Reviewer's report

**Title:** Tuberculosis recurrence and mortality rates in successfully treated tuberculosis patients in southern Ethiopia: retrospective cohort study

**Version:** 3  **Date:** 25 May 2009

**Reviewer:** kolappan pillai

**Reviewer's report:**

Major compulsory revision:

Major drawback in this study is the choice of the cohort to study the recurrence rate and mortality rate for TB patients. The cohort of cured and treatment completed TB patients is not the ideal one either for recurrence rate or for mortality rate.

The ideal cohort for recurrence is smear positive cured patients. But this study has included in the cohort smear positive completed, smear negative completed and EPTB completed to study the recurrence rate where the recurrence status can not be certain. This cohort will not give the true recurrence rate among the cured smear positive cases.

Therefore I suggest that recurrence rate should be restricted to smear positive cured patients only.

The ideal cohort for mortality rate is all the cases registered in the programme. Mortality are more among defaulters and failures. Exclusion of these cases from the cohort will result in underestimation of mortality rate among TB patients. Moreover, cured and completed cases have the least mortality among the treatment outcomes. Therefore reporting a low mortality rate from such a cohort will not be of any help to the programme because most of the deaths occur among defaulters and failures. Since the study cohort is not the ideal cohort to report TB mortality I suggest that the mortality component may be removed from the study objective.

Since there were nine annual cohorts within the total cohort, different annual cohorts were followed up for different periods. The percentage of cases either recurred or died among the total cases can not be reported as the outcome. The authors have concluded that 11% of cases either died or recurred. This statement has no meaning without the period of follow up. What is the period of follow up in this study? The only way to report the recurrence rate in this cohort study is by person time rate because different cases are followed up for different periods. That is,

The number of cases recurred

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Sum of person years of follow up
I suggest wherever mere percentages are used for recurrence rate in the manuscript have to be reported as person time rate only.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests