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A case control study on the risk factors of TB infection in some rural areas in China

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Background: The objective of the study was to evaluate the risk factors of Tuberculosis (TB) infection in some rural areas and to take appropriate intervention to reduce the TB burden in some high-risk population group in China.

Methods: We have implemented a matched case control study in Danyang and Xiangtan County in 2012. The subjects were selected from the new SS+ PTB cases which were diagnosed from January to June in 2012. Two community controls were selected for each case in the same town, matched with gender, and age(+5). The standard questionnaire was used to investigate the cases and controls for their social characteristics, behavior and lifestyle, past health status, social economic condition, household environment and health service utilization. The conditional logistic model has been utilized to analyze the risk factors of tuberculosis.

Results: The risk factors for TB are smoking, second-hand smoking, sleeping, BMI, BCG Vaccination, previous diabetes, previous history of hypertension/coronary heart disease, close contact with TB patients, per capita living space, ventilation of the bedroom, income etc. The odds ratio for the risk factors indicated by conditional logistic model due to smoking is (OR) :9.99, 95% CI: 4.09-24.41, secondhand smoke daily (OR): 3.05, 95% CI: 1.48-6.30, BMI<18.5Kg/m² (OR): 7.32, 95% CI: 2.91-18.41, previous diabetes(OR) : 7.71, 95% CI: 1.27-47.02, close contact with TB patients(OR): 3.15, 95% CI: 1.05-9.48, per-capita living space<40m² (OR): 3.60, 95% CI: 1.77-7.33, previous hypertension/ coronary heart disease (OR): 0.14, 95% CI: 0.05-0.39, and annual household income more than 50000 RMB Yuan (OR): 0.32, 95% CI: 0.14-0.76.

Conclusion: Our study shows that underweight and low-income populations are the high-risk groups and should be taken for more intervention. Various factors like strengthening health education, modifying unhealthy lifestyle such as reducing the usage of tobacco and regularly meeting the doctors will help to reduce the burden of TB in rural areas of China. This study was supported by National Science and Technology Major Project-Communicable Diseases in China.

Biography

Wei Chen has got his PhD from Chinese Academy of Preventive Medicine in 2004, and engaged in the Chinese Tuberculosis Control and Prevention. He was a visiting Scholar in UCLA from Sep. 2012 to June 2013. He is currently the Vice Director of the Department of surveillance, National Center for TB Control and Prevention. He has taken up many research projects and published more than 20 papers in reputed journals.

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