PRESENT USE AND TRENDS IN THE DEVELOPMENT OF THE ILO INTERNATIONAL CLASSIFICATION OF RADIOGRAPHS OF PNEUMOCONIOSES

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The First International Classification of Pneumoconioses, based both on radiographical appearances and respiratory function impairment, was adopted as early as 1930 at the First International Pneumoconioses Conference, convened by the ILO in Johannesburg. Substantial work has been devoted to the further improvement of the Classification which has resulted in five successive revisions, the latest being the ILO International Classification of Radiographs of Pneumoconioses, (further ILO Classification) 1980.[7] Recently some proposals for further improvement of the ILO Classification and methodology of reading radiographs and subsequent handling of data have been published.[1,2,9] For this reason, we addressed the major users of the ILO Classification and asked their opinions about the potential need of its revision.

METHOD

A questionnaire was sent to institutions responsible for matters of pneumoconioses in a number of countries exploring the present use and trends for further development of the ILO Classification. Replies were received from the following 29 countries: Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czechoslovakia, Denmark, Egypt, Finland, France, German Democratic Republic, Greece, Indonesia, Mexico, Netherlands, Nigeria, Norway, Peru, Poland, Rumania, Spain, Sweden, Uganda, USSR, United Kingdom, United States of America and Yugoslavia. The cooperation of institutes and individuals from these countries is highly appreciated.

RESULTS

Use of the ILO Classification

In almost all of the above countries, a standardized classification of pneumoconioses is used for general or for specific purposes. There are exceptions in a few countries in which pneumoconioses appear to be very rare diseases due to the limited extent of industries involving exposure of workers to fibrogenous mineral dust.

A casual review of published epidemiological studies of pneumoconioses clearly proves that the ILO Classification has been universally applied in these surveys. Its general use to this purpose has been endorsed by the WHO.[8] The guidelines for its use explicitly state that the ILO Classification does not imply definitions of pneumoconiosis for compensation purposes but has as an object to codify the radiographic abnormalities of pneumoconioses.[3] Nevertheless, the criteria of the ILO Classification have been routinely incorporated into national classifications of pneumoconioses for the compensation of sick workers. Besides, the symbols for pulmonary X-rays changes are frequently used in surveillance of health of individuals and in clinical diagnosis, replacing lengthy verbal descriptions of the type and extent of the changes. For the same reason, they have been found useful even for registration of disseminated shadows in chest X-rays in lung diseases other than pneumoconioses.[5]

National classifications of pneomoconioses usually define minimum radiographical changes considered as compatible with a definite diagnosis of pneumoconioses as well as the grading of the less and more advanced stages (Table I).[6]

In view of their principal use, i.e. compensation of the disease, the national classifications sometimes slightly modify the ILO Classification or include additional criteria, in particular respiratory function impairment (Australia, Belgium, Chile, China, Denmark, Egypt, Finland, Greece, Indonesia, Mexico, Poland, Spain, USSR, Yugoslavia). The USSR Classification also takes into account aetiological factors by distinguishing, e.g., silicosis, silicatosis or mixed-dust pneumoconioses, in the latter the effect of silica being modified by other components of rocks. Whereas the ILO Classification contains three major categories of profusion of small opacities and three categories of large opacities, in some countries the number of stages of pneumoconiosis is limited to three: initial fibrosis, pneumoconiosis with small and with large opacities, to which cilicotuberculosis is added in accordance with the ILO Injury Benefits Convention, 1964 (No. 121) (Chile, China, Czechoslovakia, German Democratic Republic, USSR). For codification of radiographical changes, the symbols of the ILO Classification are used even in such cases.

Therefore, a clear distinction must be made between the national classifications of pneumoconioses as diseases, and the international classification of radiographical appearances of pneumoconioses. Whereas it would be extremely difficult to internationally harmonize criteria for compensation purposes, it is feasible in the case of radiographical changes only. For this reason, the ILO Classification has omitted criteria

Table I

Radiographical Criteria for Notification of Pneumoconioses as Occupational Disease in Selected Countries[6]

COUNTRY	SMALL OPACITIES	
	PROFUSION	SIZE
Belgium	2	.
Bulgaria	2/2	p (s,t)
Czechoslovakia	3/2	.
France	1	.
FRG	3	.
GDR	1/1	p
Hungary	2/2	p
Poland	1/1	.
Sweden	2	.
UK	2/1	.

of respiratory function impairment since its first revision in 1950 and has limited itself to chest radiographs.

In most countries, the 1980 ILO Classification is used either exclusively (Australia, Austria, Finland, Indonesia, Mexico, Norway, Peru, USA) or together with one of the previous revisions, in particular the 1971 ILO Classification (Belgium, Brazil, Egypt, France, Poland, Spain, United Kingdom, Yugoslavia). However, there is a tendency to adopt the latest, i.e. the 1980 revision.

Nevertheless, for reasons of continuity in statistics and research, some cohort studies on miners which started even some decades ago continue to use the 1968 revision of the ILO Classification (France, United Kingdom).

A few of the countries which continue to use one of the older revisions of the ILO Classification indicated that the expense of providing all national centres responsible for evaluating pneumoconioses with new sets of standard radiographs of pneumoconioses prevented them from transition to the 1980 ILO Classification.

In some countries (China, Czechoslavakia, France, German Democratic Republic, Indonesia, Norway, Poland, Rumania, USSR), the use of a standardized national classification of pneumoconioses in compulsory for health services and social security institutions. In other countries, such as Australia (some states), Austria, Chile and Spain, social security enforces the use of a standardized classification for its own purposes. In the remaining countries, a standardized classification has been agreed upon by representative medical bodies or institutions specialized in occupational health, in particular in the field of pneumoconioses. In the USA, at least three Federal Agencies (Department of Labor, U.S. Navy and the National Institute for Occupational Safety and Health) have established the use of the ILO Classification, 1980.

Qualification of Readers and Organization of Reading of Radiographs

Only in some countries certificates are issued to physicians testifying their qualification for the evaluation of radiographs of pneumoconioses (Austria, Belgium, Egypt, German Democratic Republic, Indonesia, Rumania, Spain, USA, USSR). Qualification is achieved by participating in specialized post-graduate training courses or passing an examination. The most elaborated curricula for training of readers at two levels (A and B) have been established in the USA.

In the remaining countries, specialization in radiology, chest diseases or occupational medicine—exceptionally only a basic M.D. diploma—authorizes physicians to evaluate radiographs of pneumoconioses. Training is provided in short-term courses, in-bouse or as self-training.

Most of the specialized occupational health or social security institutions establish boards of specially trained readers, whose qualification has been tested and even re-tested.

In most countries there is a tendency to centralize the reading to a restricted number of special centres. This is facilitated by the fact that industries involving exposure to fibrogenous dust are frequently accumulated in certain areas close to mineral deposits (mines, quarries, ceramic industry) and that compensation claims concentrate in social security institutions.

Sometimes, large-scale screening is broadly decentralized, however, special boards or panels are used to confirm positive diagnosis of pneumoconioses or to settle widely divergent interpretations. There is no general rule about the size of the board or panel. The first screening is usually carried out by one reader, and the re-evaluation of the positive findings by two or more additional readers.

The on-going discussion concerning the potential use of specially trained lay-readers, instead of physicians, for the first screening or for epidemiological studies should be noted; there is no definite agreement on this point.[4]

Further Development of the ILO Classification

No classification can be considered to be a definite scheme and newly acquired knowledge may demand its modification. This need may be conflicting with the necessity for continuity of statistics or epidemiological cohort studies. The

respondents to the ILO questionnaire expressed their general satisfaction with the ILO Classification, 1980, and mostly preferred continuation rather than a revision, but some of them considered that regular reviews may be useful. Several institutions made suggestions which are summarized as follows:

More attention should be given to incipient changes by adding in the standard set instructive radiographs of early stages (Australia), namely borderline films 0/1 and 1/0 of rounded and irregular opacities and a clear standard 1/1 (Brazil), a standard of 0/0 taken on an obese person (Finland), and additional radiographs of the peripheral parts and vascular patterns (Mexico);

On the other hand, treatment of silicotics influences the development of large opacities and for this reason a subdivision of large opacities is found useful for research and therapeutical considerations (France);

The present standard radiographs are mid-category ones; boundary films should be considered to exemplify the middle reading between each of the major categories (China, United Kingdom, USA);

Improvements could be made in the Guidelines for the Use of the ILO International Classification of Radiographs of Pneumoconioses;[3] they should not only be a supplement to the films, but a firm guidance (France); the reading sheet should be modified or simplified (Brazil, Norway, USA); they should also contain instruction on recommended methods for epidemiological research and group surveillance (Brazil); a symbol for lung vessel congestion should be added (Austria);

Criticism has been expressed concerning pleural pathology, its grading and the descriptive text (Belgium, Brazil, Finland, United Kingdom, USA).

It is my expectation that the discussion at this Conference will give advice for further action.

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Proceedings of the VIIth International Pneumoconioses Conference | *Part* **I**
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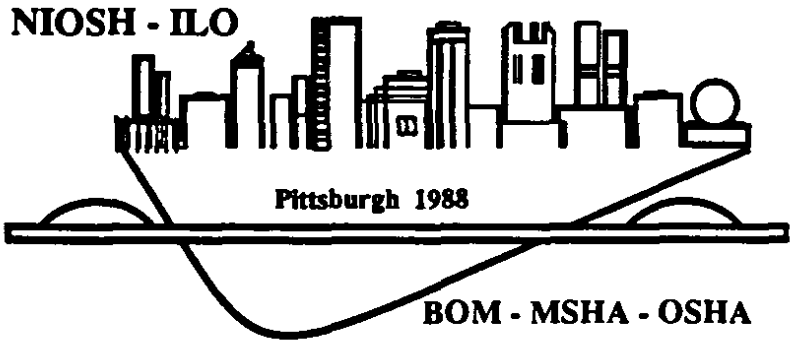

Pittsburgh, Pennsylvania, USA—August 23–26, 1988
Pittsburgh, Pennsylvanie, Etats-Unis—23–26 aout 1988
Pittsburgh, Pennsylvania EE. UU—23–26 de agosto de 1988

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September 1990

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DHHS (NIOSH) Publication No. 90-108 Part I