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PRINCIPLES FOR LISTING DISEASES UNDER THE OCCUPATIONAL DISEASES INSURANCE

The author discusses the problem of the social insurance of occupational diseases, particularly in Finland. He deals particularly with occupational skin diseases representing a serious problem in medical practice. He submit legal provisions which would solve the problem of professional diseases in a plain and elastic way. The author favours a system of lists which could easily be completed.

Since it was decided in Switzerland, in 1877, for the first time that diseases which were caused by work, occupational diseases, must be compensated in the same way as occupational accidents, the legislation concerning occupational diseases has been in the process of an intense development up to the present time. ILO has acted as an international working centre and stimulator, and has initiated this legislation in several countries. However, during the recent years, the stimulus has become in many countries from the powerful organisations of the labour movement, which have considered the general development of the social insurance as one of their main aims. Thus, insurance against the occupation diseases has been the subject of much interest during the years following the last war, and this interest has spread from the industrial and insurance circles also to medical circles, and these have contributed much in all countries of the world, particularly during the last 30–40 years, to the understanding of the relations between work and health. This has been made possible by the new research institutions for occupational medicine and hygiene established in the course of the last decades in various countries, among the latest were those in Yugoslavia, Spain and Finland.

The views on the kinds of work which can cause disease and on the diseases which »according to experience« can be caused by work or by the conditions of work in modern society, vary very much. The workers often consider many diseases as caused primarily by work, although they may be caused by factors entirely or partly outside their work, and when there is question about compensation, they tend to adopt an attitude exaggerating the rôle of work as a cause of disease. The employer, again, behaves in a quite opposite way. In general, he will not admit that health risks can arise in his service, particularly if he has to compensate the damage through insurance. The experience of the fac-

tory inspection is often coloured by the opinion of the workers, and its objectivity depends to a great extent on the medical knowledge of the inspectors, which can not be expected to be very great, since this personnel has got a technical education; however, the physicians in the service of the factory inspection must have a thorough knowledge of occupational medicine. The experience of the health officials is neither very great in general, since they come in touch with these problems only in their offices, outside the work itself. The greatest amount of objective information seems to be now concentrated in the above-mentioned research institutions of occupational health which, according to my opinion, are the most reliable advisory bodies for the insurance companies.

In the following, I present the opinions of the various circles concerned as to the forms of disease with a tendency to develop in consequence of work and thus due for compensation, according to experience gained in Finland and to information available in the literature. I am going to discuss only such forms of disease as are not included in the present Finnish compensation law on occupational diseases (1948).

Occupational diseases, compensated in Finland are as follows:

1) Cancer of skin or mucous membrane, caused by occupation or work.
2) A communicable disease, which according to health legislation is of general danger (variola, typhus abdominalis, paratyphus, typhus exanthemicus, typhus recurreus, dysenteria, diphteria, laryngitis crouposa, scarlatina, meningitis cerebrospinalis epidemica, poliomyelitis, cholera asiatica and pestis); and tuberculosis and venereal disease, if the sick person is a registered nurse or midwife or belongs to the staff of a medical laboratory and it is probable that the sickness has been caused by his or her work.
3) I Sickness caused by the following agents:
    1. arsenic and its compounds
    2. mercury and its compounds
    3. phosphorus and its compounds
    4. chromium and its compounds
    5. lead and its compounds
    6. manganese and its compounds
    7. nickel and its compounds
    8. a halogen, halogen hydrogen or chlorcalcium
    9. cyanide and its compounds
    10. carbon bisulfide or hydrogen sulfide
    11. nitrous oxygens
    12. carbon monoxide
    13. anorganic alkaline compounds or its anhydride
    14. halogenated alifatic hydrocarbons
    15. nitroglycerine and nitroglykol
    16. halogenated aromatic hydrocarbons or their halogen-, nitro- or amido-compounds or chloramin

17. gasoline or other naphta products or products of wood or charcoal
18. dust of flour or corn
19. light and radiation energy (ultraviolet-, ultrared-, X-ray or radioactive radiation)

II Pneumoconioses caused by silica dust and simultaneous lung tuberculosis

III Deafness or severe hypacusis caused by noise

IV Diseases of muscles, tendon, joint, bone and blood vessels caused by vibrating tools

V Erysipeloides, anthrax, malleus, trichophytosis, hoof-and-mouth disease or morbus Bangi.

Diseases which occur commonly in all professions may easily be interpreted as typical of just one profession, as indicated by the examples of the following list:

Rheumatism: miners, drivers, tram and railway personnel, market vendors, forest and agricultural workers, fishermen, officials working in »drafty« offices.

Tuberculosis: millers, miners, architects, printers.

Heart disease: firemen, businessmen, workers in heavy metal industry, lumberjacks.

Gastric ulcer: drivers, journalists, shift workers, builders.

Nervous diseases: shift workers, foremen, businessmen, intellectuals in leading positions, traffic controllers on railways.

Varicous veins: restaurant staff, bakers, domestic servants, housewifes, barbers, shop assistants.

Lumbago, ischias: drivers, building workers, road and railway workers, nurses, forest and harbour workers.

Asthma: millers, bakers, weavers, pharmacists, furriers.

»Colds«, pneumonia: firemen, workers in a hot environment.

Dental caries: confectioners, workers in sweet and chocolade factories.

In addition to these common diseases, the cause of which is often ascribed to the profession, there exist several special causative agents, which may, with more reason, cause occupational diseases. Among these, there may be mentioned many new substances and materials capable of causing eczema and not included e. g. in the Finnish law; such as cobalt, formalin, synthetic resins, some vulcanizing chemicals, some fur and textile dyes, procain and other local anaesthetics, penicillin, certain plants like primula and celery, meal whitening substances like persulphates, confectionery dyes, thiocol, ceramic clay, asbestos dust, glass wool, figs, cheese, selenium compounds, detergents, chrom leather gloves, various glues, tropical woods etc.

Which among these diseases are then according to the experience entirely or mainly caused by work? This question is not always easily answered, not even among medical experts specializing in the study of the relations of work and health.

So far as the diseases occurring commonly among all professions, like tuberculosis, heart diseases, gastric ulcer, nervous disturbances, varicous veins, rheumatic diseases, asthma, low back syndrome etc., their aetiology depends in general on a variety of factors. In most cases it is impossible to make an objective statement, whether the work or the conditions connected with it have been even contributory causes in such a case of disease. The occurrence of these diseases among the different professions varies to some extent, but in addition to the work itself, the differing social environment – the standard of life, the amount and quality of nutrition, housing, family relations, the use of leisure, alcohol, a number of psychogenic factors outside the work, and particularly the subject's own constitution which often is genetically determined and induces a tendency to certain diseases – has a great significance as a factor which may play a more important rôle in the causation of a disease than the conditions of work. However this fact is rarely understood or even accepted by the patient.

Some of the above-mentioned diseases offer great difficulties in their differential diagnosis, particularly as to their aetiology. It seems therefore justified to pursue continuously the line that all these diseases should be compensated by the general sickness insurance, and that only such cases should be regarded as occupational diseases proper which can *certainly or at least with great probability be ascribed entirely or primarily to the work or to the conditions of work.*

How can such diseases be practically included in the insurance? We know that the industry is in a rapid process of development to-day. New compounds dangerous to the health are introduced, and new industrial processes are adopted which may cause disease. The centre for expert knowledge on new occupational diseases is the special institute and particularly its clinical and outpatients' departments. International information is not sufficient, and national research is needed, with special application to the local conditions prevailing in each country.

In Finland, in the Institute of Occupational Health, we have tried during the last years to develop research on occupational diseases and attempted to effect changes and additions to our law of occupational diseases. Since 1945, when our outpatients' clinic for occupational diseases started its activity, we have examined appr. 8000 persons suspected as suffering from occupational disease. For instance in 1951, 578 cases of suspected occupational skin disease were examined, and 348 patients in whom there was suspicion of some other occupational disease. Among these, appr. 220 cases were found. i. e. 25 per cent, in whom the disease evidently was caused by work. The patients came from a variety of professions. Some were sent by doctors, others were sent directly from their jobs, and others again came to the outpatients' clinic on their own initiative. Fifteen physicians work at present in the outpatients' clinic, representing all medical specialties. Thus we were able during the last years to develop the diagnosis of diseases as to the aetiology. This work gets much help from the department of in-

dustrial health engineering, whose engineer or chemist can clarify problems associated with the causation of the diseases, by performing an examination of dust and foreign gases, of the intensity of noise, radiation etc. Moreover, the institute has a physiological and a psychological department, whose help can be used in the examinations.

One can make no very far-reaching conclusions from the experience of these few years. However, it may be stated that the existence of such research units is an absolute condition for the thorough analysis of diseases caused by work and for a careful examination of initiatives for an increase of the number of diseases to be compensated according to the law of occupational medicine by physicians specializing in occupational medicine in collaboration with technicians and chemists connected with industrial life and with investigators acquainted with the physiology and psychology of work. Such an institute ought to have a central position when the inclusion of new forms of disease in the insurance is being considered. In general it is most likely impossible to carry out the above investigations within state offices or insurance companies. Finally, such a research institute will be continuously needed for the diagnosis of occupational diseases, as their diagnosis is not easy in general. Admittedly, the diagnosis can in many cases (e. g. lead poisoning, silicosis, trichlorethylene poisoning) be made quite easily, but there are several cases in which it is difficult and requires special laboratory and other methods, which are not accessible to an ordinary physician or hospital.

During the recent years the development of the legislation for occupational diseases and the lines along which it ought to follow, have been discussed in several countries (e. g. Sweden, Great Britain). According to my opinion, some agreement has now been reached on the following points:

1. Diseases which allow a compensation as occupational diseases must be limited to only those in which the connection between work and illness can be observed, within the possibilites of modern medical science, with certainty or with great probability.

2. Lists of substances known to cause these diseases are continuously needed, as well as information of the kinds of work in which these substances are used or in which health risks occur.

3. These lists must be completed in an elastic way, in agreement with increasing experience and information of diseases caused by work.

Taking some special diseases into consideration, there still is much lack of clarity as to the procedure. Occupational skin diseases are a difficult subject, in which the practice has not yet become finally fixed in many countries, as e. g. in Scandinavia. In countries with a highly developed sickness insurance which covers also short illnesses caused by work, the question is easy. In Denmark, only chronic or chronic-recidivating illnesses of the duration of 13 weeks or more are compensated. In Sweden, investigations are in progress, and the special committee for social services has arrived at the proposal that eczema is due to compensation only after the lapse of four weeks. In Finland, docent PIRILÄ

and his collaborators have studied this problem for the last seven years collecting a large material of occupational skin diseases. He particularly stresses the following points:

1. There occur a great number of skin diseases caused by work, which remain uncompensated in accordance to the list of professions in the present law for occupational diseases, although they in principle have been caused in the same way as the diseases included in the law. This is bound to induce great dissatisfaction among those who do not get a compensation.

2. In countries without an extensive sickness insurance which could cover these cases, it would be just to make e. g. the following addition to the present law: »In addition to skin diseases caused by a substance included in the list of compounds in the law of occupational diseases, also other cases of skin diseases must be compensated (e. g. by the state, until the compound is included in the official list), if it can be clearly shown with the aid of special tests or if it otherwise is quite obvious that it is caused by substances used in the work or by factors essentially connected with the work.«

In England, for example, all occupational dermatoses caused by various substances are compensated:

»Inflammation or ulceration of the skin or of the mucous membrane of the upper respiratory passages or mouth produced by dust, liquid or vapour (including the condition known as chlor-acne but excluding chrome ulceration).«

It has been considered sufficient to specify the type of work only by stating: »Exposure to dust, liquid or vapour.«

Such a statute allows for much freedom, but also places great responsibility on the writer of the certificate in order to prevent abuse.

Individual sensitivity or exogen factor? How can this question be judged, particularly in skin diseases, in which aplications for compensation sometimes are not accepted, referring to »individual sensitivity«. When can a disease be regarded as being caused by work and when must it be ascribed to individual sensitivity as its only or primary cause? This problem may be answered for instance in the following manner: All those who work in stone dust do not by any means contract silicosis. Only some persons become afflicted, provided the working conditions are not thoroughly bad. Even these subjects may be considered »sensitive«. Why is then silicosis compensated? Irritating substances in concentrated form can cause acute dermatitis, but in some persons, even less intense irritation is sufficient. What are then the individual signs which indicate that the patient has an *inherited* sensitivity against some compound, some kind of dust, or vibration of certain tools? How can an inherited and an acquired sensitivity be distinguish in practice? The human beings can react to their environment in many different ways. One is damaged by a vibrating tool in a month, the other perhaps after two years, and a third person is not damaged at all. One contracts eczema

after having worked with turpentine for a week, another after one year, and a third worker never. When must a person's sensitivity be regarded as sufficiently pronounced that the compensation for a disease occurring in connection with work is denied him? On the other hand, one can interpret every abnorm reaction, with which a person weaker than the average reacts to the factors of his or her working conditions, as an occupational disease. Thus, the allergic reactions, the reactions to continuously present minute environmental factors, can also cause disease. We arrive here to problems of allergy still unsolved in many respects.

If we treat the problem from this angle, one could perhaps conclude that when the working conditions agree with internationally accepted hygienic norms, and a person nevertheless develops an obvious occupational disease, from which under the same conditions only a small proportion of workers suffer, the disease is caused by the person's own weakness. He or she is not suitable for such a work. Experience predicts the health risks for an average person. However, in practice it is very difficult to demonstrate such an individual sensitivity, and therefore, it should not be given too much importance when insurance cases are decided upon.

Summarizing the principles which are to be used in including a disease in the occupational disease insurance, I should like to make the following statements:

1. The law must be elastic and allow in principle for the impartial compensation of all diseases caused mainly or entirely by work or by working conditions.

2. For practical reasons, it is, however, important that the forms of disease are such that a relatively reliable differential diagnosis can be made with aid of the resources of medical science.

3. Unclear intermediate cases must be compensated through sickness insurance or in some other way.

4. Cases intermediate between accident and illness must be included in the insurance scheme with such rules that time and other limitations do not prevent the compensation.

5. A list of factors and kinds of work causing occupational disease must be kept continuously; this list must be a collection of examples, without too many details and restrictions.

6. The list must be completed in an elastic and rapid way through statute, government decision or some similar way, according to suggestions made by a permanent committee, on which there should sit representatives of the scientific research institutions of this branch and of the interested health authorities, factory inspection and insurance circles.

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SADRŽAJ

Prikazan je problem socijalnog osiguranja profesionalnih oboljenja. Obraćena je pažnja na osiguranje profesionalnih oboljenja u Finskoj. Naročito je razrađeno pitanje profesionalnih oboljenja kože, koja u medicinskoj praksi predstavljaju težak problem. Predložene su zakonske odredbe, koje treba da rješavaju pitanje osiguranja profesionalnih oboljenja na jednostavan i elastičan način. Zastupano je mišljenje, da osiguranje profesionalnih oboljenja treba riješiti specijalnim zakonom prema sistemu liste, koja se može u svako doba proširiti i nadopuniti.

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