

**LEVEL OF KNOWLEDGE AND PUBLIC ATTITUDES TOWARD THE
MASS DRUG ADMINISTRATION (MDA) SCHISTOSOMIASIS IN DODOLO
VILLAGE NAPU VALLEY CETRAL SULAWESI**

Ayu Sekarani Damana Putri*, Wahyu Ratna Sari**

**Department of Parasitology, Faculty of Medicine, Tadulako University*

***Medical Student, Faculty of Medicine, Tadulako University*

ABSTRACT

Background : Schistosomiasis is one of the biggest NTD in the world. Since 2018, Indonesia government has a new programe to control the prevalence of schistosomiasis using Mass Drug Administration praziquantel. The success of this programe is influenced by knowledge, attitudes, and actions. Dodolo village Napu valley in the highest prevalence of schistosomiasis in Indonesia.

Methods : The research was observational study with a cross-sectional approach conducted in 2018 among 79 persons in the Dodolo village using a structured face-to-face survey questionnaire.

Results: The results show the people with a good knowledge about MDA schistosomiasis was 70 people (88,6%), respondent with a fairly knowledge 8 people (10,1%), and 1 respondents (1,3%) have less knowledge. The attitude of the MDA schistosomiasis is rated as good as 51 respondents (64,6%) and 28 respondents (35,4%) have enough attitude.

Conclusions : The public knowledge and attitude of Dodolo's village is well rated.

Keyword : schistosomiasis, mass drug administration, knowledge, attitude

BACKGROUND

Schistosomiasis is a tropical disease caused by blooddwelling fluke worms of the genus *Schistosoma* and is recognized as a major public health problem in many developing countries including Indonesia^[1]. Schistosomiasis in Indonesia is only endemic in the Central Sulawesi Province with the limited distribution in two very isolated marshes around Lake Lindu and an area in the Napu Valley. Integrated schistosomiasis control programmes by Indonesia Ministry of Health implemented in the Lindu and Napu Valleys during the period of 1982-2005 have successfully reduced the prevalence of schistosomiasis from 37% to 1% in Napu Valley and from 37% to 0.6% in Lindu Valley. Human prevalence surveys reveal that the prevalence tended to increase during the period of 2012-2015 to over than 1% prevalence^[2]. The Indonesian Ministry of Health (IMOH) has generated a strategic plan to eliminate schistosomiasis in Central Sulawesi province by 2020 through a chemopreventive drug alongside health education, environmental management and agro-engineering. Praziquantel (PZQ) has activity against all species of schistosomes and shows minimal side effects. As a consequence, it has become the drug of choice against schistosomiasis⁽³⁾. Chemopreventif drug using mass drug administration (MDA) of praziquantel to all population over 5 years old in endemic area are started to be implemented in February 2018 and will be continued every six months for the next two years. The goal of MDA is to reduce the density of parasites circulation in the blood of infected persons and the intensity of infection in communities to levels where transmission is no longer sustainable by the *Oncomelania sp* as a vector⁽⁴⁾.

The success of MDA in reducing the human prevalence of infection depends on the treatment coverage rate, the frequency of treatment campaigns and compliance to treatment. The compliance of MDA is also affected by social aspects of society including knowledge, attitudes and beliefs^[5]. A person's knowledge and attitude can make the MDA run as agreed. This study was conduct to determine the level of knowledge and attitudes of the community towards the MDA programme in Dodolo Valley, Napu Valley, Central Sulawesi.

METHODS

Study design and study area

A cross-sectional schistosomiasis survey on knowledge and attitude, as well as MDA compliance was conducted in November 2018 among resident 18 years age and older in Dodolo Village, Napu Valley. Dodolo Village is a region known to have a highest prevalence of schistosomiasis in Indonesia.

Study procedure

Individuals aged 18-years old and above were randomly selected from the village with the total of sample was 79 persons. The study conducted using a structured face-to-face survey questionnaire.

RESULT

Table 1. Profile of mass drug administration (MDA) survey respondents from Dodolo village

Sex	Jumlah	Persentase (%)
Males	36	45,6
Females	43	54,4
Age	Frekuensi	Persentase (%)
Teen (12-25 yo)	20	25,3
Adult (26-45 yo)	45	57
Elder (46-69 yo)	14	17,7
Education	Jumlah	Persentase (%)
None	4	5,1
Elementary School	29	36,7
Junior high school	17	21,5
Senior high schools	27	34,2
College	2	2,5
Occupation	Frekuensi	Persentase (%)
Employees	1	1,3
Entrepreneur	11	13,8
Farmer	44	55,7
None	23	29,1

Table 2. Level of Knowledge and Attitude towards MDA schistosomiasis (n=79)

Knowledge	Frequency	Percentage (%)
Good	70	88,6
Fairly	8	10,1

Attitudes		1	1,3
		Frequency	Percentage (%)
	Poor	1	1,3
	Good	51	64,6
	Fairly	28	35,4
	Poor	0	0
MDA Compliance		Frequency	Percentage (%)
	Yes	79	100
	No	0	0

Based on survey, people who have good knowledge as many as 70 people (88.6%), fairly knowledge as many as 8 people (10.1%), while for less knowledge as many as 1 person (1.3%). People with good attitude as many as 51 people (88.6%), fairly attitude as many as 28 people (10.1%), while those who have a poor of attitude do not exist.

Table 3. Level of Knowledge towards MDA Schistosomiasis based on Sex, Age, Occupation and Education (n=79)

Characteristic	Level of Knowledge						Total	%
	Good		Fairly		Poor			
	N	%	N	%	N	%		
Sex								
Males	30	38	5	6,3	1	1,3	36	45,6
Females	40	50,6	3	3,8	0	0	43	54,4
Age								
12-25 yo (teen)	16	20,25	3	4	1	1,3	20	25,3
26-45 yo (adult)	40	51	5	6,3	0	0	45	57,3
46-69 yo (elder)	14	21,5	0	0	0	0	14	21,5
Occupation								
Farmer	38	48,1	5	6,32	1	1,3	44	56
None	21	27	2	2,5	0	0	23	29,1
Entrepreneur	10	12,65	1	1,3	0	0	11	14
Employee	1	1,3	0	0	0	0	1	1,3
Education								
None	3	4	1	1,3	0	0	4	7
Elementary school	25	32,5	4	5,1	0	0	29	38
Junior high school	16	20,2	1	1,3	0	0	17	21,5
Senior High	24	30,3	2	2,5	1	1,3	27	34,1

school								
College	2	2,5	0	0	0	0	2	2,5

From table 3. It can be seen that woman (40 people/51%) has a good knowledge compared to male (30 people/37.97%). Based on the age, adult has a better knowledge than elder or young people. Based on occupation, farmer (38 people/48.1%) has a better knowledge than other occupation. Based on level of education, people who got education only until elementary schools (25 people /32.5%) has a better knowledge than others.

Table 4. Level of Public Attitude towards MDA Schistosomiasis based on Sex, Age, Occupation and Education (n=79)

Characteristic	Baik		Sikap Cukup		Kurang		Total	%
	N	%	N	%	n	%		
Sex								
Males	23	29,1	13	16,5	0	0	36	47
Females	28	35,4	15	19	0	0	43	54
Age								
12-25 yo (teen)	10	13	10	13	0	0	20	26
26-45 yo (adult)	28	35,4	17	21,5	0	0	45	57
46-69 yo (elder)	13	16,4	1	1,3	0	0	14	18
Occupation								
Farmer	30	38	14	18	0	0	44	56
None	13	16,4	10	13	0	0	23	29,4
Entrepreneur	8	10,1	3	3,8	0	0	11	14
Employee	0	0	1	1,3	0	0	1	1,3
Education								
None	1	1,3	3	3,8	0	0	4	5
Elementary school	19	24,05	10	13	0	0	29	37
Junior high school	12	15,1	5	6,3	0	0	17	21,5
Senior High school	18	23	9	11,4	0	0	27	34,1
College	1	1,3	1	1,3	0	0	2	2,5

From table 4.3. It can be seen that woman (28 orang/35,4%) has a good attitude compared to male (23 orang/29,1%). Based on the age, adult has a better attitude than elder or young people. Based on occupation, farmer (30

orang/38%) has a better knowledge than other occupation. Based on level of education, people who got education only until elementary schools (19 orang/24,05%) has a better attitude than others.

DISCUSSION

This study shown that majority of people in Dodolo village have a good knowledge and attitude toward MDA schistosomiasis. The community got information regarding MDA from counseling health workers and distributing it to the public thorough of mass brochures before the MDA programmes started therefore its influenced the level of participation in taking medication in the community. According to the results of a study conducted by Nurwidayanti ^[6] it was stated that the people who attended counseling had better knowledge than those who did not take counseling.

A good knowledge of the people in Dodolo Village was obtained from their experiences regarding schistosomiasis prevention programs that had been carried out previously, namely the consumption of praziquantel drugs and routine fecal examination. According to Marimbi H ^[7] a person's knowledge can be obtained from intrinsic factors such as someone's experience which will then be perceived to give rise to innovation and intention to act which will eventually become behavior, and extrinsic factors in the form of physical and non-physical and socio-cultural environments. Good knowledge and public awareness of the importance of taking preventive medicine for schistosomiasis, this will prevent an increase in the incidence of schistosomiasis. Some people has a fairly knowledge because some people who did not take part in their counseling were told about MDA from their families who came during counseling, which was one of the factors that caused the community to get the wrong information. Other factors that influence the differences of knowledge due to differences in age and education. Different knowledge results are influenced by various things, namely education, work, age, interests, culture, experience and information^[8].

Based on the age, level of knowledge and public attitudes are considered good in the adult age group or productive because they have a mature mindset in receiving information so that the information can be applied in daily life. Research

conducted by Lusi et al. ^[9] said that changes in a person's physical and psychological (mental) aspects are caused by increasing age. According to Mubarak et al. ^[10] growth in the psychological or mental aspects of a person's thinking level is more mature and mature so that it will affect the level of knowledge.

The study shown that based on education, people with elementary school education have a better level of knowledge and public attitude towards MDA. The majority people in Dodolo village having education until elementary school. Even though they have a low education level, their knowledge was good because they always got information related schistosomiasis from health workers. According to Notoadmodjo ^[5] explained that education is an attempt by someone to get formal knowledge that teaches various knowledge. Not always someone who has a low level of education has less knowledge. Those who have lower levels of education tend to have good knowledge. This is not in line with the existing research because the majority of elementary school graduates receive information from counseling provided by health workers.

Based on Occupation, people who works as farmes have the highest level of knowledge and public attitude towards MDA. Its happen because gardens and rice fields are the focus areas of snails. So the farmers will always be exposed to the *Oncomelania hupensis linduensis* snail which will result in an increased incidence of schistosomiasis. As people who are susceptible to schistosomiasis they are the biggest target of counseling for health officials. In accordance with research conducted by Sulistin ^[11] who said that knowledge about transmission and prevention of schistosomiasis was obtained from counseling conducted by health workers.

Community attitudes regarding the schistosomiasis POPM program can be considered good. However, for their awareness is still less like stepping on the ground without using footwear where it is not exposed to sunlight. The lack of facilities for personal protective equipment is also something that makes the incidence of schistosomiasis increase in this case due to personal protective equipment that is not suitable for the community. This is in accordance with the research conducted by Ningsih et al. ^[12] which states that knowledge is not always

related to a person's behavior in preventing an outbreak and with support both in terms of health facilities and understanding, the community will behave positively in preventing disease.

CONCLUSION

The public knowledge and attitude of Dodolo's village was well rated shown by 88,6% person had a good knowledge and 64,6% person had a good attitude toward MDA schistosomiasis in Dodolo Village Napu Valley Cetral Sulawesi

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