

Predisposing Factor Associated with Community Action in Terminating TB Transmission in KB Village 2018

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Abstract: The purpose of KB village is to improve the degree of public health. Pulmonary TB is a disease with high prevalence and degrade the public health and welfare level. This study aims to analyze the relationship of predisposing factor with knowledge, attitude, and community action in terminating pulmonary TB transmission with cross-sectional design. The population is all households from two neighborhoods of KB Village of 204 households. The sample is taken randomly from the list of households and got 132 respondents and analyzed using independent t-test. The proportion of respondent's factor was female (93.9%), age \leq 50 years (71.2%), lower education (59.1%), unemployment (72.7%), and less dense population (65.9%). It is obtained gender, age, and occupation are significantly related with knowledge ($p < 0.05$). Only employed is related with attitude ($p < 0.05$) and gender is related with action ($p < 0.05$). Intensive counseling is needed for the people of KB Village to improve their attitude and action in effort of terminating pulmonary TB transmission. The role of cadre in KB Village have to improve in order to give understandable counseling and can be applied by the community, therefore an effective and efficient counseling method is being prepared by utilizing poster and cadre's book guideline.

1 INTRODUCTION

KB Village an area equivalent to hamlet/RW with certain criteria in which there is an integrated program of Population, Family Planning, and Family Development, and the related sector development is conducted systematically. The purpose of KB village establishment is to improve the degree of public health (BKKBN, 2016).

One of contagious disease with high prevalence and can degrade the degree of public health as well as welfare level is pulmonary TB disease, the transmission can develop rapidly especially in slum and dense populated area with low socio-economics. There are six countries that contributing 60% of new cases, there are India, Indonesia, China, Nigeria, Pakistan, and South Africa (WHO, 2016).

The estimation of all cases of pulmonary TB prevalence in Indonesia was 660,000 and the estimation of incident was 430,000 of new cases per year. The number of deaths from pulmonary TB was estimated to be 61,000 per year. The number of pulmonary TB new and relapsing cases notification from 2000-2009 was increasing, then gradually

decreasing until 2013, but then increasing again until 2015. The notification number of new pulmonary TB cases was 117 per 100,000 population (Kemenkes, 2016).

In 2015, in Sumatera Utara the prevalence rate of pulmonary TB was 794/100,000 population, the incident rate was 501/100,000 population and the number of deaths from pulmonary TB was 41/100,000 population, with Case Detection Rate (CDR) of all forms of 22,961 (33.3%). According to the report of Integrated TB Information System (SITT) in 2016, the rate incident was estimated to be 129 per 100,000 penduduk. Although the estimation was still lower than it supposed to occur in the community (Dinkes, 2013).

In the effort of increasing CDR of pulmonary TB *Kemenkes RI* has launched a pulmonary TB prevention program in Indonesia known as TOSS Pulmonary TB (*Temukan Obati Sampai Sembuh*). The success of this program is strongly influenced by the level of knowledge, attitude, as well as the community role in recognizing the early symptoms, the transmission method, and the termination of transmission, the treatment, and the prevention of

pulmonary TB. The effort of pulmonary TB termination was adopted from Green’s theory of health-seeking service by the community. Therefore, the predisposing factor associated with knowledge, attitude, and community action in terminating pulmonary TB transmission in KB Village is needed (Kemenkes, 2016).

2 RESEARCH METHOD

The research method is performed through cross-sectional design with independent variable of predisposing (sociodemography, knowledge, and attitude) and dependent variable of the effort in terminating pulmonary TB transmission. Sociodemographic factor is age which grouped into over ≤ 50 years old and >50 years old, education is grouped into lower education level (Elementary School and Middle School graduates) and higher education level (High School and University graduates), occupation is grouped into unemployment and employed, and population is grouped into less dense population (≤ 5) and densely populated (>5). Knowledge is categorized into less with score of ≤ 20 and decent >20 , attitude is categorized into less with score of ≤ 54 and decent >54 , and action is categorized into less with score of

≤ 13 and decent >13 .

The population of this study is all of householders within the area of KB Village in Titi Kuning Sub-District Medan Johor District and Padang Bulan Sub-District and Medan Baru District with total of 204 people. The amount of the sample is determined based on Slovin formula with $SE = 0.05$ so the sample obtained is 132 respondents. The sample is randomly picked according to the list of households within the two areas with inclusion criteria of the head of the family is willing to be interviewed and trained in recognizing pulmonary TB patient, the prevention, and the transmission within the family. Out of willingness it turns out most of housewives were willing to participate in the research (124 people) and male only 8 people. The data collecting technique is performed with interview using questionnaires that have been tested and approved by Ethical Commission with registered number: 1522/VI/SP/2018. Bivariate analysis is performed with independent t-test.

3 RESULT AND DISCUSSION

3.1 Univariate Analysis

According to the result, the respondent’s predisposing factor distribution can be seen in table 1.

Table 1: Distribution of KB Village Community’s Predisposing Factor

Characteristic	f	%
Gender		
Male	8	6.1
Female	124	93.9
Age		
≤ 50 years old	94	71.2
>50 years old	38	28.8
Education		
Lower Education Level	78	59.1
Higher Education Level	54	40.9
Occupation		
Unemployment	96	72.7
Employed	36	27.3
Population		
Less Dense Population	87	65.9
Densely Populated	45	34.1
Total	132	100.0

Table 1 shows respondent’s predisposing based on gender, female is 124 people (93.9%). This number is higher than male of 8 people (6.1%). Based on age, the highest proportion is at age group of ≤ 50 years old, which is 94 people (71.2%). Next, the highest proportion of education is at the group of lower education level (Elementary and Middle School), which is 78 people (59.1%). Furthermore, the highest proportion of occupation is at the group of unemployment which is 96 people (72.7%). And lastly, the highest proportion of population is at the group of less dense population which is 87 people (65.9%). This illustrates the characteristic of KB Village in which the people is pre-prosperous and the majority of them have lower education level and are unemployed.

Table 2: The Association of Predisposing Factor with Respondent's Knowledge in Terminating Pulmonary TB Transmission in KB Village 2018

<i>Characteristic</i>	<i>Category</i>	<i>n</i>	<i>SD</i>	<i>Mean</i>	<i>Median (min-max)</i>	<i>p</i>	<i>95% CI</i>
Gender	Male	8	8.418	14.50	13.50 (6-27)	0.003	-11.200- (-2.284)
	Female	124	6.025	21.24	21.50 (7-40)		
Age	≤50 years old	94	6.471	21.63	22.00 (6-40)	0.023	0.378-5.140
	>50 years old	38	5.701	18.87	19.00 (7-32)		
Education	Lower Education Level	78	6.204	20.64	22.00 (6-40)	0.948*	
	Higher Education Level	54	6.632	21.11	19.50 (7-39)		
Occupation	Unemployment	96	6.357	21.74	22.00 (6-40)	0.007	0.922-0.5724
	Employed	36	5.793	18.42	18.50 (6-30)		
Population	Less Dense Population	87	6.548	20.99	22.00 (6-39)	0.648*	
	Densely Populated	45	6.048	20.53	19.00 (6-40)		

*switched to median due to the data is not normally distributed and the Mann-Whitney test is performed

Table 3: The Association of Predisposing Factor with Respondent's Attitude in Terminating Pulmonary TB Transmission in KB Village 2018

<i>Characteristic</i>	<i>Category</i>	<i>n</i>	<i>SD</i>	<i>Mean</i>	<i>Median (min-max)</i>	<i>p</i>
Gender	Male	8	1.581	52.25	52.00 (50-55)	0.088*
	Female	124	5.006	54.73	54.00 (40-66)	
Age	≤ 50 years old	94	5.171	54.19	53.00 (40-66)	0.147*
	> 50 years old	38	4.058	55.55	55.00 (48-66)	
Education	Lower Education Level	78	4.552	54.56	54.00 (40-64)	0.987*
	Higher Education Level	54	5.409	54.61	54.00 (41-66)	
Occupation	Unemployment	96	4.951	55.10	55.00 (40-66)	0.010*
	Employed	36	4.541	53.19	52.00 (44-63)	
Population	Less Dense Population	87	5.025	54.67	54.00 (40-66)	0.954
	Densely Populated	45	4.702	54.42	54.00 (41-66)	

3.2 Bivariate Analysis

Based on the result, the association of predisposing factor with knowledge, attitude, and respondent's action in terminating pulmonary TB transmission in KB Village 2018 can be seen in the table 2 and 3.

Table 2 exhibits independent variables (gender, age, and occupation) have significant relationship with respondent's knowledge in terminating TB transmission ($p < 0.05$) and independent variables (education and population) do not have significant relationship with respondent's knowledge in terminating TB transmission ($p > 0.05$). The condition above can be assumed is due to the majority of respondents is at productive age (≤ 50 years old),

housewives, and unemployed. This group usually is responsible for caring and maintaining the family's health, thus the curiosity on the disease is very high.

Table 4: The Association of Predisposing Factor with Respondent’s Action in Terminating Pulmonary TB Transmission in KB Village 2018

<i>Characteristic</i>	<i>Category</i>	<i>n</i>	<i>SD</i>	<i>Mean</i>	<i>Median (min-maks)</i>	<i>p</i>
Gender	Male	8	2.615	10.62	11.50 (7-13)	0.003*
	Female	124	1.758	12.77	13.00 (7-14)	
Age	≤ 50 years old	94	1.697	12.85	13.00 (7-14)	0.127*
	> 50 years old	38	2.203	12.11	13.00 (7-14)	
Education	Lower Education Level	78	1.744	12.71	13.00 (7-14)	0.873*
	Higher Education Level	54	2.071	12.54	13.50 (7-14)	
Occupation	Unemployment	96	1.877	12.61	13.00 (7-14)	0.768*
	Employed	36	1.910	12.69	13.00 (7-14)	
Population	Less Dense Population	87	1.885	12.52	13.00 (7-14)	0.138*
	Densely Populated	45	1.866	12.87	14.00 (7-14)	

*switched to median due to the data is not normally distributed and the Mann-Whitney test is performed

This is not in line with the study result of Gelaw (2015) in which there is a significant relationship between lower education level with pulmonary TB knowledge, female with Adjusted Odd Ratio (AOR)=1.95 and male=3.4, but in this study lower education level is Elementary School graduates. Table 3 showed independent variables (gender, age, education, and population) do not have significant relationship with respondent’s attitude in terminating TB transmission ($p>0.05$) and only occupation has a significant relationship with respondent’s attitude in terminating TB transmission ($p<0.05$). This is line with the relationship of characteristic with knowledge in which unemployed respondents have better knowledge, this also related with a better attitude in terminating pulmonary TB transmission. This is in line with a study of Rahmawati S.A (2017) in which there is a significant relationship between knowledge with the attitude in terminating pulmonary TB transmission ($p= 0.001$).

Table 4 reveals independent variables (age, education, occupation, and population) do not have significant relationship with respondent’s action in terminating pulmonary TB transmission ($p>0.05$) and only gender has a significant relationship with respondent’s action in terminating pulmonary TB transmission ($p<0.05$).

It is in line with the relationship of characteristic with knowledge and respondent’s attitude of female is better and the proportion is more dominant (93.9%), hence it also related with better action in terminating pulmonary TB transmission. This is also in line with a study from Wijaya MK dkk (2012) in which showed there is a significant relationship

between knowledge and attitude in controlling TB case in Buleleng District.

But the result of this study is not in accordance with a study from Nasirudin (2014) which revealed there is no relationship between knowledge ($p= 0.448$) and attitude ($p= 1.000$) in the prevention action of TB transmission in the working area of Puskesmas Ngemplak in Boyolali District.

According to the result an intensive counseling is still required to be performed to the people of KB Village to raise their attitude and action in the effort of terminating pulmonary TB transmission. The role of cadre in KB Village have to be improved in order for them to give understandable counseling and can be applied by the community, therefore an effective and efficient counseling method is being prepared by utilizing poster and cadre’s guideline.

4 CONCLUSIONS

The proportion of respondent’s factor was female (93.9%), age ≤ 50 years (71.2%), lower education (59.1%), unemployment (72.7%), and less dense population (65.9%). It is obtained gender, age, and occupation are significantly related with knowledge ($p<0.05$). Only employed is related with attitude ($p<0.05$) and gender is related with action ($p<0.05$). Intensive counseling is needed for the people of KB Village to improve their attitude and action in effort of terminating pulmonary TB transmission.

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REFERENCES

- BKKBN Kota Medan, 2016. Tentang Kampung KB. Available from <http://kampungkb.bkkbn.go.id>
- Dinas Kesehatan Provinsi Sumatera Utara, 2013. Profil Kesehatan Sumatera Utara Tahun 2013. Available from <http://dinkes.sumutprov.go.id/editor/gambar/file/TABEL%20LAMPIRAN%20PROFIL%202013%20FINAL.pdf>
- Gelaw, SM., 2015. **Socioeconomic Factors Associated with Knowledge on Tuberculosis among Adults in Ethiopia.** Available from <http://dx.doi.org/10.1155/2016/6207457>
- Kemkes, 2016. Infodatin Tuberkulosis. Available from <http://www.depkes.go.id/download.php?file=download/pusdatin/infodatin/InfoDatin-2016-TB.pdf>
- Nasirudin M.R., 2014. Hubungan Tingkat Pengetahuan dan Sikap dengan Perilaku Pencegahan Penularan Tuberkulosis (TB) di Wilayah Kerja Puskesmas Ngemplak Kabupaten Boyolali. Available from <http://eprints.ums.ac.id/31050/>
- Rahmawati, S.A. 2017. Pengetahuan dan Sikap Akan Meningkatkan Tindakan Pencegahan Tuberculosis (TBC). Available from <http://digilib.unisayogya.ac.id/2640/1/NASKAH%20PUBLIKASI.pdf>
- WHO, 2016. Global Tuberculosis Report. Available from http://www.who.int/tb/publications/global_report/en/
- WHO., 2016. **Tuberculosis Country Profiles.** Available from <http://www.who.int/tb/country/data/profiles/en/>
- Wijaya, MK., Murti, B., Suriyasa, P., 2013. **Hubungan Pengetahuan, Sikap, dan Motivasi Kader Kesehatan dengan Aktivasnya dalam Pengendalian Kasus Tuberkulosis di Kabupaten Buleleng.** Jurnal Magister Kedokteran Keluarga Vol 1, No 1, 2013 (page 38-48)