

Reviewer's report

Title: Modelling prevalence and incidence of fibrosis and pleural plaques in asbestos-exposed populations for screening and follow-up: a cross-sectional study

Version: 1 **Date:** 6 December 2007

Reviewer: Muzaffer Metintas

Reviewer's report:

In general

1- A different methodology has been adopted in collecting the study data; the study is not prospective or retrospective, nor is entirely a cross-sectional study. The data source is made up of two irrelevant groups: the retirees and working people over 50 years of age. The study was carried out by combining the two groups. This created difficulties in determining the standards of the study. It took 4-5 years to scan all the retirees and the working people, and this compels the study standards.

2- A key issue was the reason why the cases of diffuse pleural fibrosis developed due to asbestos were not included in the study and assessment. Diffuse pleural fibrosis is different pathological condition than pleural plaque. The fact that it is not treated in the study is a shortfall. How were these cases determined during the study received or under which heading were these included?

Minor comments:

As chapters

Abstract:

1- The objective of the study was not specified.

2- The definition of asbestos exposed volunteers and the characteristics of the groups included in the study were unable to reconcile.

3- The result does not provide an answer to the question behind the study.

Introduction:

1- The references from 7 to 10 to justify the fact explained at the end of the first paragraph dates back to years 1985 to 1998.

2- The objective of the study must have clearly been expressed right before the last paragraph.

Population and methods:

1- It was mentioned that the retiree group was reached via e-mail correspondence or meetings. But, what was the total number of people? How many of them were contacted? It is rather ambiguous. What is the upper age limit of the retiree group? In this group in which the death rate is high, it is observed

that the dead cases were not comprehended. Death certificates were not utilized as data source. Thus, because the deaths caused by the asbestos exposure were not obtained, it is out of question to possess an actual prevalence rate from the study.

2- It is not clear whether the working individuals over 50 years of age were comprehended as the group younger than the retiree group and with a continuing asbestos exposure.

3- It is not suitable to obtain the incidence data and develop a mathematical model from a cross-sectional study ground.

4- Since the beginning dates of pathologies due to asbestos observed in the initial scans of which the study was grounded were not specified, there exists a bias in the temporal dimension in finding the incidence data.

5- It was stated that the CT-scans utilized to assess the pleural plaques were different. The error created by the image difference would affect the outcome of the research.

6- Only the retired subjects seemed to have been scanned by HRCT. How was the other group differentiated in terms of asbestosis without HRCT? In this case, without the use of HRCT, how were the other parenchyma diseases eliminated?

7- The references provided for pleural plaque and asbestosis definitions are insufficient. In the publication, the diagnosis steps of pleural plaque and asbestosis should be described and more recent and sufficient reference information should be provided.

Results:

1- While, in Table 1, the addition of individuals in accordance with their smoking characteristics must produce a rate of 100%, it gives the rate of 100.1%. It would be appropriate to put \pm sign before the standard deviation.

2- The fact that whether there was a difference between the characteristics that were contained in Table 1 and treated in the text were not tested. We do not know if the differences were significant or not.

3- Non-existence of diffuse pleural fibrosis also appears to be an issue here.

Discussion:

1- This section will be rearranged following the implementation of other suggestions. I recommend the use of the below-mentioned literature during that arrangement.

References:

1- Standards have not been complied with concerning the spelling rules of literature.

Some useful literature

1. Murai Y, Kitagawa M, Hiraoka T. Fiber analysis in lungs of residents of a

Japanese town with endemic pleural plaques. Arch Environ Health 1997; 52: 263-269.

2. Nishimura SL, Broaddus VC. Asbestos-induced pleural disease. Clin Chest Med 1998;19:311-329.

3. Kishimoto T, Ono T, Okada K, Ito H. Relationship between number of asbestos bodies in autopsy lung and pleural plaques on chest x-ray film. Chest 1989; 95: 549-552.

4. B gin R, Christmas JW. Detailed occupational history. Am J Respir Crit Care Med 2001; 163: 598-599.

5. Karjalainen A, Karhunen PJ, Lalu K, et al. Pleural plaques and exposure to mineral fibres in a male urban necropsy population. Occup Environ Med 1994; 51: 456-460.

6. Kishimoto T, Morinaga K, Kira S. The prevalence of pleural plaques and/or pulmonary changes among construction workers. Am J Ind Med 2000; 37: 291-295.

7. Hillerdal G. Asbestos-related pleural disease including diffuse malignant mesothelioma. In: Loddenkemper R, Antony VB, eds. Pleural diseases. Sheffield: European Respiratory Monograph, 2002;189-203.

8. Metintas M, Metintas S, Hillerdal G, et al. Nonmalignant pleural lesions due to environmental exposure to asbestos: a field-based, cross-sectional study. Eur Respir J 2005; 26:875-80.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

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