

SYSTEM OF TREATMENT AND PROPHYLAXIS OF OCCUPATIONAL LUNG DISEASES IN THE REPUBLIC OF BULGARIA

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ABSTRACT

The social and economic change in Bulgaria has created a situation where the old system of norms and regulations in relation to the diagnosis, treatment and prevention of occupational lung disease is inapplicable to the new private enterprises or to workers in facilities which are being closed down.

New approaches to prophylaxis and financial support are discussed, and co-operation with the developed European countries is suggested.

INTRODUCTION

Against the background of the numerous state industrial enterprises which are being closed down, there exist a large number of productions with various pneumotropic factors in the air of the working environment, resulting from older production technologies used to this moment. In Bulgaria there also exist productions in which the labour and hygienic problems have been solved and where the concentrations of the noxious factors in the working environment have been reduced to the maximum allowable norms. Among them are a large number of underground ore and coal mines, as well as some branches of the chemical industry. An essential problem with respect to the harmful production factors and the ensuing incidence of occupational lung diseases should be sought in the above-ground dusty production (yield and processing of non-ore deposits, the glass, ceramic, metallurgical and machine-building industries, the production and use of insulation and grinding materials), in the chemical industry - production of fertilizers, acids, bases and urea, in agriculture - tobacco-growing, plant-growing, poultry farming, the use of pesticides, isocyanates, etc.

The occupational lung diseases occupy an important place in the country's occupational pathology - not so much on account of their high absolute numbers, but rather as a group of diseases leading to severe health, moral, social and economic complications of the invalid workers.

So far there is a prevalence in the country of the total number of patients with pneumoconioses, with a leading role of silicosis and silicotuberculosis, followed by asbestosis, other silicatoses, foundry pneumoconiosis and the pneumoconiosis of electric welders, as shown in Tables 1 and 2 (after Petrova et al. [1]). There is a tendency towards the increase of the number of silicosis and silicotuberculosis patients [1], identified using correlation statistical analysis based on the total number of individuals threatened with these diseases in Bulgaria in the 1985-1991 period. This tendency is assumed to result from the depletion of the

pool of miners exposed underground while they worked with the method of dry drilling of the holes for the explosives (until 1958), who have already reached an advanced age. The depletion of the numbers of patients with the late forms of silicosis and silicotuberculosis in this risk group is expected to take place until around the year 2000, which has been proved with quantitative logistic regression multifactor statistical analysis [2]. The future forms of silicosis are expected to appear on above-ground dusty industrial productions, such as: production and treatment of non-ore deposits, machine-building, metallurgy, ceramic and glass industry, as well as the production and use of grinding and fireproof materials.

An important position among occupational lung diseases is attributed to occupational bronchitis caused by dust factors (without quartz) and chemical substances with an irritant action (nitrogen - and sulphur-containing gases, acid vapours and bases), resulting from poor technical solutions in some chemical industrial plants. At present we do not have reliable data on the exact number of patients with chronic occupational bronchitis, due to changes in the outpatient observation on the patients and errors in reading the data.

Occupational bronchial asthma features prominently among occupational lung diseases in Bulgaria, being detected most frequently among farmers (in plant-breeders, stockbreeders and users of pesticides), as well as among workers in bakeries, tobacco production, the textile industry, clothes manufacturing, production and use of various synthetic chemical substances, use of isocyanates, etc.

Exogenous allergic and irritating alveolitis [3] of occupational aetiology is not an infrequent disease, but it is not sufficiently known and is diagnosed by a limited number of specialists only.

The occupational lung diseases included in the functioning table of occupational diseases in Bulgaria are

- Pneumoconioses;
- Chronic occupational bronchitis;
- Occupational bronchial asthma;
- Occupational exogenous alveolitis.

STRUCTURE OF THE MEDICAL CARE SYSTEM FOR THE TREATMENT OF ENDANGERED INDIVIDUALS AND PATIENTS WITH OCCUPATIONAL LUNG DISEASES

The leading role in the identification, prevention, diagnosis and treatment of occupational lung diseases has been attributed to the Department of Hygiene and Occupational Diseases at the Clinic of Occupational Lung Diseases, Medical University, Sofia. Within the clinic there is a section for outpatient observation, prevention, outpatient treatment and expertise on the occupational aetiology of lung diseases. The existing clinics of occupational diseases at the different universities in the country are in constant correspondence with the Clinic of Occupational Lung Diseases in Sofia, which offers consultations to them. Outpatient follow-up and observation, prevention, treatment and expertise concerning the occupational character of the diseases is performed in seven other regional clinics throughout the country. Within these clinics there are also commissions of experts for determining the occupational nature of lung diseases, but in difficult cases for diagnosis they resort to the consultation and assistance of the Commission in Sofia, which is responsible for the region of Western Bulgaria. The decisions of these commissions that have been disputed either by the patients or by the industrial enterprises are examined within a 14-day period at the Central Diagnostic Commission on occupational lung diseases, directly subordinate to the Ministry of Health in Bulgaria.

The entire prophylactic activity, the observations of the threatened individuals and of the people suffering from occupational lung diseases, take place in the respective regional divisions, in addition to periodic prophylactic medical examinations of people threatened with pneumoconioses, as well as for all occupational risk groups, with the cooperation of the regional labour-hygiene wards. The patients suffering from occupational diseases are kept under observation and treated in different outpatient groups, with different mandatory periods for active search. Primary and secondary prophylaxis with a medical orientation is performed. Experiments are currently in progress to test the therapeutic effect of the Bulgarian pharmaceutical agent Oxyrich, which stops the progression of fibrosis during the initial stages of silicosis.

NORMS AND REGULATIONS CONCERNING THE OBSERVATION AND PREVENTION OF OCCUPATIONAL LUNG DISEASES

- Regulations and instructions concerning the organization and functioning of the dispensary wards for observation, prevention, treatment and expertise on the character of occupational lung diseases;
- Regulations and instructions concerning the preliminary and periodic medical examinations of the workers in various risk productions, specifying the mode and the periodicity of prophylactic primary and secondary medical examinations;
- Regulations and instructions concerning the medical system of occupational diseases and the modes of activity of its structures;
- Regulations and instructions concerning the way of recognizing, recording and making public the occupational diseases in the country.

RELEVANCE AND APPLICABILITY OF THE EXISTING LEGAL INSTRUMENTS FOR PREVENTION AND OBSERVATION OF OCCUPATIONAL DISEASES

The existing legal norms and regulations functioned perfectly under the conditions of state-owned enterprises. The difficulties in recent years resulted from the closing down of a large number of enterprises, which released a large number of workers who had deposited various noxae in their respiratory system (quartz, asbestos and exposure to radon), with late after-effects (silicosis, asbestosis, lung carcinoma and mesotheliomas), often after a long latency. A considerable portion of these workers cannot be covered by a system of observation and follow up, due to a change in permanent residence and to the absence of norms regulating their follow-up. At the same time, private production companies with an obscure status, with obscure medical insurance schemes for the workers, unidentified harmful factors in the working environment and difficulties in the prophylaxis of the workers, gradually begin to crop up. This necessitates a new approach in the prophylaxis of these risk groups.

CONCLUSIONS AND RECOMMENDATIONS

- The existing legal norms and regulations function well for the preserved state-owned enterprises with a clear status, but they are not applicable to private and closing down productions.
- It is necessary to draft specific legal norms for work with private companies, as well as to plan funds and new approaches to the follow-up of the risk groups that had left liquidated harmful industrial productions.
- It is necessary to elaborate a new way of financial support for workers in the sphere of the medical services offered to these risk groups.
- It is desirable to make use of the experience accumulated in the developed European countries, as well as to seek ways of raising funds for assisting this medical sphere in Bulgaria through financing under international programmes (in the field of labour medicine and environmental protection).

Table 1 Number of the silicosis and silicotuberculosis cases in Bulgaria during the period 1985 - 1995

Nosological unit	Year											Average
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	
Silicosis	4447	4445	4992	5141	4404	4195	4343	4249	3888	3935	3891	4357
Silicotuberculosis	1025	1018	997	1120	1024	946	1026	993	881	866	852	977
Total	5472	5463	5989	6261	5428	5141	5396	5242	4769	4801	4743	5337

Table 2 Other pneumoconioses in Bulgaria during the period 1985 - 1991

Nosological unit	Year							Average
	1985	1986	1987	1988	1989	1990	1991	
Silicatosis	79	83	84	74	160	99	199	111.1
Foundry pneumoconiosis	19	23	25	29	32	37	33	31.1
Electric welders' pneumociniosis	79	81	83	69	72	76	80	77.1

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