

Characteristics of the Risk of Production Development Caused Diseases of Sewers of JV "Tashteks"

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Abstract: Studies have established that the working conditions of sewing machine operators belong to the 3rd class of the 3rd degree of harmfulness; they can cause an occupational risk of developing diseases in working women. According to the “microclimate” factor, there is a risk of developing general somatic pathologies of the respiratory system, circulatory system, digestion, skin, visual and auditory analyzers, musculoskeletal, genitourinary systems, blood disorders during the cold season and the risk of injury to the fingers due to sweaty palms during the warm period. According to the “noise” factor, professionally caused 2nd degree of hearing loss is possible with 40 years of experience, and according to the “vibration” factor there is a risk of developing spasm of the blood vessels in the hands. According to the factor “severity of the labor process,” there is a likelihood of the formation of functional and pathological disorders of the muscles of the shoulder girdle. The intense nature of the work process of seamstresses-motorists indicates the likelihood of an occupational risk of developing neurotic disorders, hypertension and coronary heart disease.

Keywords: occupational health, sewing production, seamstress-machine operators, occupational risk.

In Uzbekistan, one of the most dynamically developing sectors of the economy is the textile industry, which demonstrates high growth rates in production. In the structure of the textile industry, one of the first places is occupied by clothing production, which operates high-performance equipment, production lines, and automated lines [1].

The dynamics of modern socio-economic conditions reflect changes in social and labor relations. Currently, the employee is perceived as a subject of labor capable of self-realization in the process of work. In this regard, the protection of personnel health is of particular importance, determining not only the quality of labor capital, but also the labor productivity of employees. In this case, we are talking about the conditions and nature of work, their impact on human health and performance. According to experts, satisfaction with working conditions can act as an integrating indicator that covers the whole variety of conditions in which a person’s work activity takes place [10].

Hazardous working conditions are determined by the presence of harmful or hazardous production factors, the influence of which throughout the entire working day creates a threat of serious occupational diseases. Here, a harmful production factor is understood as a factor either caused by the production environment or caused by work activity itself, which negatively affects

the health of the employee. With long-term exposure, harmful occupational factors can contribute to the emergence of occupational diseases, including causing a persistent or temporary decrease in performance [12].

Garment production belongs to those industries in which there is a high differentiation of labor with insignificant energy costs, which does not allow such labor processes to be classified as difficult, but they require significant visual and psycho-emotional stress. Due to radical technical re-equipment and the introduction of progressive production methods, the study of working conditions in clothing production, their influence on the functional state of the body of workers, the identification of production factors that may cause the development of production-related diseases, and the development of scientifically based preventive measures are currently becoming an urgent hygienic issue. meaning.

The purpose of the research is to study the working conditions of seamstresses at the Tashteks joint venture and assess the professional risk of developing work-related diseases in them.

Materials and research methods. The research was carried out at the Tashkent sewing joint venture “Tashteks”. Working conditions were studied using traditional methods using a psychrometer, anemometer, aspirator, lux meter, sound level meter in accordance with the requirements of the Sanitary rules, norms and hygienic standards of the Republic of Uzbekistan No. 0294-11 [4], 0141-03 [5], 0324-16 [7], 0325 -16 [8], 0326 -16 [9], building codes and regulations 2.01.05-96 [16].

Occupational risk was assessed in accordance with the Guidelines for assessing occupational risk to the health of workers. Organizational and methodological foundations, principles and evaluation criteria. [14], as well as with the Methodological Guidelines for the development of a model for predicting occupational risk and preventive measures for the health of workers [6], taking into account that occupational risk is divided into 7 categories: no risk, negligible (tolerable) risk, small (moderate)) risk, medium (significant) risk, high (intolerable) risk, very high (intolerable) risk, extremely high risk and life-threatening risk.

Research results . The conducted research showed that at the sewing production surveyed, seamstresses - motorists carry out conveyor sewing of products (T-shirts, T-shirts, tracksuits). In total, 8-10 people are involved in one conveyor line (cell). During a shift, 1 cell produces from 600 to 800 pieces of products.

It was established that the level of dust in various workplaces of sewing machine operators ranged from 0.5 to 0.8 mg/m³, with average values of 0.75±0.02 mg/m³, that is, it did not exceed the hygienic regulations. The average air temperature during the cold observation period was 17.± 0.07°C, with relative humidity – 50.1 ± 0.7% and mobility – 0.69 ± 0.05 m/s. During the warm observation period, the average shift air temperature was 33.2±2.3 °C with a relative humidity of 35.2±2.2% and air mobility of 0.6±0.2 m/sec. T .e. According to the temperature index, the working conditions of seamstresses-motor operators during the warm period of the year belong to class 3, 1st degree of harmfulness. In addition, seamstresses and motorists are exposed to general production noise up to 81-83 dB and general low-frequency vibration recorded on the lid of sewing tables, which exceeds the norm by 1-2 dB in terms of vibration velocity. The lighting in the examined sewing workshop is combined: natural through the side window transoms and general overhead lighting, made with fluorescent lamps at a height of 2 m 20 cm above the work tables. The illumination level varied at different workplaces from 200 to 900 lux, the average level was 520.8 ± 15.4 lux, the average natural light coefficient was 7.4 ± 0.13%.

The work of seamstresses-motorists is performed in a forced working position - “sitting”, and the performance of production operations is accompanied by stereotypical working movements of more than 6000 per shift with local loading of the muscles of the hands and fingers. The work process is intense at a high level of concentration and vision throughout the entire shift, monotony with monotonous, frequently repeated movements of the hands and forearms,

emotional stress associated with the degree of responsibility for the quality of the product and depending on the complexity of the product.

Based on the totality of production factors (microclimate, noise, vibration, heaviness and intensity of the labor process) [4], the working conditions of sewing machine operators belong to class 3, 3rd degree of hazard (Table 1).

Table 1. Class of working conditions for sewing mechanics according to the degree of harmfulness and danger

Producti on factors	Harmful substances in the air of the working area	Noise	Vibratio n	Microclimate:		Lighting	The severity of the labor process	The tension of the labor process	General assessm ent of working conditio ns
				cold period of the year	warm period of the year				
Class of working conditio ns	2	3.1	3.1	3.1	3.1	2	3.2	3.3	3.3

Data obtained from studying and assessing the working conditions of seamstresses indicate a possible occupational risk for their health [5].

In terms of dust content in the air, seamstresses and motorists work in optimal conditions. Their dust level does not exceed the maximum permissible concentration. There is no occupational risk of developing work-related diseases from this factor.

Working conditions in terms of “microclimate” during the cold season belong to class 3, degree 1, the level of occupational risk is low (moderate), category of evidence is 2 (suspected). Impact of reduced air temperature can increase the risk of developing general somatic pathologies of the respiratory system, circulatory system, digestion, skin, visual and auditory analyzers, musculoskeletal, genitourinary systems, and blood disorders [2]. In the warm period of the year, working conditions in terms of “microclimate” are classified as class 3, degree 1, occupational risk is classified as small (moderate), category of evidence is 2 (suspected), there is a risk of injury to the fingers due to sweaty palms [15].

The occupational risk of noise in the workplaces of seamstresses and motorists is small (tolerable), category of evidence is 2 (suspected). With 40 years of experience, they may have occupationally caused 2nd degree hearing loss [3]. In terms of vibration, the working conditions of seamstresses-motorists belong to class 3, 1st degree of harm. The occupational risk for the factor “vibration” for seamstresses-motorists is small (moderate), category of evidence is 2 “suspected” [3]. Impact Vibrations can lead to spasms of the blood vessels of the hands, which can lead to impaired blood supply, decreased skin sensitivity, salt deposits can accumulate in the joints, and their mobility decreases.

According to the production factor “severity of the labor process,” the occupational risk for seamstresses-machine operators is average (significant), which is due to the presence of stereotypical work movements when performing production operations. The contribution of this indicator to the development of neuromuscular pathology of the shoulder girdle is 45.2%; we can predict the likelihood of developing functional and pathological disorders of the muscles of the shoulder girdle [17].

The work of sewing machine operators is intense, which is due to the concentration of attention and vision at a high speed of work and the aggravating influence of monotony and the forced pace of work. Working conditions according to the factor “intensity of labor processes” for

seamstresses-motorists belong to class 3, 3rd degree of harmfulness. The level of occupational risk in terms of tension is high (intolerable), they are likely to develop neurotic disorders (in 61.4 - 70.3% of workers), hypertension (in 22.7 - 26.9% of workers) and coronary heart disease (in 9.0 – 10.8% of workers) [11].

The research materials formed the basis for the development of methodological recommendations “Measures to improve working conditions in garment production”, which were approved by the coordinating expert commission of the Research Institute of Sanitation, Hygiene and Occupational Diseases of the Ministry of Health of the Republic of Uzbekistan and transferred for implementation to the Centers of State Sanitary and Epidemiological Surveillance, to the departments of labor protection and safety precautions at sewing enterprises, at the hygienic departments of medical universities.

Conclusions

1. The working conditions of sewing machine operators belong to class 3, 3rd degree of hazard, they can cause an occupational risk of developing diseases among working women.
2. According to the “microclimate” factor, there is a likelihood of a risk of developing general somatic pathologies of the respiratory system, circulatory system, digestion, skin, visual and auditory analyzers, musculoskeletal, genitourinary systems, blood disorders in the cold season and the risk of injury to the fingers due to sweaty palms during warm periods.
3. According to the noise factor, professionally caused 2nd degree hearing loss is possible with 40 years of experience, and according to the vibration factor, there is a risk of developing spasm of the blood vessels in the hands.
4. According to the factor “severity of the labor process,” there is a possibility of the formation of functional and pathological disorders of the muscles of the shoulder girdle.
5. The intense nature of the work process of seamstresses-motorists indicates the likelihood of an occupational risk of developing neurotic disorders, hypertension and coronary heart disease.

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