THE CORRELATION OF PUBLIC KNOWLEDGE TO THE RATIONALITY OF THE USE OF ANTIBIOTIC DRUGS IN THE MELAYU VILLAGE NORTH BARITO

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Abstract

Antibiotics are drugs that are prescribed quite high because cases of infection in the world are still high . The use of antibiotics that are not rational to increase the number occurrence of resistance of bacteria . The purpose of this study to determine the correlation of knowledge society against the rationality of the use of antibiotics in the village Malays . M etode used observational analytic with design cross sectional using the method of taking samples with technique purposive sampling instrument collecting data used in research this is the google form . The results obtained that the level of knowledge of respondents in the good category was 15 people (15.2%), 25 people were sufficient (25.3%) and 59 people were less (59.6%). The results of the use of antibiotics is rational by respondents as many as 5 people (5%) and not rational as many as 94 people (94%). And the results of the Spearman Rho test obtained are a significance value of 0.000, the correlation coefficient is 0.485 and the direction of the correlation is positive . There is a relationship between the level of knowledge on the use of antibiotics in the community in Kelurahan Melayu . Knowledge about antibiotics Air relation to the use of antibiotics that is rational . It is necessary to add information about the rational use of antibiotics by means of counseling , seminars and other information sharing .

Keywords : Antibiotics , Coreelation, Rationality , Knowledge , Use of Antibiotics

Introduction

Antibiotics are drugs that are prescribed quite high because cases of infection in the world are still high . The use of antibiotics that are not rational to increase the number of events the resistance of bacteria (WHO, 2014). Diseases infection of bacteria is one of the diseases that often occur in the society so that the necessary medication antibiotics to overcome . The use of medicinal antibiotics in countries developed as United States is expected to experience the incidence of infection as much as 1.7 million . Home sick that exist in the United States there are more than 98,000 patients died of the world in the year 2002 (WHO, 2011). From the Ministry of Health of the Republic of Indonesia in 2015, there is the use of antibiotics in Indonesia as much as 30-80% with not based on an indication that the right (Kemenkes , 2015). The use of antibiotics which is quite high in Indonesia as well as the

inappropriateness of the use of antibiotics will lead to and increase the incidence of resistance (Kemenkes , 2011).

According to the Basic Health Research Results of Riskesdas, 35.7% of households keep medicines for self-medication. Likewise with antibiotics, 86% of households store antibiotics without a prescription, with the highest proportion in Central Kalimantan at 93.4% (Riskesdas , 2013) . Based on data from the Integrated Service Unit of the Muara Teweh Health Center, the majority of antibiotics that are always used are amoxicillin, the use of the antibiotic amoxicillin 500 mg caplets at the Muara Teweh Health Center from January to October 2020 amounted to 5,854 drugs.

Research is carried out in the territory of the Village of Malay District of Teweh Central entered in the District of North Barito included in the region work Puskesmas Malay . Based on the results of questions with 10 respondents , 7 respondents know what the antibiotics while 3 respondents did not know , but the 7 respondents was just simply knowing only and never taking medicine antibiotics without understanding how to use , 5 respondents get antibiotics to buy in the shop , 5 respondents save antibiotics in their own homes , and some of them do not know about antibiotic knowledge and how to use antibiotics .

Material And Method

Methods of research are used in research this is the method of observational analytic with design cross sectional . According to the study was cross-sectional or study pieces of latitude is a study which studied the relationship between cause and a result that would be obtained . Research by the design of cross-sectional or study pieces of latitude , research is using methods taking samples with technique purposive sampling . Mechanical purposive sampling is a sampling process based on consideration made by researchers at pre-determined criteria. The sample in this study was the community of Kelurahan Melayu The sample was calculated using the slovin formula with a 95% confidence level . (Notoatmodjo, 2010) :

The research variables used in this study were independent variables and dependent variables. The independent variable in this study was public knowledge about antibiotic drugs . The dependent variable in this study is the rationality of using antibiotics . The type of data used in this research is quantitative data. Quantitative data is data related to numbers, obtained from measurement results or values obtained from data (Notoatmodjo, 2010)

Results

The distribution based on the sex of the respondents is obtained as follows:

Table 1 Distribution Based on Type Gender Respondents

No	type sex	Frequency	Percentage
1.	Woman	76	76.8%
2.	Man	23	23.2%
Total		99	100%

Based on Table 1 Distribution of the type of sex of respondents indicate that the majority of respondents manifold sex female who becomes a sample study that as many as 76 respondents (76.8%).

Table 2 Distribution by Age of Respondents

No	Age	Frequency	Percentage
1.	17-25 years old	59	59.6%
2.	26-35 years old	12	12.1%
3.	36-45 years old	21	21.2%
4.	46-55 years old	3	3.0%
5.	56-65 years old	4	4.0%
Total		99	100%

Based on table 2, the age distribution of respondents shows that the majority of respondents with an age range of 17-25 years who are the research sample are 59 respondents (59.6%).

Table 3 Distribution by Respondent's Last Education

No	Education	Frequency	Percentage
1.	SD	4	4%
2.	junior high school	1	1%
3.	senior High School	66	66.7%
4.	D3	13	13.1%
5.	S1/S2	15	15.2%
Total		99	100%

Based on the results of Table 3 Distribution of education of respondents indicate that the majority of respondents educated high school into the sample study that as many as 66 respondents (66%).

Table 4 Antibiotics That Never Used People

No	Antibiotic Name	Frequency	Percentage
1.	Ampicillin	26	26.3%
2.	Amoxicillin	67	67.7%
3.	Tetracycline	1	1%
4.	Cefadroxil	2	2%
5.	Chloramphenicol	3	3%
Total		99	100%

Based on the results of Table 4 types of antibiotics are never used the respondents indicate that the majority of respondents use the drug amoxicillin that is as much as 67 respondents (67.7%).

The results of community antibiotic knowledge about antibiotics are as follows:

No. Soal	Indikator	Jawaban Benar	Jawaban Salah	Total
1	Indikasi	86(86.9%)	13(13.1%)	100%
2		30(30.3%)	69(69.7%)	100%
3	Dosis	36(36.4%)	63(63.6%)	100%
4	Interval penggunaan	75(75.8%)	24(24.2%)	100%
5	Lama penggunaan	34(34.3%)	65(65.7%)	100%
6	Efek samping	71(71.7%)	28(28.3%)	100%
7	Informasi	77(77.8%)	22(22.2%)	100%
8		38(38.4%)	61(61.6%)	100%
9	Penyimpanan	33(33.3%)	66(66.7%)	100%
10	Cara membuang	30(30.3%)	69(69.7%)	100%

Figure 5 Public Knowledge About Antibiotics

Based on figure 5 the knowledge society of antibiotics showed that the majority of respondents still there are less understanding about penegtahuan antibiotics be seen from the statement that the declaration indication, dose , interval the use , duration of use , effects side , information , storage , and how to dispose of

Table 6 Categories of Respondents' Knowledge Level

No	Category	Frequency	Percentage
1.	Well	15	15.2%
2.	Enough	25	25.3%
3.	Not enough	59	59.6%
Total		99	100%

Based on table 6, the level of public knowledge about antibiotics shows that the majority of respondents have knowledge in the less category as many as 59 respondents (59.6%)

No	PERNYATAAN	Respon		Total
		Ya	Tidak	
1.	Saya menggunakan antibiotik ketika terkena infeksi	78.8%	21.2%	100%
2.	Saya membeli antibiotik dengan resep dokter	79.8%	20.2%	100%
3.	Saya menggunakan antibiotik seperti supertetra untuk obat diare	48.5%	51.4%	100%
4.	Saya menggunakan antibiotik atas saran dari keluarga atau teman tanpa periksa kedokter	39.4%	60.6%	100%
5.	Saya mengurangi jumlah antibiotik yang diberikan dokter jika merasa membaik	35.4%	64.6%	100%
6.	Jika dokter menuliskan antibiotik diminum 3 x 1, maka saya meminumnya dengan jarak 8 jam sekali	82.8%	17.2%	100%
7.	Saya tetap meminum antibiotik sesuai aturan dari dokter meskipun sudah merasa baik	72.7%	27.3%	100%
8.	Saya menyimpan antibiotik dan menggunakannya kembali saat sakit kambuh	31.3%	68.7%	100%
9.	Jika timbul efek samping ketika menggunakan antibiotik, maka saya berhenti menggunakannya dan berkonsultasi kepada dokter atau apoteker	88.9%	11.1%	100%

Figure 7 Use of Antibiotics

Based on figure 7 use of antibiotics by the community shows that the majority of respondents answered YES to question 9.

The results of the category of knowledge respondents based on a score that is obtained as follows :

Table 8 Categories of Respondents' Antibiotic Use

No	Category	Frequency	Percentage
1.	Rational	5	5%
2.	not rational	94	94%
Total		99	100%

Based on Table 8 the use of antibiotics showed that the majority of the public or the respondent use of antibiotics is not rational as much as 94 respondents (94%) and the use of antibiotics with rational as many as five (5%) of the respondents

The results of the cross tabulation of gender , age , and education are as follows :

Table 9 Tabulation Cross Type Gender Based on Knowledge and Use of Antibiotics

No	type sex	Knowledge			p	Use of Antibiotics		Total	percentage	p
		Well	Enough	Not enough		Rational	not rational			
1.	Man	2	5	16		1	22	23	23%	
2.	Woman	13	20	43	0.479	4	72	76	76%	0.861
Total		15	25	59		5	94	99	99%	
Percentage		15%	25.2%	59.6%		5%	94%	99%	100%	

Based on Table 9 tabulation cross- species sex is based on the knowledge and use of antibiotics show results that respondents berdominan manifold sex women have less knowledge as much as 43 respondents and respondents use antibiotics rationally by 5 respondents.

Table 10 Age Cross Tabulation Based on Knowledge and Use of Antibiotics

No	Age	Knowledge			P	Use		Total	percentage	p
		Well	Enough	Not enough		Rational	not Rational			

1	17-25 years old	12	17	30		4	55	59	59.6%	
2	26-35 years old	1	1	10		1	11	12	12.1%	
3	36-45 years old	2	5	14	0.545	0	21	21	21.2%	0.712
4	46-55 years old	0	1	2		0	3	3	3.0%	
5	56-65 years old	0	1	3		0	4	4	4.0%	
Total		15	25	59		5	94	99	99%	
Percentage		15.2%	25.3%	59.6%		5.1%	94.9%	99%	100%	

Based on table 10 tabulation cross- age based on the knowledge and use of antibiotics showed the result that the majority of respondents with a range of ages 17 to 25 years have the knowledge about as many as 30 respondents , and respondents who use antibiotics in a rational 4 respondents .

Table 11 Cross- tabulation of Education Based on Knowledge and Use of Antibiotics

No.	**Education**	**Knowledge**			**P**	**Use of Antibiotics**		**Total**	**percentage**	**p**
		Well	**Enough**	**Not enough**		**Rational**	**not Rational**			
1.	SD	0	1	3		0	4	4	4.0%	
2.	junior high school	0	0	1		0	1	1	1.0%	
3.	senior High School	13	14	39		4	62	66	66.7%	
4.	D3	1	4	8	0.701	0	13	13	13.1%	0.881
5.	S1/S2	1	7	7		1	14	15	15.2%	
Total		15	25	59		5	94	99	99%	
Percentage		15.2%	25.3%	59.6%		5.1%	94.6%	99%	100%	

Based on table 11 tabulation cross- education based on knowledge and use of antibiotics show results that respondents predominantly educated past high school have knowledge about as many as 59 respondents and respondents who use antibiotics as rational as many as 5 people.

Hacyl relationship level of knowledge about the use of antibiotics by using analysis Spearman rho is as follows :

Table 12 Spearman Rho Analysis

Significance	Correlation Coefficient	Correlation Direction
0.000	0.485	+

Based on table 12, the analysis of *Spearman Rho's* results shows that the significance value obtained is 0.000, meaning that there is a significant relationship, while the correlation coefficient value obtained is 0.485, meaning that the level of correlation strength or relationship is quite strong and the direction of the correlation obtained is positive.

Discussion

Based on the research that has been done by distributing questionnaires to 99 respondents, the results obtained are demographic data, namely data based on gender, age, last education. Data on antibiotics that have been used by respondents aims to determine the type of antibiotics that are often used by the respondent. The majority of respondents used amoxicillin as much as 67.7% Amoxicillin and ampicillin antibiotics are penicillin class antibiotics. Penicillin class antibiotics such as amoxicillin have a resistance rate of 67.16% so that, if they continue to be used and use irrationally, the risk of resistance will be higher (Pratiwi, 2018).

Public knowledge about antibiotics in this study was measured using a questionnaire with 10 statement items and 5 indicators, namely about indications of disease, dose, time interval of use, duration of administration, side effects alert and accurate information about antibiotics. And the researchers also added questions about the storage and disposal of antibiotics. The answer choices used in the knowledge questionnaire about antibiotics are true and false. Respondents who answered correctly were given a score of 1 and respondents who answered incorrectly were given a score of 0. More respondents answered incorrectly on 6 questions. This shows that there are still some respondents who do not know about the use of antibiotics, antibiotic doses, duration of antibiotic use, information, antibiotic storage, and how to dispose of antibiotics. The results of the category of the level of knowledge of the respondents obtained were in the poor category as many as 59 people (59%), sufficient category as many as 25 people (25%) and the good category as many as 15 people (15%), from these results indicate the highest category is the less category.

The use of antibiotics by the community in this study was measured using a questionnaire with 9 statement items and 5 indicators of rationality according to WHO, namely about the right indication,

right drug, right patient, right dose, alert for side effects and the researcher also added additional questions.

Based on the research conducted, it can be seen that the results of the answers to statement number 1 I use antibiotics when exposed to infection, some respondents answered correctly as much as 78.8% and 21.2%, this shows that respondents know antibiotics for infections, and is in line with research conducted by Fernandez (2013) in East Nusa Tenggara, as many as 87.96% of respondents know that antibiotics are drugs for bacterial infections, then question number 2, the question I buy antibiotics with a doctor's prescription, respondents answered yes as much as 79.8% and no 20.2% this shows that respondents still know Antibiotics must be purchased with a doctor's prescription.

Furthermore, question number 8 about me using antibiotics on the advice of family or friends without going to the doctor as many as 60.6% of respondents answered incorrectly, this shows that some respondents still get antibiotics from places they shouldn't. Furthermore, question number 9 about me storing antibiotics and using them again when my illness recurs, respondents answered incorrectly as much as 68.7%, it can be seen that there are still errors related to antibiotic storage, where antibiotics should be used in one treatment period or antibiotics must be spent (Purwidyaningrum et al. , 2019)

Based on the results of the category of antibiotic use by respondents, it was found that the category of rational use of antibiotics was 5 respondents (5%) and the category of irrational use of antibiotics was 94 people (94%). These results indicate that the majority of respondents still use antibiotics irrationally or inappropriately. Irrational use of antibiotics will increase the incidence of bacterial resistance (WHO 2014) . Submission of information should be made interesting so that it is easier for people to understand and remember any important information related to the use of antibiotics so that in the future people use antibiotics rationally. This is in line with research from (Sherly Tandi Arrang, FC2019) entitled the rational use of antibiotics in ordinary people in Jakarta, which states that knowledge of rational use of antibiotics is still lacking and there are still inappropriate patterns of antibiotic use. Based on the results of the cross tabulation of gender, age, and last education, it was found that there was no significant relationship between knowledge and rationality.

Based on the analysis value of *Spearman Rho,* the significance result obtained from this study is 0.000 this value is smaller than the significance level. It can be said that there is a significant relationship between knowledge and use of antibiotics. This is in line with the hypothesis that Ho is rejected. Furthermore, the correlation coefficient value obtained in this study is 0.485, which is in the range of 0.30-0.49, this indicates that the strength of the relationship is in the medium category (moderate). The value of the correlation direction obtained in this study is positive (+), the direction of

the positive correlation (+) means that knowledge and use of antibiotics have a unidirectional relationship. The results of the positive correlation direction obtained in this study indicate that if the value of the knowledge variable is greater, the value of the use variable will also increase. Because the greater the value of a variable, the greater the value of the other variables (Dahlan, 2014) .

Conclusion

Based on the results of the research obtained and which have been carried out on the community in the Kelurahan Melayu area, it can be concluded that public knowledge of the use of antibiotics is included in the category of lack of knowledge, namely 59%. The use of antibiotics by the community of Kelurahan Melayu is irrational, namely 94%. For cross tabulation data such as, gender, age, and education do not have a significant relationship between knowledge and rationality. The relationship of knowledge to the use of antibiotics in the Malay village, the significance value obtained is 0.000, the coefficient value is 0.485 with a positive correlation direction, which means that there is a significant correlation between the two variables connected, the strength of the correlation obtained is included in the medium category and the correlation is unidirectional.

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Declaration of Interest Statement

The autors declare that they have no conflict of interes.

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