Determinants of mortality in tobacco smoking patients with pulmonary tuberculosis: A case-control study

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Abstract

Tuberculosis (TB) is a major cause of death among infectious diseases worldwide. TB patient who smokes had high tendency for poor TB treatment outcome. This study aimed to determine the factors associated with mortality among pulmonary TB (PTB) patients who smoke in Terengganu from 2012 until 2016. A case-control study was conducted in April 2018 using a secondary data from MyTB System. Simple random sampling was applied and sample size was calculated to select 185 cases (registered PTB patient, a smoker and had died during treatment after excluding non-Malaysian) and 740 controls (registered PTB patient, a smoker and completed TB treatment after excluding non-Malaysian). Multiple logistic regression was conducted for each variable using SPSS software version 24. The study was approved by National Medical Research Register (NMRR-17-3043-39125). PTB patients who smoke with increasing age (aOR=1.04; 95% CI: 1.03, 1.05; p<0.001) and HIV positive (aOR=9.51; 95% CI: 6.08, 14.87; p<0.001) had higher risk to die. However, being diabetic (aOR=0.57; 95% CI: 0.35, 0.93; p=0.025) and monthly income of > RM 1,000 (aOR=0.26; 95% CI: 0.11, 0.62; p=0.003) had less risk for mortality. Age and HIV positive increased risk for mortality due to presence of many co-morbidities that reduced the patient’s immune system. Non-diabetic and patient with no fixed income were associated with the poor health-seeking behaviour which increased the risk of dying. PTB patients who smoke with the factors mentioned need close monitoring to improve their TB treatment outcome.

Keywords: pulmonary tuberculosis, mortality, smoker, factors associated

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