Reviewer’s report

Title: Prediction of Pneumoconiosis Risk and Identification of High Risk Group in Coal Miners Based on Occupational Histories by Neural Network: a retrospective cohort study

Version: 1 Date: 6 June 2009

Reviewer: Yohana Mashalla

Reviewer’s report:

1. Major compulsory revisions
   1.1 Background
   On paragraph one of the background the authors provide details of what is known about CWP and argues that the prevalence of CWP is likely to be increasing more so in developing countries. They cite only one reference and provides no numerical prevalence values of CWP in the developing world. More literature review on the prevalence of CWP in developing countries must be provided to justify the study for the benefit developing countries.

   1.2 Rationale of the study
   The rationale for the study is not clearly described. There is a need to describe the rationale of the study because there is a lot of information in the literature about CWP and intervention strategies have been prescribed. What will the study add to what is available?

   1.3 Is the question posed by the author well defined?
   The question has not been clearly defined.

   1.4 Methodology
   The methodology is clearly defined but the study fails to define whether the study attempted to validate superiority of the Neural Network method against the 'Gold Standard'. A brief comparative analysis between the methods would add value to the study. If the Neural Network is simpler and cheaper a cost analysis would be advantageous for developing countries to know.

   1.4 Influence of cigarette smoking
   The many studies of CWP have demonstrated significant influence of cigarette smoking on earth crust crushing employees e.g. coal miners. In this study, there is no mention on the smoking habits of the studied population, duration of smoking and number of cigarette smoked. It would have added value to the study if this important confounder was taken into account in the analysis of the data.

   1.5 Are limitations of the work clearly stated?
   The study does not carry information on the limitations of the work.
1.6 Are the discussions and conclusions well balanced and adequately supported by the data?

The discussion is based on the results and is general. In the absence of a comparative analysis (validation, the study has provided no new information.

2. Minor essential revisions

2.1 Under Study Population paragraph, rthe last but three lines from the bottom, insert the word 'the' before the words Manpower Resources Section.

2.2 Under Statistical Analysis, the last sentence on paragraph One of that section, replace the word 'trained' with training.

3. Discretionary Revisions

3.1 Title of the study

The title of the study is suggestive of validation of the Neural Network against some benchmarks e.g. Xray technique. But reading the content of the study, this idea is completely lost. I suggest the authors shoul revisit the title to reflect what actually the study aims to do and achieve.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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 in the paper I have reviewed.