo; 2019 (Indonesia).
10. Kurnianty LD. The relationship between characteristic of the family, the role of heaalth workers and the role of teachers to giving Rubella Measles immunization for primary school children in the level one in Cinere sub-district, Depok city in 2019: University of Pembangunan Nasional Veteran, Jakarta; 2019 (Indonesia).
11. Harbour Health Departmen. Profile of Health in Southeast Sulawesi Province. 2018. (Indonesia)
12. Health Department of Konawe Islands District. The coverage of Rubella Measles immunization in Southeast Sulawesi Tenggara. Kendari. Health Department of Konawe Islands District. 2019 (Indonesia).
13. Mackey A, Gass SM. Second language research: Methodology and design: Routledge; 2015.
14. Sugiyono. Statistik Nonparametris Untuk Penelitian. 2015.
15. Ikmal NW, Satria AP. The relationship between the level of knowledge with therapy of Bekam in Cendana Herbal Samarinda Clinic. Borneo Student Research (BSR). 2020;1(3):1326-34 (Indonesia).
16. Prabandari GM, Syamsulhuda B, Kusumawati A. Faktors related to mother's acceptance for rubella Measles for primary school children in Gumpang Village, Kartasura sub-district, Sukoharjo District. Jurnal Kesehatan Masyarakat (e-Journal). 2018;6(4):573-81 (Indonesia).
17. Trisnawati RE. The effect of family support to Antenatal Care 4 visiting for pragnant mothers in Dintor Primary Health Care, Manggarai District. Wawasan Kesehatan. 2020;5(1):24-8 (Indonesia).
18. Taswin T, Azis WA, Wahyuddin W, Dahmar D, Erni E. Knowledge, attituge and family support with attention for Rubella measles immunization in Bukit Wolio Indah Village, Baubau City. Jurnal Kebidanan Malakbi. 2020;1(2):37-44 (Indonesia).
19. Pontoh AK, Soeharno FM, Risiad MA. Efek Bumerang Negatif Pesan Persuasif Kampanye Vaksin "Measles-Rubella" oleh Kementerian Kesehatan Republik Indonesia. Jurnal Ekonomi, Sosial & Humaniora. 2020;1(07):25-34 (Indonesia).
20. Rivani H, Darodjat D, Kusumawinakhyu T. The relationship between reigion belief with acceptance of Rubella measles vaccine in Kembaran Primary health care in Banyumas. Islamadina: Jurnal Pemikiran Islam. 2019:37-51 (Indonesia).