

Original papers

Health particularities of the employees of clothing factories

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Abstract

We present the particularities of the morbidity with temporary labor incapacity (TLI) of the employees of confection factories during the years 2011 - 2017. We placed emphasis on the risk factors affecting the health of the employees. It is an established fact that the main risk factors are unfavorable microclimate, vibration, dust, noise, and others. Morbidity with TLI according to frequency index (IFc) has practically a constant character. The highest level of IFc was registered in 2013, reaching 93.3 cases per 100 workers, while the severity index being oscillatory in nature constituted 1311.2 days in 100 workers in the same year. Both indices have shown a growth trend towards the end of 2017. The average duration of a case remained at the same level of 13-14 days. There were also particularities of morbidity based on gender, profession, etc. The data obtained can be the basis for the elaboration of the prophylaxis measures.

Keywords: *health, risk factors, employees, clothing factory*

Introduction

The clothing confection industry is the basic branch of the light industry in the Republic of Moldova given that it has a sector of social importance and, lately, also an essential generator of export revenues. Currently, every tenth worker works in clothing confection factories and 15% of the export is attributable to garments, occupying the second position after the wine products. About 60% of the total production volume of the domestic light industry is due to the clothing confection industry, and the other branches (textiles, leather goods, footwear, etc.) generate the rest [1, 2, 3]

Approximately 330 companies, including joint stock companies, LLCs and joint ventures with domestic or foreign capital, operate in the nominated branch.

More than 26 thousand employees work in light industry enterprises [3].

Most of the companies, about 61%, are located in the central region of the republic (Chișinău, Ialoveni, Orhei, Straseni), in the north of the country - 21% (Bălți, Sorocea, Florești, Edineț, Rîșcani, Sîngerei) and in the south of Moldova - 18% (Cahul, Taraclia, UTA “Gagauzia”). According to the Industry Development Strategy by 2020, the light industry will become a priority branch of the national economy, with great advantages. These are: the possibility to absorb a large work pool, rapid cycling of the circulating goods, the need for smaller investments, the existence of the professional training system of the personnel at all levels.

The problem of employee health in relation to the working environment in the Republic of Moldova has

The influence of the occupational factors on the employees of the light industry with alterations in the health state determines the progression of the functional disorders and the chronic pathologies, the decrease of the work capacity and early disability [7, 8, 9].

In the professional activity the employees from clothing companies are subjected to overloads on the muscular-skeletal, visual and breathing systems. These overloads materialize by affecting the health of the workers, causing occupational diseases, diseases related to the profession with temporary incapacity for long-term work, thus creating different social and economic problems [10, 11, 12].

Notwithstanding all these, the health status of these employees is still not fully studied; therefore measures for the prophylaxis of these diseases are not properly elaborated.

Material and method

The study was prospective, longitudinal and observational. The gender ratio of employees (women/men) was 10: 1 (92.4%: 7.6%). Their age ranged from 18 to 65 years. The most numerous were the age groups of 30-39 years - 60.8%, followed by the age group of 40-49 years - 21.2%.

The analysis of the morbidity of the workers due to temporary incapacity for labor (TLI) was performed according to the statistical reports form 16 - TLI, covering a period of 6 years (2011-2017). The dynamics and structure of morbidity was assessed according to the intensive and extensive indices of the cases and the days of TLI: the incidence of the frequency index, the incidence of the severity index,

the average duration index of a case, the weight of the disease cases.

Results and discussions

Regardless of whether or not the scientific management of occupational safety and health applies, two operations are strictly necessary in the preventive activity: risk identification and assessment. Their importance is also highlighted by the fact that they are stipulated as compulsory by the Government Decision no. 1025 from 2016, and the responsibility for their accomplishment is assigned both to the management of the company and to the personnel within the departments of labor protection.

Analyzing the stages of the technological process from companies, as a whole, all the components belonging to them, we established a group of unfavorable factors present in the occupational environment, which directly influence the health of the employees (figure 1). The most common pathologies recorded in the years 2011-2017 were conditioned by such harmful and unfavorable factors from the occupational environment, such as: unfavorable microclimate - in 37.5% cases, vibration - 21.6%, pathogenic germs -13.5% , powders -7.5%, noise-3.2%, other factors - 5.5%, ergonomic factors at work, tight body position and work monotony - 11.2%. Their assessment from a hygienic point of view allows highlighting not only the presence at the workplace, but also the degree of non-compliance with the existing regulations and their aggressiveness in each particular case. The presence of a complex of unfavorable factors, as in our case, usually enhances the negative influence, contributes to serious consequences.

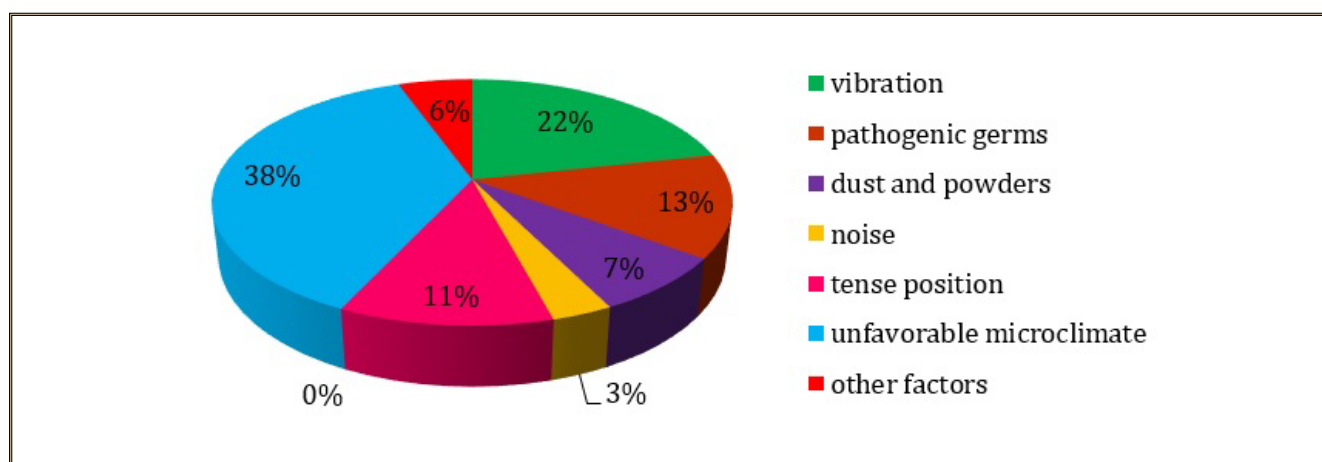


Figure 1. The share of harmful factors in the occupational environment with a major role in the development of diseases with TLI.

In this sense, it is necessary to know the dynamics and structure of the morbidity of the employees (figure 2), which is of particular importance given that it represents the effect of the influence of the harmful factors in the occupational environment and which can be remedied by technical-organizational measures. From the graphical representation of the dynamics of morbidity with TLI of the workers in the clothing industry compared to the similar data on the republic, we note that the frequency index (IFc) during the years 2011-2017 has a practically a constant character. The highest level of the IFc was registered in 2013, when the value of this index reached the level of 93.3 cases per 100 workers for the respective branch. Subsequently, in the following years, the level of morbidity shows a tendency to decrease not only in the respective branch but also in the republic, with a slight increase in the last years.

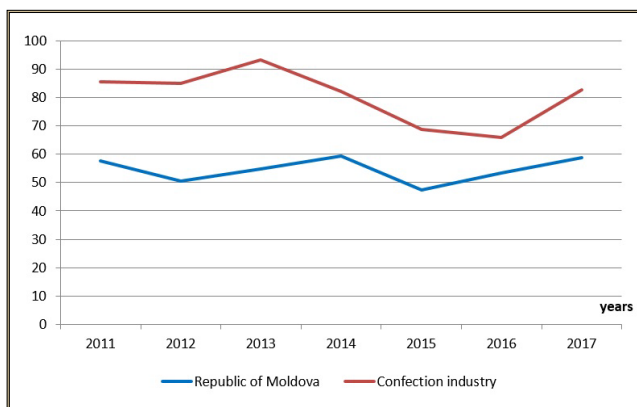


Figure 2. Dynamics of the frequency index (Ifc) of morbidity with TLI, cases in 100 workers

The estimation of the morbidity with the TLI according to the severity index (figure 3) denotes that in the factories the morbidity according to the number of days has an oscillatory character from 1311.2 days in 2013, with a subsequent tendency to decrease towards 2015 until 889.6 days, then growth towards the end of 2017. Comparatively, at the republic level the severity index is maintained at the level of 800-900 days.

During the years included in the study, in the clothing industry, the values of the average index of a disease case were maintained at the same level of 13-14 days, but in the republic the values were higher by 1-2 days, recording average values of 15-16 days

In this industry women work predominantly, but in some areas men are involved as well. Therefore, the data on morbidity with TLI were analyzed also by gender type (figure 4). According to the data presented

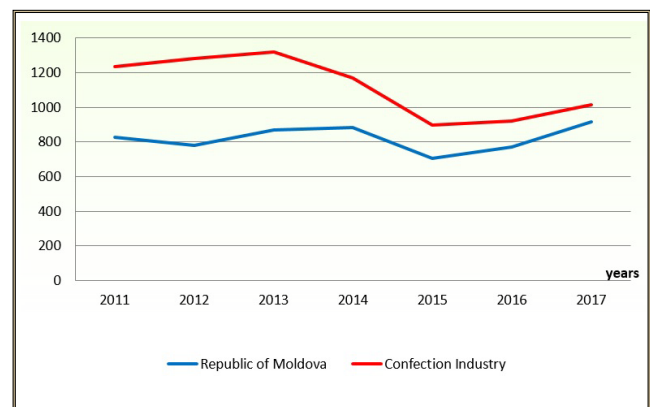


Figure 3. Dynamics of the severity index (GI) of morbidity with ITM, days per 100 workers

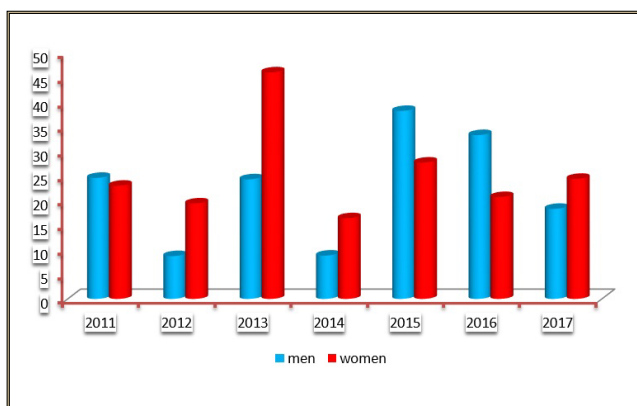


Figure 4. Analysis of the morbidity of workers in the garment industry in the gender dependence in 2011-2017, (%)

in the diagram, it is found that the incidence is approximately equal between men and women, only in 2013 among women were recorded twice more cases of illnesses compared to men, and in the years 2015-2016 men had more cases of disease compared to women.

The analysis of the data regarding the incidence of the morbidity with the TLI of the employees according to profession denotes an increased level in sewing sector (32.0%) and yarn winding (22.6%), followed by operators (11.6%). A lower level of morbidity is found in mechanics (1.7%) and electricians (1.1%).

The particularities of morbidity according to structure, gender, seniority at work, age; argue the need to investigate the factors of the occupational environment and to develop effective prophylactic

Our findings indicate that the weight of TLI morbidity of sewing companies is higher than other professions from these factories, accounting for 32% (figure 5), followed by maintenance personnel, operators.

Referring to the main branches of the national economy regarding the medical examination of the employees, we find that the highest level of coverage with medical examinations is in the energy branch with about 98%, followed by that of constructions with 96.9%, the furniture manufacturing with 94.3, the lowest being the branch of light industry and agriculture, the results are identical for 2 years of studies: 2015-2016.

The level of morbidity, in comparison with other branches of the national economy, although it gives way to those in the auto transportation and the car construction industry, remains at a high level with 67 cases per 100 employees in 2016 (figure 6). Lower or registered values for workers in the agricultural produce processing industry with 54 cases and the railway transportation with 7 cases per 100 employees.

The main causes of increased morbidity with ITM of employees in the light industry are:

- lack of interest of the employer in improving the working conditions and the medical assistance of the employees;
- the renunciation of the principle of well organized

medical service for the employees, followed by unemployment, poverty and psycho-emotional and psycho-social stress in the working age population;

- lack of permanent supervision by the administration regarding the use of personal protection equipment;
- strict non-observance of the schedule of medical examinations of the employees who operate in harmful and unfavorable conditions;
- non-qualitative organization of medical examinations of employees;
- lack or qualitative failure of the heating systems in the production and auxiliary rooms during the cold period of the year;
- unfavorable microclimatic parameters, presence of cold air currents, lack or ineffective functioning of ventilation systems;
- the presence of toxic chemicals in the air of the work area, of the physical, biological factors, the level of which often exceed the maximum allowed limits;
- imperfect jobs, breach of work and rest regime, safety and health requirements at the workplace;
- the insufficiency of the medical-sanitary assistance of the employees in the workplace, taking into account the problems and the necessary measures of prophylaxis;
- decentralization of the health care system, and sometimes even breaking the interdependence and continuity links between primary medicine and the public health service.

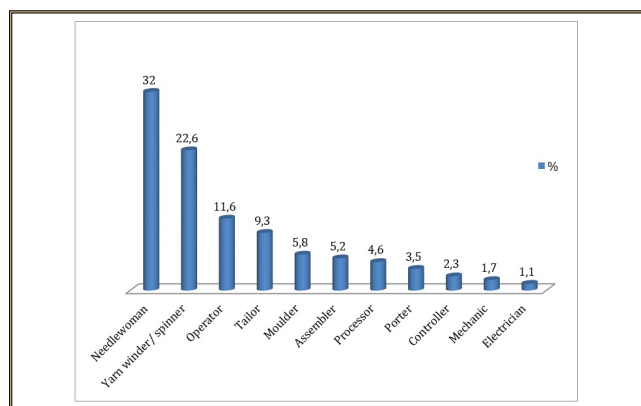


Figure 5. Share of the morbidity of the workers according to profession

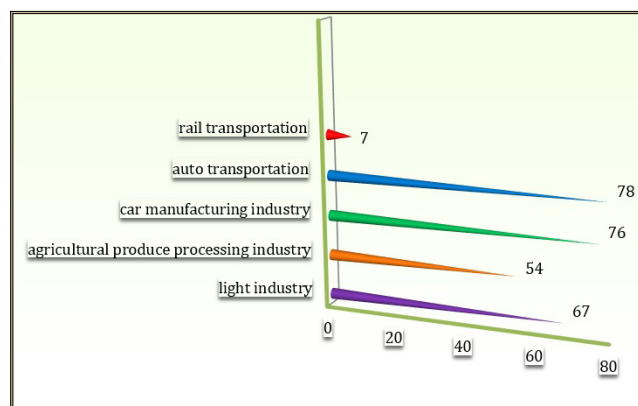


Figure 6. Morbidity indices with TLI in cases of illness per 100 employees, on the main branches of the national economy in 2016

Conclusions

- In the dynamics of the years 2011-2017, the incidence by cases and days by TLI per 100 workers in the garment industry is higher compared to the

national average.

- The average comparative morbidity of women vs. men during 2011-2017, attests that the most frequent illness of women predominates, except for the years 2015-2016.

- Depending on the professional qualification, an increased number of diseases of general character was registered in sewing and repairing, followed by the operators.

- The level of morbidity, in comparison to other branches of the national economy, although it gives way to those in the car transportation and the car manufacturing industry, remains at a high level.

- The working conditions of workers in the garment industry are characterized by several factors: unfavorable microclimate, the presence of chemicals and biological products, noise, vibration, inappropriate working regime.

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