Reviewer's report

**Title:** Smoker’s awareness and the effects of smoking or quitting on tuberculosis in a Chinese population

**Version:** 1  **Date:** 16 December 2009

**Reviewer:** Chen-Yuan Chiang

**Reviewer’s report:**

The study followed up a cohort of 486341 adults, including 5036 (1%) with a past history of TB at baseline, to assess the effect of smoking and the benefit of smoking cessation on TB mortality. TB was the underlying cause of death of 77 persons who died during follow-up.

**Major Compulsory Revisions**

Authors have a good cohort but the study design has two fundamental problems.

First, using past history of tuberculosis to evaluate awareness of TB may be problematic. TB history was a past event. The proportion of the study population with such a past event was influenced by several factors that were not investigated by the current study. Patients who had such an event may not be included and determinants evaluated may change over time, such as smokers may quit smoking because of the diagnosis of tuberculosis. In reference 19, the proportion of non-smokers was 46.5%, and that of ex-smokers was 7.1% and that of current smokers was 46.5%; the respective figure in the current cohort was 70.3%, 6.15, and 23.5%. Therefore, the reason that the proportion of smokers with a past history of TB was less than that of ex-smokers could be due to the fact that smokers quit smoking after the diagnosis of tuberculosis, or smokers with a history of TB were less likely to be enrolled in the program as compared with ex-smokers. Over-interpretation of past history of TB should be avoided. It is not adequate to conclude that smokers were less aware of having TB history than nonsmokers.

Second, tuberculosis mortality is not accurate in Taiwan. Wu et al reported substantial under-coding and over-coding in the assignment of TB-related underlying cause of death (Assessing the Quality of Tuberculosis-related Underlying Cause of Death Assignment in Taiwan, 2001–2005. J Formos Med Assoc 2008;107(1):30–36). The main source of over-coding was “old” TB cases. Official coders assigned TB as the underlying cause of death for those who had old TB. This partly explained the finding of current study that those who have a past history of tuberculosis had a high TB mortality. Unless those who had a history of TB developed active tuberculosis since enrollment and subsequently died of tuberculosis, TB should not be assigned as the underlying cause of death. Authors should first of all investigate developing tuberculosis disease in this cohort, then investigate TB mortality among those who develop active...
tuberculosis.

Table 2, it is better to analyze daily consumption, years of smoking and pack-year among current smokers. These may not be relevant among ex-smokers who had stop smoking for several years. Findings reported in second paragraph of page 8 did not make sense.

Minor essential revisions

As the study last from 1994-2007, smoking status of participants may change. How did author address this issue?

Discretionary Revisions

Introduction: First paragraph, increased risk of relapse may alter clinical practice as well.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'