Correlation of Society Knowledge Level and Attitude to the Use of Antibiotics of the People Live In Buluh Kuning Village

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ABSTRACT

Antibiotics are drugs to treat infectious caused by bacteria. Europe has an infection incidence of 7.1%. Indonesia ranks 8th out of all countries experiencing resistance events, while South Kalimantan stores antibiotics without a prescription at 3rd place out of all provinces. Irrational use of antibiotics can lead to resistance to antibiotic drugs. The objective of the research is analysis of the relationship between the level of knowledge on the use of antibiotics and the analysis of the relationship between attitudes on the use of antibiotics in the people living in Buluh Kuning Village. This research design is Cross sectional with purposive sampling technique. The measuring instrument used is a standard questionnaire, then the data is analyzed by using the Spearman Rho test with the level of confidence in the research used is 90%. The results of the level of knowledge of the most respondents in the sufficient category were 48 people, negative attitudes were 68 people and irrational use of antibiotics were 91 people. The results of the Spearman rho test for the level of knowledge obtained a significance value of "0.463", the correlation coefficient "0.077", while the attitude obtained a significance value of "0.030", the correlation coefficient "0.226" with the direction of the correlation being both positive. The conclusion obtained is that there is no relationship between the level of knowledge on the use of antibiotics while there is a relationship between attitudes towards the use of antibiotics in the people who live in Buluh Kuning Village.

Keywords: Antibiotics, attitude, knowledge, the use of antibiotics

Introduction

Antibiotics are chemicals that produced by fungi or bacteria, which have efficacy turn off or inhibit growth microorganisms pathogen, while its toxicity to humans is relatively small (Rina Hidayanti Pratiwi, 2017). Antibiotics can be bacteriostatic or what is known as being able to inhibit bacteria from multiplying and bactericidal or what is known as being able to kill bacteria, irrational use of antibiotics can cause resistance to antibiotic drugs (Pemenkes, 2011).

The World Health Organization (2015), stated that Indonesia was ranked 3rd out of 27 countries regarding the number of cases of irrational use antibiotics. The use of antibiotics in Indonesia is quite a lot, which is used 30-80% with use that is not based on the right indication (Kemenkes, 2015).

The results of various studies show that around 40-62% of antibiotic drugs are used inappropriately, one of which is as a drug to treat diseases that actually do not require treatment with antibiotics (Pemenkes, 2011). South Kalimantan is a province that is ranked 2nd in using

medicine independently at home. 35.2% of families have medicine savings and 27.8% have antibiotics at home as savings (Dasar, 2013).

Resistance to antibiotics is a result of the use of antibiotics that are overprescribing, underprescribing, and because the administration of antibiotics is not appropriate for the indications of disease, where bacteria have the ability to weaken and neutralize antibiotics (Kemenkes, 2011) .

Knowledge and attitudes are things that can influence a person's actions, in this study in terms of using antibiotics. Knowledge is the result of the five senses such as sight, hearing, smell, touch and feel. While in Natoadmodjo 2012 attitude is a person's response to a stimulus (object) (Tandjung et al., 2021) . The thing that triggers attitudes in the use of antibiotic drugs is due to influencing factors such as the number of antibiotic drugs sold in shops and free markets in the environment.

The research was conducted in Buluh Kuning Village, where previously a preliminary study was conducted to find out how the village community's knowledge about the use of antibiotics was. the data collection process for the preliminary study was carried out by distributing questions to the public using WhatsApp media because researchers were unable to go directly to the field to research because of the covid-19 pandemic.

There are 10 respondents who participated in the preliminary study. Of the 10 respondents, 7 respondents did not know what antibiotics were but had used ampicillin and amoxicillin while 3 others knew about antibiotics. Respondents stated that they knew about antibiotics from various sources, namely through family, friends and doctors. the use of antibiotics from 10 respondents stated using it to treat wounds and pain. the use of antibiotics is used once a day by 2 people, three times a day by 6 people and 2 times a day by 2 other people. 7 respondents obtained antibiotics in stalls and markets, and the rest stated that they had been obtained from doctors. In addition, 2 respondents stated that they kept antibiotics at home while 8 others stated that they did not store antibiotics at home.

The results of preliminary studies conducted and based on data in Indonesian basic health research so that researchers are very interested in conducting research on the relationship between knowledge levels and attitudes towards the use of antibiotic drugs in people living in Buluh Kuning village.

Materials and Methods

This research was conducted in Buluh Kuning village by measuring the level of knowledge and attitudes towards the use of antibiotic drugs as measured by using a standard questionnaire.

a. Data Collection Process

   This research was conducted during the COVID-19 pandemic, so the process cannot be carried out directly to the public but uses the WhatsApp application media to collect the data needed for research.

b. Questionnaire Validation

   The questionnaire that will be used was previously validated with a number of 30 respondents from the Banjarmasin community using the same characteristics as those used in the research.

c. Research Sites

   This research was conducted in Buluh kuning village, Sungai Durian sub-district, Kota Baru districts.

d. Research Times

   The study started from October 2020 for research proposal to June 2021 for data retrieval and processing to completion.

e. Research Target

   The research selected research targets with an age range of 16-56 years.

f. Research Methods

   Method for research is non-experimental analytical observational research method with a cross sectional design or what is called a cross-sectional study where data collection is only one time.

g. Population and Sample

   The population is all the people of Buluh Kuning Village aged 16-56 years with a total of 1,342 people. The sample was calculated by purposive sampling technique with a confidence level of 90% so that a sample of 93 people was obtained which was adjusted to the inclusion and exclusion criteria determined by the researcher.

h. Instrument

   The data collection instrument used a valid questionnaire by Made Cindy Widya Murthi (Cindy et al., 2018), for a knowledge questionnaire of 5 items and 4 items of attitude, while a validated questionnaire about the use of antibiotics 9 items by Shofia Rahmi (Rahmi et al., 2020).

i. Data Collection Technique

Data collection using an instrument in the form of a standard questionnaire:

1) Preparation phase

   Create a permit letter to the LPPM section which will be addressed to the Kota Baru Health Office, which will then be given a permit for the Buluh Kuning Village Office. submit a research ethics permit to the Research Ethics section of the University of Sari Mulia Banjarmasin.

2) Implementation stage

   The researcher distributes the google form link via Whatsapp media. Data collection in the study was carried out with the following steps:

   a) Determine the sampling location.
   b) Share the google form link on all samples.
   c) Asking the respondent's permission automatically on the research questionnaire google form.
   d) Determine the sample based on the criteria that have been determined in the study.
   e) Provide an explanation of how to fill out the questionnaire on the google form to respondents.
   f) Each questionnaire statement and data contained in the questionnaire are marked with an asterisk (required to be filled in), so that the questionnaire filled out by the respondent cannot be sent if there are questions that are not filled in.
   g) Give the respondent time to answer the questionnaire questions to completion.
   h) Recap the completed questionnaire data.

3) Data analysis

   Analysis data with editing, coding, entering data and cleaning data, then the data is analyzed by univariate analysis and bivariate analysis.

Results and Discussion

The results of the study based on data from the Buluh kuning village office in 2020, there were 1,342 people aged 16-56 years. Based on these data, the sample was calculated using purposive sampling to obtain as many as 93 respondents with the majority of respondents being more women than men and having an age range of respondents who participated in the study obtained from the age of more than 16 years to 56 years. The majority of respondents in the study area worked as farmers, private employees and housewives, In addition, people work as teachers, laborers, traders. some people are still students and students, and there are people who are still not working with an average education level of elementary school and high school, while for

undergraduate graduates there are still very few in the community. Buluh kuning village people who can participate as respondents in this study must meet the inclusion criteria, namely, live in Buluh Kuning Village, aged 16 to 56 years, have used antibiotics, have and can use smartphones, and have used antibiotics with the exclusion criteria being people who not willing to be a research respondent.

The collection of results starts from the collection of population data obtained, namely based on gender, age, education and occupation of the Buluh kuning village community. The results of the distribution of the characteristics of the respondents in Buluh kuning village are shown in the following table:

Table 1. Characteristics Distribution

No.	Gender	Frequency	Percentage
1.	Man	43	46,23%
2.	Famale	50	53,76%
	Total	93	100%
No.	**Age**	**Frequency**	**Percentage**
1.	17-20 years old	23	24,73%
2.	21-30 years old	36	38,71%
3.	31-40 years old	12	12,90%
4.	41-50 years old	22	23,66%
	Total	93	100%
No.	**Education Level**	**Frequency**	**Percentage**
1.	Elementary School	36	38,71%
2.	Junior High School	16	17,20%
3.	Senior High School	38	40,86%
4.	Bachelor	3	3,22%
	Total	93	100%
No.	**Employment**	**Frequency**	**Percentage**
1.	Farmer	15	16,13%

2.	Worker	10	10,75%
3.	Housewife	29	31,18%
4.	Trader	2	2,15%
5.	Private sector employee	18	19,35%
6.	Student	7	6,53%
7.	College student	9	9,68%
8	Teacher	2	2,15%
9.	Not yet working	1	1,07%
	Total	93	100%

Based on table 1. it was found that the respondents of Buluh Kuning village who took part in the study were more than 50 women, while 43 men, with the highest age range participating in the study, 36 people aged 21-30 years and 41-50 years old. 22 people. The most recent education of the Buluh Kuning village community was in high school as many as 38 and elementary school as many as 36 people. The most common fields of work undertaken by the Buluh Kuning village community who participated in the research were 15 farmers, 29 housewives and 18 private employees. based on the data from the Buluh Kuning village office, most of the people in the Buluh Kuning village are farmers, but the results of the study show that more work as housewives than farmers because apart from working as a housewife, they also often work as farmers.

The results obtained regarding the knowledge of the Buluh kuning village community about antibiotics are as follows:

Table 2. Knowledge About Antibiotics

No	Indicator	Correct answer	Incorrect answer	Total
1.	Drug accuracy	26 (27,96%)	67 (72,04%)	100%
2.	Indication	16 (17,20%)	77 (82,79%)	100%
3.	Beware of side effects	68 (73,12%)	25 (26,88%)	100%
4.	Indication	86 (92,47%)	7 (7,53%)	100%
5.	Beware of side effects	77 (82,79%)	16 (17,20%)	100%

Based on table 2. It was found that the majority of respondents answered correctly to questions 3, 4 and 5. Whereas, the questions that answered the most incorrectly were questions 1 and 2 with indicators regarding the indications for antibiotic drugs in question 1 "antibiotics should be used immediately if you have a fever" as many as 72 0.04% answered incorrectly. These results are in accordance with research conducted in 2017, that the majority of respondents believe that the use of antibiotic drugs can accelerate healing when fever occurs (Ivoryanto et al.,

2017) . Questions 2 antibiotics were used to treat diseases caused by viral infections" as many as 82.78% answered incorrectly. This is in accordance with research conducted by Hanafiah 2020 in the journal, which states that as many as 25% of respondents from 132 respondents still think that antibiotics can cure diseases caused by viruses (Nidaa, 2021).

The results obtained regarding the attitude of the Buluh Kuning village community about antibiotics are as follows:

Table 3. Attitude About Antibiotics

No.	Indicator	Correct answer	Incorrect answer	Total
1.	Beware of side effects	41 (44,09%)	52 (55,91%)	100%
2.	How to use	23 (24,73%)	70 (75,27%)	100%
3.	Indications for antibiotics	15 (16,13%)	78 (83,87%)	100%
4.	Selection of antibiotics	9 (9,68%)	84 (90,32%)	100%

Based on table 2. It was found that the majority of respondents answered the question incorrectly in question 4 "I believe that antibiotics can cure various diseases" as many as 84 (90.32%) respondents believe antibiotics can treat various diseases. In addition to question 3 "I believe antibiotics can prevent any disease from getting worse" as many as 78 (83.87%) respondents believe this. Public belief about the ability of antibiotics to treat a disease is getting better and the ability of antibiotics to treat any disease is one of the public misconceptions about antibiotic therapy so they believe that antibiotics can be used for all diseases. Misunderstanding in the community due to getting wrong and inconsistent information in the community regarding knowledge about antibiotic therapy, giving rise to new assumptions about antibiotic therapy (Rahmawati, 2017). This result is in line with Made Cindy Widya Murthi's 2018 research, which states that 75.5% of respondents believe that antibiotics can prevent a disease from getting worse. Question 2 "using antibiotic powder on skin wounds can accelerate healing" as many as 70 (75.27 %) believe in it. This shows that public knowledge is still low about how to use antibiotics affects people's attitudes so they believe and still use antibiotics by sprinkling them on wounds to heal wounds. Public knowledge about how to use antibiotics shows that there is a misperception on how to use antibiotics to treat wounds. Another thing that causes a lack of knowledge about antibiotic drugs is the lack of existing health facilities. so the importance of the role of health workers to provide understanding and information to the public, especially regarding the use of antibiotic drugs in accordance with the provisions of 4T + 1 W, namely, the right drug, the right patient, the right dose, the right way of use and be aware of side effects, so it is expected that the use of antibiotic drugs in the community can be used appropriately and rationally.

The results obtained regarding the use of the Buluh Kuning village community about antibiotics are as follows:

Table 4. Use About Antibiotics

No	Questions	Yes	No	Total
1.	I use antibiotics when I get an infection	90,32%	9,68%	100%
2.	I bought antibiotics with a doctor's prescription	59,14%	43,01%	100%
3.	I use supertetra antibiotics for diarrhea	20,43%	79,57%	100%
4.	I reduce the dose of antibiotics given by the doctor if I feel better	12,90%	87,09%	100%
5.	If the doctor says it is taken 3 times a day then I drink it every 8 hours	82,79%	17,20%	100%
6.	I still take antibiotics according to the rules even though I feel better	43,88%	51,61%	100%
7.	If side effects occur when using antibiotics then I stop using them and consult a doctor or pharmacist.	95,70%	6,45%	100%
Additional Questions				
8.	I use antibiotics on the advice of family or friends without seeing a doctor	77,41%	22,58%	100%
9.	I keep antibiotics and reuse them when I get sick	83,87%	16,13%	100%

Based on table 4. Regarding the use of antibiotic drugs by the community, the results showed that the majority of the people answered correctly on item 1, namely as many as 84 (90.32%) respondents. These results indicate that respondents in Indonesia already know that antibiotics are used to treat bacterial infections because they have answered the questions correctly. This can be because the majority of respondents stated that they previously received information about antibiotics when they met with doctors (Jain et al., 2016) . So that more respondents already know that the use of antibiotics is intended for indications of bacterial infection. The results obtained are in accordance with the statement that antibiotics are used to treat or treat infections caused by infection by bacteria (Kemenkes, 2011).

The results of the categories of knowledge, attitudes and use of antibiotics in the Buluh Kuning village community can be seen in the following table:

Table 5. Categories of knowledge

No	Categories	Frequency	Percentage
1.	Good ≥75%	19	20,43%
2.	Enough 56-74%	48	51,61%
3.	Less ≤55%	26	27,96%
	Total	93	100%

Based on table 5. Contains the category of public knowledge of antibiotic drugs, it shows that the majority of people have knowledge at a sufficient level of 60 people (51.61%). Based on the results obtained in the research on the level of knowledge of the people of Buluh Kuning Village on the use of antibiotics, the majority of the knowledge level was in the sufficient category. According to the researcher, several things that make the results of the study more respondents who have knowledge in the sufficient category compared to the good category are due to the low level of education possessed by the community in the research area, in addition to the lack of existing health facilities, lack of providing related information about medicines. medicine, especially antibiotic drugs in the community, such as understanding in the community about the indications of antibiotics, how to use antibiotics properly and appropriately. This is in line with research conducted by Shofia Rahmi 2020, which states that the thing that causes people to still have sufficient knowledge in the category is the lack of information related to antibiotics, one of which is indications of antibiotics. In addition, the use of antibiotics by the people of Buluh Kuning Village also has not used antibiotics rationally because they still use antibiotics to treat fever conditions, and buy drugs in stalls and weekly markets as stock with use that is not according to a doctor's prescription.

Table 6. Categories of Attitudes

No	Categories	Frequency	Percentage
1.	Positive ≥50%	28	30,11%
2.	Negative <50%	65	69,89%
	Total	93	100%

Based on table 6. Contains the category of community attitudes towards the use of antibiotics, the results show that the majority of respondents have a negative attitude as many as 65 (69.89%) people towards the use of antibiotic drugs. A person's attitude according to (Azwar, 2013), can be influenced by several factors, namely, environmental factors, work, experience, and education. The factors that influence the attitude studied in this study are the level of education and work that will affect a person's attitude. The results of the level of education based on the research results obtained in the cross tabulation between the respondent's education and attitudes towards the use of antibiotics, it was found that the majority of respondents with high school education had a positive attitude towards the use of antibiotics, namely the number of respondents as many as 14 people, while the majority of respondents who have a negative attitude towards the use of antibiotics as many as 30 respondents with the latest education level is elementary school graduate. As for the rational use of drugs, 1 respondent with high school education and 1 person with a bachelor's education used antibiotics rationally, while 36 people with elementary education,

16 people with junior high school education, 37 people with high school education and 2 people with undergraduate education had not used antibiotics. rationally. This is in line with the theory by Anwar which states that education is one of the factors that affect a person's knowledge, thus showing the latest education cross tabulation data on attitudes showing that the majority of respondents who have high school education and 2 respondents with undergraduate education have a positive attitude towards the use of antibiotics (Muzni, 2019). Based on the results obtained that the majority who have a positive attitude are housewives, this can be caused because housewives have a stronger memory when getting knowledge or information about good and rational use of antibiotics, where the ability of a person's brain to remember when frequently used (Suwaryono & Yuwono, 2017).

Table 7. Categories of Use Antibiotic

No	Categories	Frequency	Percentage
1.	Rational	2	2,15%
2.	Irrational	91	97,48%
	Total	93	100%

Based on table 7. The use of antibiotics showed that the majority of respondents still use antibiotics irrationally where it was found that as many as 91 (97.48%) respondents still did not use antibiotics rationally. Based on these results, it is known that the use of antibiotics by respondents from 93 respondents only 2 respondents who said rational use of antibiotics because of the other 91 respondents no one answered the question on the use of antibiotics correctly based on the criteria for rational use of drugs according to WHO, namely, right indication, right drug selection, right dose, right patient, and be aware of side effects (Sari & Oktarlina, 2017).

The results of the relationship between knowledge and attitudes towards the use of antibiotic drugs in people living in Buluh kuning village with the Spearman Rho analysis test using SPSS version 20 are as follows:

Table 8. Correlation Between Knowledge And Use Of Antibiotics

	Significance	Correlation coefficient	Correlation Direction
Knowledge	0.463	0.077	+

Based on table 8. the results of the Spearman Rho test analysis regarding knowledge of the use of antibiotic drugs obtained a significance value for knowledge of 0.463 with a correlation coefficient value of 0.077 and the direction of the correlation obtained was positive. The results stated that statistically using SPSS version 20, there was no correlation or relationship between knowledge and the use of antibiotics, where based on the theory a person's knowledge was

influenced by age, last education, occupation and monthly income (Angelina & Tjandra, 2019). Knowledge a person is influenced by several factors that can influence a person's behavior, in this case is knowledge that will influence a person's behavior using antibiotics.Factors that will affect knowledge are education, occupation, age, attitudes, beliefs, and people around (environment) (Natoatmodjo, 2010) In addition, another statement states that there are internal factors that affect a person's knowledge, namely education, occupation and age while the external factors are the mass media as a source of information, socio-cultural, economic, experience and environmental (Mda, 2020) . Researchers in this study only examined gender, age, last education level and respondent's occupation on knowledge and obtained a correlation value on the respondent's education level and on age, gender and occupation did not show a correlation where the results obtained a significance > 0.05.

Table 9. Correlation Between Attitudes And Use Of Antibiotics

	Significance	Correlation coefficient	Correlation Direction
Attitudes	0.030	0.226	+

Based on table 9. Spearman Rho's analysis results regarding the relationship between attitudes towards the use of antibiotic drugs, the significance value is 0.030, with a correlation coefficient of 0.226 and the direction of the correlation is positive. Based on this, Ha in this study was accepted and H0 was rejected in the statement about attitude, where the statement in Ha was the relationship between attitudes towards the use of antibiotics in the people living in Buluh Kuning Village. The data obtained in the study show that more women have a positive attitude towards the use of antibiotics compared to men, one of the reasons is because the respondents who participated in the study were more women than men. In addition, this can be caused because most live in the environment within the scope of the education side that is lacking (Abozed HW et al, 2019) . The results of the correlation between attitudes towards the use of antibiotics were found in the weak category. This can be caused because the attitude of the respondents is not only influenced by knowledge. According to Jean Peaget a Swiss psychologist stated that other factors that can affect a person are the environment and education. This is in line with the statement regarding the factors that influence attitudes, that a person's attitude is influenced by education and the environment (Sumarwan, 2019). The results obtained stated that there was a relationship between attitudes towards the use of antibiotics.

Conclusion

The results in the study, it was concluded that there was no relationship between knowledge of the use of antibiotics in the Buluh Kuning village community with a significance value of 0.463, the correlation coefficient 0.77, the direction of the positive correlation with the majority level of knowledge was 51.61% sufficient category. While there is a relationship between attitudes towards the use of antibiotic drugs in people living in Buluh kuning village with a significance value of 0.030, the correlation coefficient is 0.226, the direction of the positive correlation with the majority of respondents' attitudes is negative 69.89% and the majority of antibiotic use is irrational as much as 97.84%**.**

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Declaration of Interest Statement

The authors declare that they have no conflict of interests.

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