# The Behavior of Batak Tribe in TB Control in TB Village Bandar Manis Village Pematang Bandar Health Center

Alam Bakti Keloko, Lina Tarigan and Sorimuda Sarumpaet
*Faculty of Public Health, Universitas Sumatera Utara, Medan, Indonesia*

Keywords: Behavior, Batak Tribe, TB Control.

Abstract: Sumatera Utara is an endemic area of pulmonary TB. The prevalence of pulmonary TB in 2017 is 111,977. Moreover, deaths caused by TB are 5,847. In August 2018. Bandar Manis Village was inaugurated by Pematang Bandar Health Center as a TB village, due to several TB patients there. The health center's innovation program is GEROBAK TIKA (*Gerakan Batuk Etis*) which aims to terminate TB in the villages. The Bb genotype is more at risk of developing pulmonary TB than the bb genotype. Most Batak tribes have Bb genotypes. Research on TB cough control behavior in TB Village, Bandar Manis Village, Pematang Bandar Health Center. This research is a case-control. The population is all of the pulmonary TB patients, as the controlling is conducted by the people who do not suffer from pulmonary TB. The data collection is carried out by interviews using questionnaires. The data analysis is performed by univariate and chi-square test. According to the result, high knowledge on the case is 58.1% and on control is 44.2%. Low knowledge is 41.9% on case and 55.8% on control. The good attitude on the case is 58.1% and on control is 44.2%, while the poor attitude on the case is 41.9% and on control is 55.8%. Poor action on cases is 41.9% and on control is 37.2%, while good action on case is 58.1% and on control is 62.8%. The chi-square result show there is no relationship between behavior and prevention of pulmonary TB.



## 1 INTRODUCTION

Pulmonary TB is the 2nd largest infectious disease in Indonesia. Sumatera Utara is an endemic area of pulmonary TB, the estimated TB burden of 2017 is TB prevalence of 111,977 with a rate of 794/1000, TB incidence of 73,488 with a rate of 515 / 100,000, death from TB of 5,847 at a rate of 41/100,000 (Dinas Kesehatan Provinsi Sumatera Utara, 2018). On August 10, 2018, Bandar Manis Village, Pematang Bandar Sub-district is inaugurated by Pematang Bandar Health Center as a TB Village due to the number of TB patients in this village. According to the report of the Head of the Pematang Bandar Health Center in this village, 40 people are suffering from pulmonary TB and at the time of the accreditation of the health center, the innovation program is TB with GEROBAK TIKA (Gerakan Batuk Beretika) which aims to create the village TB free.

The population of Bandar Manis Village mostly comes from Batak tribe. The result of a research by Sinaga (2014) shows that there is an influence of genotype with the susceptibility to the risk of pulmonary TB incidence, meaning there is an influence of bb genotype compared to Bb genotype on the risk of pulmonary TB (OR 0.22, 95% CI: 0.11-0.45), most Batak tribes have Bb genotype. Likewise, there are lifestyle influences such as smoking, staying up late, drinking alcohol and environmental sanitation on the risk of pulmonary TB incidence.

According to the research of Tumiur Sormin and Yuliati A (2016), it is found that the behavior of continuing TB treatment in health workers (32.3%), buying drugs at pharmacies or drug stores (31.9%), taking traditional medicines (7.8%), untreated (16.9%). The reason for not seeking treatment to the health facilities is because they thought that TB could heal on itself (38.2%), the unavailability of treatment cost (26.4%), the assumption that TB is not a serious disease (16.3%), the difficult access to health facilities (4.4%), no time (5.7%), and others (9.0%). For this reason, it is necessary to examine the determinants of pulmonary TB incidence in Batak tribe in the TB Village, Bandar Manis Village, Pematang Bandar Health Center.



Keloko, A., Tarigan, L. and Sarumpaet, S.
The Behavior of Batak Tribe in TB Control in TB Village Bandar Manis Village Pematang Bandar Health Center.
DOI: 10.5220/0010012601220125
In *Proceedings of the 3rd International Conference on Social and Political Development (ICOSOP 3 2019) - Social Engineering Governance for the People, Technology and Infrastructure in Revolution Industry 4.0*, pages 122-125
ISBN: 978-989-758-472-5

## 2 METHODS

The study was conducted in the TB Village, Bandar Manis Village, Pematang Bandar. Utilizing a case-control study design that examines factors that influence the incidence of pulmonary TB. The population is all 43 pulmonary TB patients registered at the health center. The control population are those who do not suffer from TB of 43 people, with a ratio of 1: 1. The data collection is performed by interviews using questionnaires. The sample size case 44 cases and controls. The data analysis is conducted with univariate and chi-square test, variables with $p < 0.05$ will be stated to have an influence.

## 3 RESULT

### 3.1 The Influence of Respondents' Knowledge on TB Incidence

As seen in the Table 1, the proportion of respondents who had low knowledge in the case group is 41.9%, this figure is smaller than the control group which is 55.8%. Whereas respondents with high knowledge in the case group are 58.1%, this figure is higher than the control group, which is 44.2%. The result of the analysis using chi-square shows that this study had no significant effect between knowledge and pulmonary TB disease ($p = 0.196 < 0.05$). The OR value = 1.754, indicating that those suffering from pulmonary TB have 1.754 times the tendency to occur in respondents who have high knowledge compared to low knowledge.

This is in line with a research of Kurniasari, et. al. (2012) in Baturetmo District, Wonogiri Regency, Jawa Tengah Province by using a case-control design, they obtained $p = 0.085$, which means there is no significant influence between knowledge and the incidence of pulmonary TB with the OR values in the study of 2.7.

Although, in this study, knowledge does not have a significant influence on the incidence of pulmonary TB, but knowledge has a role in the transmission of pulmonary TB. In theory, the lower the knowledge about pulmonary TB, the greater the danger in transmission, but in the result of the study of the prevalence of sufferers, high knowledge is higher than low knowledge.

### 3.2 The Influence of Respondents' Attitude on TB Incidence

As viewed on the Table 2, the proportion of respondents who do not have a good attitude in the case group is 41.9%, this figure is smaller when compared to the control group which is 55.8%. While the respondents' good attitude in the case group is 58.1%, this figure is higher than the control group which is 44.2%. The result of the analysis using chi-square shows that there is no significant effect between attitude and pulmonary TB disease ($p = 0.196 < 0.05$). The OR value = 1.754, indicating that those suffering from pulmonary TB have 1.754 times the tendency occurs in respondents with good attitude compared to poor attitude.

The study is in line with a research of Wenas R et al. (2015) conducted in Wori Village of Sulawesi Utara Province, the obtained p-value = 0.281 meaning there is no influence between attitude and the incidence of pulmonary TB. In theory, the attitude influences the incidence of pulmonary TB, the better the attitude in preventing pulmonary TB transmission, the lower the transmission of pulmonary TB, but the result of the study differ from the theory. The study of the prevalence of pulmonary TB is higher in respondents with good attitude compared with a good attitude.

Table 1: Influence of respondents' knowledge on TB incidence in Bandar Manis Village, Pematang Bandar Health Center.

| Knowledge | Pulmonary TB | | | | P | OR | 95% CI |
|---|---|---|---|---|---|---|---|
| | Case | | Control | | | | |
| | N | % | N | % | | | |
| High | 25 | 58.1 | 19 | 44.2 | | | |
| Low | 18 | 41.9 | 244 | 55.8 | 0.196 | 1.754 | 0.747-4.121 |
| Total | 43 | 100.0 | 43 | 100.0 | | | |

Table 2: The Influence of respondents' attitudes toward TB Incidence in Bandar Manis Village, Pematang Bandar Health Center.

| Attitude | Pulmonary TB | | | | *p* | OR | 95% Cl |
|---|---|---|---|---|---|---|---|
| | Case | | Control | | | | |
| | N | % | N | % | | | |
| Good | 25 | 58.1 | 19 | 44.2 | | | |
| Poor | 18 | 41.9 | 24 | 55.8 | 0,196 | 1.754 | 0.747-4.121 |
| Total | 43 | 100.0 | 43 | 100.0 | | | |

Table 3: The Influence of Respondents' Action toward TB Incidence in Bandar Manis Village, Pematang Bandar Health Center.

| Action | Pulmonary TB | | | | *P* | OR | 95% Cl |
|---|---|---|---|---|---|---|---|
| | Case | | Control | | | | |
| | N | % | N | % | | | |
| Poor | 18 | 41.9 | 16 | 37.2 | | | |
| Good | 25 | 58.1 | 27 | 62.8 | 0.825 | 1.215 | 0.511-2.888 |
| Total | 43 | 100.0 | 43 | 100.0 | | | |

### 3.3 The Influence of Respondents' Action on TB Incidence

Based on the table above, the proportion of respondents with poor action in the case group is 41.9%, this figure is higher when compared to the control group which is 37.2%. While the respondent with good action in the case group is 58.1%, this figure is lower than the control group that is 62.8%. The result of the analysis using chi-square shows that there is no significant effect between action with pulmonary TB disease (p = 0.825 <0.05). The OR value = 1.215, indicating that those suffering from pulmonary TB have 1.2 times the tendency to occur in respondents who have poor action compared to good actions.

The study is not in line with Fitriani (2013) in the Ketangguanagan Health Center in Semarang, they obtained a value of p = 0.0001, which means there is a significant influence between behavior and the incidence of pulmonary TB. The activity of opening the window every morning is one of the efforts to prevent the transmission of pulmonary TB. By opening the window every morning, it is possible that sunlight can enter the house or room. In addition, the window can also function as a vent for air exchange.

## 4 CONCLUSION

The proportion of high knowledge is greater in the case group (58.1%) than in the control group (44.2%). Good attitude is also higher in the case group (58.1%) than in the control group (44.2%). However, the good behavior is higher in the control group (62.8%) than in the case group (58.1). Based on the square test there is no effect of knowledge (p = 0.196), attitude (p = 0.196) and actions (p = 0.825) on the incidence of pulmonary TB.

## ACKNOWLEDGMENT

Thank you to the TALENTA Research Institute, University of Sumatera Utara for providing the research funding with contract number: 4167 / UN5.1.R / PPM / 2019. April 1st, 2019.

## REFERENCES

Dinas Kesehatan Provinsi Sumatera Utara. 2018. *Kebijakan program pengendalian TBC Provinsi Sumatera Utara*. Medan.

Sinaga, B.Y.M., 2014. Correlation between Vitamin D Receptor Gene FOKI and BSMI Polymorphisms and the Susceptibility to Pulmonary Tuberculosis in an

Indonesian Batak-ethnic Population. *Acta Medica Indonesiana*, *46*(4).

Sormin, T., Amperaningsih, Y., 2016. Pengaruh pengetahuan dan sikap terhadap perilaku pencarian pengobatan pasien tuberculosis paru. *Jurnal Keperawatan*, *XII*(1).

Kurniasari, R., Suhartono, C., K., 2012. Faktor risiko kejadian TB paru di Kecamatan Baturetno Kabupaten Wonogiri. *Media Kesehatan Masyarakat Indonesia*, *11*(2).

Wenas, A.R., Kandou, G., Rombot, D., 2015. Pengaruh perilaku dengan kejadian penyakit TB paru di Desa Wori Kecamatan Wori Kabupaten Minahasa Utara. *Jurnal Kedokteran Komunitas dan Tropik*, *3*(2). Retrieved from https://ejournal.unsrat.ac.id/ind ex.php/ JKKT/article /view/7776

Fitriani, E., 2013. Faktor risiko yang berpengaruh dengan kejadian tuberkulosis paru. *Journal of Public Health*, *2*(1). Retrieved from http://journal.unnes.ac.id/sju/ index.ph/u jph