
Risk Factors of Tuberculosis at Women in Cilacap District

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ABSTRACT

Introduction: Tuberculosis (TB) is disease a second major cause of deaths worldwide among infectious diseases, killing nearly 2 million people each year. The variety of problems will arise if the woman was suffering TB especially who are married, pregnant, and have children. Her role as a housewife who had to carry out physical or mental care of children while taking care of her husband will be disturbed. The prevalence of smear positive pulmonary Tuberculosis (TB) in 6 region health center in Cilacap District at 2012, women higher than men.

Objectives: To know probability of pregnancy, marital status, parity, physical activity, level of education, level of knowledge, the kitchen smoke pollution, history contact with TB patient, residential density, ventilation against TB incidence in women.

Methods: The type of research was observational analytical case-control design. Sample is 102 people consisting of as many as 51 cases and 51 control. Sampling is done with proportional random sampling techniques. Data were analyzed with the univariabel, bivariabel analysis, and multivariable.

Results: Pregnancy (OR 1.2 95% CI 2.4-23.7 p0.04), parity (OR 3.5, 95% CI 1.3-9.7 p 0.01), history of contacts (OR 3.8 95% CI 1.4-10.4 p 0.01) ventilation (OR 2.4 95% CI 7,5-23.7 p 0.00) as a risk factor for the occurrence of TB in women.

Conclusion: The incidence of TB in women in Cilacap District a more probable or risk greater in women who were pregnant, high parity, had a history of contacts, and stay at home with the bad ventilation. Probability of them was 99.5%

Keywords: Tuberculosis, Women, Risk Factors

INTISARI

Pendahuluan: Tuberkulosis (TB) adalah penyakit penyebab utama ke-dua kematian di seluruh dunia di antara penyakit menular, membunuh hampir 2 juta orang setiap tahun. Risiko TB pada wanita meningkat selama usia produktif. Berbagai masalah akan muncul jika wanita menderita TB mengingat peran wanita terutama yang sudah menikah, hamil, dan memiliki anak. Perannya sebagai seorang ibu rumah tangga yang harus melaksanakan tugas pengasuhan fisik maupun mental anak-anak sekaligus mengurus suami akan terganggu. Prevalensi TB paru BTA positif di 6 wilayah Puskesmas Kabupaten Cilacap tahun 2012 pada wanita lebih tinggi dibandingkan pada pria.

Tujuan: Untuk mengetahui peluang status perkawinan, kehamilan, paritas, aktivitas fisik, tingkat pendidikan, tingkat pengetahuan, polusi asap dapur, riwayat kontak serumah, kepadatan hunian, dan luas ventilasi rumah terhadap kejadian TB pada wanita.

Metode: Jenis penelitian ini adalah penelitian analitik observasional dengan rancangan kasus kontrol. Besar sampel adalah sebanyak 102 orang terdiri dari 51 orang kasus dan 51 orang kontrol. Pengambilan sampel dilakukan dengan teknik *proporsional random sampling*. Data dianalisis dengan analisis univariabel, bivariabel, dan multivariabel.

Hasil: Hasil uji multivariat, kehamilan (OR 1,2 CI 95% 2,4-23,7 p 0,04), paritas (OR 3,5 CI 95% 1,3-9,7 p 0,01), riwayat kontak (OR 3,8 CI 95% 1,4-10,4 p 0,01) ventilasi (OR 7,5 CI 95% 2,4-23,7 p 0,00) sebagai faktor risiko terjadinya TB pada wanita.

Simpulan: Kejadian TB pada wanita di Kabupaten Cilacap berpeluang atau berisiko lebih besar pada wanita yang hamil, paritas tinggi, mempunyai riwayat kontak, dan tinggal di rumah dengan ventilasi yang tidak memenuhi syarat kesehatan. Probabilitas subyek dengan faktor risiko tersebut untuk menderita TB sebesar 99,5%.

Kata kunci: tuberkulosis, wanita, faktor risiko

INTRODUCTION

Tuberculosis (TB) is disease a second major cause of deaths worldwide among infectious diseases, killing nearly 2 million people each year¹. In 2010 as many as 6.2 million people worldwide have been diagnosed with TB consists of 5.4 million new cases, 300,000 cases and 400,000 re-treatment relapse². The prevalence of TB in women maximum reaches at the age of 40-50 years and then decreased, while in men the prevalence continues to increase until at least the age of 60 years³.

Higher female TB patients in 6 area health centre of Cilacap district. It is attracting researchers to conduct further research on the factors that influence the incidence of TB in women in Cilacap.

MATERIALS AND METHODS

The research design was case-control in 6 health center : Binangun, Kawunganten, Adipala 1, Kesugihan 1, Jeruklegi 1, and Dayeuhluhur 1. The subject as many 51 cases and 51 kontrol. Cases were women aged >18 years with the

criteria is all TB cases were recorded in the TB 03 in 2013.

Control of the entire population were living in the same neighborhood and the same age with the case, and has not been expressed as a TB patient. Sampling was done by proportional random sampling technique. Multivariable analysis was performed with stepwise method.

RESULTS AND DISCUSSION

Selection of variables for multivariable analysis tested qualified by bivariate analysis. Variables as model ($p < 0.25$) were women : married, pregnant, high parity, middle activities, weight activities, low levels of knowledge, the kitchen smoke exposure intensity, residential density, and ventilate the house.

From the 9 risk factors eligible multivariable testing obtained 4 risk factors that still has significance statistically. The risk factor is bad ventilation (p 0.01), pregnant (p 0.04), higher parity (p 0.01), and a history of contact with adult patients (p 0,01). Results of analysis with *stepwise* method can be seen in Table 1.

Table 1. The results of the multivariable analyzes factors that influence the incidence of TB in women in Cilacap district in 2013

Variables	Odds Ratio	Coef.	Std.Err.	z	P> z	[95% Conf.Interval]
Ventilation	7.541718	2.02045	4.411418	3.45	0.001	2.396472 - 23.73385
Gestation	1.218662	2.500339	1.502756	2.03	0.043	1.087051 - 136.6208
Parity	3.588301	1.277679	1.815376	2.53	0.012	1.331230 - 9.672185
Contact history	3.812648	1.338324	1.957154	2.61	0.009	1.394048 - 10.427390
cons tanta	0.0050629	-5.285817	0.007292	-3.67	0,000	0.000301 - 0.085183

Based on the multivariable test, the probability of women with a history of contact with adult patients, high parity, in pregnant condition, and lived at home with home ventilation that did not meet the health requirements for TB was 99.5%.

The women with pregnant conditions, high parity, has a history of contact, and stay at home with bad ventilation have a greater chance (1.2 to 7.5 times) for developing TB. Pregnancy can increase the risk of reactivation of latent infection. Besides pregnant women are more frequent contact with health services. It's possible that contact with health services in relation to pregnancy can increase case detection in young women⁴.

Tuberculosis occurs mostly in women at reproduction age and is a major cause of child and maternal mortality. It's possible that contact with health services in relation to childbirth and child care can increase case detection in younger women⁵. This is supported also by the opinion that says that in Tanzania the factors that may affect the increase TB case detection is one of the easy access to health services (OR 6.8)⁶.

Women with high parity require excessive physical activity are higher as well. Excessive physical activity can cause physical fatigue in women respect women have a complex role in his life. In addition to taking care of children

as well as a companion husband, manager of the household, the successor descent, and as citizens sometimes also as a supplementary income earner so decreased immune system⁷.

Woman in a position as a wife or a child, always a more active role if no other family members are sick. Patients with smear-positive pulmonary TB is an infectious source directly. Household contacts allow someone to be close to people with TB so will more and more doses of TB that may be inhaled by contact³.

Contact with a TB patient is a significant risk factor for TB infection⁸. Contact the nearest to TB sufferers are people who share the same air space in the household or other enclosed environments for a long time that family members living together⁹. Household contact with a pulmonary TB patient risk factors (OR = 3.9) incidence of TB¹⁰.

Homes with ventilation ineligible had 3.3 times the risk of an effect on the incidence of smear-positive pulmonary TB compared to homes with qualified ventilation¹¹. In line with these studies is the research also concluded that respondents with home ventilation are not eligible 4.9 times the risk of developing TB¹⁰.

House ventilation is one of the environmental health aspects associated with TB infection². Home ventilation function is to turn the air circulation in the house so bacillus *Mycobacterium*

tuberculosis and other germs carried out of the room and died from the ultra violet rays. The other function is to reduce moisture. Humidity in a closed room where there are lots of people in it is higher than the outdoor humidity. Good ventilation is 10% of the floor area¹².

Nature of women's reproductive role as the activities that are taking care of the family as caring for husband, children, clean the house, fetch water in domestic area¹³. This allows most women to stay at home longer. If the condition does not meet the health requirements, there are people with TB, the physical condition of the woman is weak due to too many children to be taken care of, especially if the condition of pregnant women will be more likely to become infected and TB patients.

CONCLUSION

TB incidence in women in Cilacap district chance or greater risk to pregnant women, women with high parity, women who have a history of contact, and the woman who lived in the house with vents that were not eligible health. The probability of women with that risk faktor for TB was 99.5%.

RECOMMENDATION

Need to conduct contact tracing and examination of smear positive TB patients at home to find TB cases as early as possible and treat it through to the end, a more intensive examination of pregnant women for early detection of TB cases, need to do education about TB and the importance of early awareness of TB incidence. Need to increase the role of health workers or groups of Empowerment and Family Welfare for promoting education about the ideal number of children for the families, need to increase the role of them to conduct counseling on healthy housing and the terms.

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