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Relationship of Knowledge, Attitude and Practice of Community with Malaria Incidence in Sub-district of West Walenrang District of Luwu, Province of South Sulawesi, Indonesia

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Abstract

Malaria is a global health issue and a serious problem since the beginning of the discovery until present. One of the region's still high endemicity of malaria is Asia Pacific. According to WHO, in this region occurred 25 million cases and 50,000 deaths per year. One of the countries in this region are quite high malaria endemicity is Indonesia, which occurred 40,000 cases per year. As for regions in Indonesia are still malaria is endemic cover Papua, Maluku, Java, Kalimantan, Sulawesi, and several smaller islands. Even though, the government has organized various programs in order to control the spread of malaria, such as malaria eradication, malaria control and elimination of malaria. The low ranking of knowledge, attitudes and practices of communities to control malaria on suspected as government less effective so that the large programs that has developed the cause. This is true because the program execution system dominated government closed the public opportunity to participate in the program, so that at the same time the knowledge, attitudes and deeds cannot develop properly. As this situation has the potential to be a challenge for the government in an effort to create control program that integrated and comprehensive in the future. This research aims to know the relationship between knowledge, attitude and practice of people with malaria events. This study also used a quantitative approach to analyze a cross sectional study the results of the interview with selected respondents, namely 86 families residing in the area of research. The results show that there is a relationship between knowledge, attitude and practice with the incidence of malaria in the sub district of West Walenrang, districts of Luwu, Province of South Sulawesi, Indonesia. The incidence of malaria including weak category as for the strength of relationship between knowledge, attitude and practices. Based on these results, it is suggested to the government would give adequate attention to the improvement of knowledge, attitudes and practices of the community in malaria control program. Level of knowledge, attitudes and practices of community that adequate can be a modal to save the sustainable program of malaria control program conducted. On the other side, this approach can also be a smart solution on limited of the government in controlling the spread of malaria, both human and budget resources.

Keywords: malaria, knowledge, attitudes, practices, community

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1. Introduction

Malaria is a global health issue and a serious problem since the beginning of the discovery until present. One of the region's still high endemicity of malaria until the current is Asia Pacific [1]. According to WHO, in this region occurred 25 million cases and 50,000 deaths per year. One of the countries in this region is still high malaria endemicity is Indonesia, which occurred 40,000 cases per year. Between regions in Indonesia that still malaria endemic cover Papua, Maluku, Java, Kalimantan, Sulawesi, and several smaller islands [2,14-17].

This reality is very ironic, because the government has carried out various big programs in order to control the spread of malaria, such as malaria eradication period 1959-1968, the period 1969-2000 malaria controls and elimination of malaria period 2000-present. Similarly, the

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government used the budget in large numbers to the success of these programs.

Lack of knowledge, attitudes and practices of communities to control malaria is suspected as the cause of so great programs that have run the government less effective [3,13]. Implementation systems of malaria control programs largely designed and run by the government and close the opportunity for people to participate in the program. At the same time the knowledge, attitudes and practices of community about malaria cannot develop properly, so unable to provide optimal support for malaria elimination government expected [4,18].

On the other side, the government will be very limited human resources and budget, so that the government was not able to make significant improvements. Lately, the government began to realize that it is no longer possible to continue the project without support from the community [5,19]. In fact, this situation will be a challenge for the government in an effort to develop a malaria control program that is more integrated and comprehensive. The program takes into account the importance of community involvement in the program [6].

Therefore, it is necessary that valid data on knowledge, attitudes and practices of the community about existing malaria. These data can be the basis in scientific research, and the government can be a reference in creating the malaria control program more integrated and comprehensive forward [7].

2. Problems study

The low level of knowledge, attitudes and practices of the community about malaria control is a challenge to the very essence of malaria elimination program being conducted by the government [8, 20]. The real challenge is therefore to develop a more integrated program of elimination and comprehensive, because this approach focuses on the community participation. That is the level of knowledge, attitudes and practices adequate community is a resource for the effectiveness of this program, because it can create motivation, cooperation and courage, thus creating efficiency [9,21,27-28].

In contrast, levels of knowledge, attitudes and practices that are not adequate as applicable today, so as to create a sense of lazy, shut down and work as they please. This situation cannot support and ensure the success of malaria elimination program carried out in an integrated and comprehensive. Even thus potentially very dangerous because at the same time the malaria epidemic is growing and increasingly difficult to control. Death can continue to grow, it will even happen in the wider region[10-12,22,24].

3. Research objective

The general objective is to know the relationship between knowledge, attitude and practice of community with malaria incidence [23,25-26].

Specific objectives know the relationship between the knowledge of community with the incidence of malaria, knowing the relationship between the attitudes of community with the incidence of malaria, and knowing the relationship between the practices of community with the incidence of malaria.

4. Research Methods.

This study used quantitative analytical method with cross sectional study, the data on knowledge, attitudes, practices and malaria incidence of community collected and processed simultaneously [24,27]. The population of this study includes all communities in the study area suspected of having malaria. While the samples are randomly selected amount of 86 peoples.

In this research, data collection covers primary and secondary. The primary data obtained through interviews with respondents using questionnaires. While secondary data obtained through the search data at institutions that associated with the study. Furthermore, the data analysis was univariate and bivariate. In univariate analysis, data, knowledge, attitudes, practices and the incidence of malaria is presented in the table based on the frequency. While bivariate analysis was used to examine the relationship between knowledge, attitudes, practices with the incidence of malaria.

5. Results and Discussion

5.1. Results

Presentation of the results of this study is a follow up of the process of data collection is done on 1-3 August 2015. The presentation format is an univariate analysis. In this case includes the characteristics of respondents by age, gender, education level, and occupation. While bivariate analysis was used to present cross sectional study between independent variables and the dependent variable. In this case to support the relationship between knowledge and the incidence of malaria, the relationship between attitude and the incidence of malaria and the relationship between practice with the incidence of malaria. More study results as follows:

Table 1. Characteristics of respondents based age group in the Sub District of West Walenrang, Districts of Luwu, South Sulawesi Indonesia 2015

Age group	Quantity	Percent
11-20 years	18	20,93
21-30 years	37	43,02
31-40 years	24	27,91
> 40 years	7	8,14
Total	86	100

Source: Fieldwork, 2015

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Table 1 above shows that based on the age of the respondents obtained the highest age group 21-30 years were 37 people (43.02%) and the lowest > 40 years namely 7 people (8.14%). Table 2 below shows that the gender of the respondents found 29 Male (33.7%) and 57 Female (66.3%).

Table 3 shows that the education level of respondents found highest was not complete primary school namely 28 people (32.6%) and lowest D3 namely 3 people (3.5%).

Table 2. Characteristics of respondents based on gender in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Gender	Quantity	Percent
Male	29	33,7
Female	57	66,3
Total	86	100

Source: Fieldwork, 2015

Table 3. Characteristics of respondents based on the level of education in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Level of Education	Quantity	Percent
Not completed primary school	28	32,6
Complete primary school	11	12,8
Complete Yunior High School	11	12,8
Complete Senior High School	27	31,4
Complete Diploma	3	3,5
Complete Scholar	6	7,0
Total	86	100

Source: Fieldwork, 2015

Table 4 below shows that based on the job of respondents found the highest not working namely 36 people (41.9%) and the lowest trader namely 3 people (3.5%). Table 5 shows that based on the knowledge of respondents found enough 37 people (43.02%) and less 49 people (56.98%). Table 6 shows that based on the attitudes of respondents found enough namely 39 people (45.35%) and less 47 people (54.65%).

Table 4. Characteristics of respondents based on employment in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Employment	Quantity	Percent
Government employees	13	15,1
Trader	3	3,5
Farmer	27	31,4
Ride motorcycle	7	8,1
Not working	36	41,9
Total	86	100

Source: Fieldwork, 2015

Table 5. Level of respondents knowledge about the incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, South Sulawesi, Indonesia 2015

Knowledge	Quantity	Percent
Enough	37	43,02
Less	49	56,98
Total	86	100

Source: Fieldwork, 2015

Table 6. Level of respondents attitude about the incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Attitude	Quantity	Province of South Sulawesi, Indonesia in percent (%)
Enough	39	45.35
Less	47	54.65
Total	86	100

Source: Fieldwork, 2015

Table 7 shows that based on the practice of respondents found enough 33 people (38.37%) and less 53 people (61.63%). Table 8 shows that based on the incidence of malaria was found positive of 50 respondents (58.14%) and not suffer 36 respondents (41.86%).

Table 9 shows that of the 86 respondents surveyed, there are 37 respondents who have enough knowledge, of which 29.7 percent (11 respondents) had suffer positive and 70.3 percent (37 respondents) did not suffer. Then 49 who have less knowledge, of which 79.6 percent (39 respondents) had positive suffer and 20.4 percent (10 respondents) did not suffer.

Table 7. Level of respondents practice about the malaria incidence in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Practice	Quantity	Percent
Enough	33	38.37
Less	53	61.63
Total	86	100

Source: Fieldwork, 2015

Table 8. The incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

The incidence of malaria	Quantity	Percent
Suffer	50	58,14
Not suffer	36	41,86
Total	86	100

Source: Fieldwork, 2015

Table 9. The relationship between knowledge with the incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Knowledge	Malaria incidence				Total		P
	Suffer		Not suffer				
	Quantity	%	Quantity	%	Quantity	%	
Less	39	79,6	10	20,3	49	100	
Enough	11	29,7	26	70,3	37	100	0,00
Total	50	58,1	36	41,9	86	100	

Source: Fieldwork, 2015

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Based on statistical tests (Chi-Square Test for a 2x2 table) found the value of P is lower than the value of α (0.00 <0.05). Thus, these findings indicate that there is a relationship between knowledge and the incidence of malaria.

Table 10. The relationship between attitudes with the incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Attitude	Malaria Incidence				Total		P
	Suffer		Not suffer				
	Quantity	%	Quantity	%	Quantity	%	
Less	37	78,7	10	21,3	47	100	
Enough	13	33,3	26	66,7	39	100	0,00
Total	50	58,1	36	41,9	86	100	

Source: Fieldwork, 2015

Table 10 above shows that of the 86 respondents surveyed, 39 respondents have got enough attitude, including 33.3 percent (13 respondents) had suffer positive and 66.7 percent (26 respondents) not suffer. Then 47 who have fewer attitudes, including 78.7 percent (37 respondents) had suffer positive and 21.3 percent (10 respondents) not suffer.

Based on statistical tests (Chi-Square Test for a 2x2 table) found the value of P is lower than the value of α (0.00 <0.05). Thus, these findings indicate that there is a relationship between attitude and incidence of malaria.

Table 11. The relationship between the practice and the incidence of malaria in the Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia 2015

Practice	Malaria Incidence				Total		P
	Suffer		Not suffer				
	Quantity	%	Quantity	%	Quantity	%	
Less	40	75,5	13	24,5	53	100	
Enough	10	30,3	23	69,7	33	100	0,00
Total	50	58,1	36	41,9	86	100	

Source : Fieldwork, 2015

Table 11 above shows that of the 86 respondents surveyed, 33 respondents have got enough practice, including 30.3 percent (10 respondents) had positive sufferer and 69.7 percent (23 respondents) did not suffer. Then 53 who have less practice, including 75.5 percent (40 respondents) had positive sufferer and 24.5 percent (13 respondents) did not suffer.

Based on statistical tests (Chi-Square Test for a 2x2 table) found the value of P is lower than the value of α (0.00 <0.05). Thus, these findings indicate that there is a relationship between the practice and the incidence of malaria.

5.2. Discussion

In general, this study analyzed the incidence of malaria based on knowledge, attitudes and practices of the community in Sub District of West Walenrang, Districts of Luwu, Province of South Sulawesi, Indonesia. Therefore, the discussion includes the dimension of knowledge, attitudes, and practices of the community. In addition, this discussion will also include the relationship between the variables of knowledge, attitude and practice of community with the incidence of malaria.

The results of this study show that knowledge about malaria generally less category, namely 49 respondents (56.98%) who did not know about the symptoms, causes, prevention and treatment of malaria. While this category is quite simply amount of 37 respondents (43.02%).

This finding represents a challenge in the process of creating new behaviors that are independent of the local community, because real knowledge is the beginning of the existence of a positive attitude and practices. When knowledge is sufficient, then the process towards the existence of a positive attitude and practice will easily be realized.

In contrast, when knowledge about the process towards the existence of attitudes and practices that are expected to be difficult to realize (Bloom, 1908).

Therefore, local governments must facilitate the process of increasing knowledge of the existence of society through empowerment programs, both organized by the government or by society groups (NGOs). Adequate knowledge of the people who live in malaria endemic areas is necessary for the effectiveness of prevention efforts are exercised, either individually or group.

The results of this study showed that community attitudes about malaria generally categorized as less positive, namely a number of 47 respondents (54.65%) which suggests they do not take into account the importance of community participation, partnership and sustainability orientation on malaria control program. While including enough positive only a number of 39 respondents (45.35%).

This finding also represents a challenge in malaria control programs according to Campbell (1950), the attitude of a resolution in response to the social object. Assessment in this context will create an assessment in choosing and carry out activities that are useful for itself and its environment. Attitude then becomes the basis for a person to choose practices that should be run.

Therefore, the positive attitude of society must be built in order to remain relevant to malaria control program being executed. This attitude is determined by the existence of knowledge, so that in the process of improving people's knowledge, attitude stabilization must also be developed. In some programs, knowledge and attitudes can be built simultaneously to the existence of practices expected.

The results of this study showed that the public about malaria control practices are generally less category, namely a number of 53 respondents (61.63%) who did not practice behaviours that support malaria control, such as not cutting the forest, nets, active during the day, and using personal protective if working. While the category is quite simply a number of 33 respondents (38.37%).

Lack of community practices in malaria control program is a realization that malaria still a threat to community Luwu, South Sulawesi, as the practice is a target valuation

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in the context of behavioural change. According to Bloom (1908), the practice is the outcome of a process of behaviour change (behaviour change) for men. Thus practice is an embodiment of perfection process of behavioural change towards the better.

Therefore, the program needs to be developed in the future not only associated with an increase in knowledge and attitudes, but to the community of practice in the field. Even the effectiveness of control programs can only be measured at this stage of the practice. People's behaviour must be continuously monitored, and they should then be prompted if their practice is inadequate. Given the spread of malaria takes place continuously, then the society must be ensured positive practices also take place continuously. Even practices orientation ideally in malaria control should be the everyday culture of the local community. In this case, they continue to adopt measures to control malaria without being reminded or commanded, but because of its own consciousness.

Based on laboratory tests, the study also showed that of the 86 respondents who are suspected of having malaria, found positive with malaria by 50 respondents (58.14%). While not suffering from just 41.86% (36 respondents). That is, more than half of respondents were suffering from malaria. This confirmed the findings Cibulkis, R.E (2012) that malaria is still a deadly disease in many developing countries, including Indonesia.

Thus, control programs that run the government in recent years apparently did not bring significant results. At least, this finding explains that malaria still constitute latent in Indonesia. Malaria is a disease that still lurk state children's lives. A condition that can make people very uncomfortable throughout his life.

Then based on statistical tests (Chi-Square Test for a 2x2 table) found there is a relationship between knowledge, attitude and practices and the incidence of malaria in the Sub District of West Walenrang, District of Luwu, Province of South Sulawesi in 2015, with the relationship of each category of less. These findings suggest that the level of knowledge, attitudes and practices of a community still less have an effect on the high incidence of malaria in the area. In other words, the high incidence of malaria is caused by lack of knowledge, attitudes and practices of local communities.

Based on these findings, the next note of the increase in knowledge, attitude and practice improvement of community becomes very urgent. The third of the behaviour capital are required in adequate to control malaria for the growing spread in wider areas. Not to mention malaria behaviour is increasingly unpredictable. Malaria thus more dangerous because it can evolve with very flexible in accordance with the state of the environment (Garamszegi, L.Z, 2009).

These phenomena make the program managers to experience difficulties in the field. Their difficulty in developing innovative programs to identify the presence and behaviour of malaria. Most indicators may be obtained only by looking at the neighbouring village or district. When the village or the neighbouring areas of endemic malaria in the village and surrounding area is considered very potential to be the next transmission (Cohen, J.M, at. Al 2010). This situation means that the challenge of malaria controlling is growing in the a number of the limitations of the government in an effort to control this dangerous disease.

Because of malaria control in the future should be conducted in an integrated manner by putting the local community as the main entity in control of the situation in the neighbourhood. The role of the community not only improves effectiveness of control process, but also can create sustainable malaria control program. Any time they can guard the prevailing circumstances, and can perform the necessary steps quickly if they have the capacity of knowledge, attitudes and practices are adequate. Thus, control of malaria in integrated and comprehensive with a focus on the optimization of community participation is a strategic move and indispensable today.

Based on the above, it is expected that cash program in the field is focused on developing programs to increase knowledge, attitudes and practices of the society in order to prevent the spread of malaria, more effective and sustainable. As for the government and other policy makers, would support the implementation of the program for prevention of malaria by increasing the required policies, particularly in the form of budget support and increase the participation of local communities.

6. Conclusion

There is a relationship between knowledge of community with the incidence of malaria at Sub District of West Walenrang, Districts of Luwu in the leading category of weak ties and a relationship between attitudes of community with the incidence of malaria at Sub District of West Walenrang, Districts of Luwu in the leading category of weak ties, also a relationship between practices of community and the incidence of malaria at Sub District of West Walenrang, Districts of Luwu in the leading category of weak ties.

Based on these results, it is recommended to program managers in the field, would focus on developing programs to increase knowledge, attitudes and practices of the community in order to prevent the spread of malaria. As for the government and other policy makers, would support the implementation of the program for prevention of malaria by increasing the amount of budget and program of increasing the participation of local communities.

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