



HYGIENIC CHARACTERISTICS OF WORKING CONDITIONS IN THE PHYTOCHEMICAL SECTOR OF THE "SULTON MEDPHARM" LLC PRODUCTION

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Relevance. In the Republic of Uzbekistan, the task of creating its own industrial pharmaceutical base, capable of solving many problems related to production conditions, is currently acute. To ensure the creation of optimal working conditions in pharmaceutical enterprises operating under our natural and climatic conditions, it is already necessary to have a comprehensive hygienic characterization of pharmaceutical production.

The aim of our research is to analyze and determine the hygienic characteristics of working conditions in the phytochemical workshop of "SULTON MEDPHARM" LLC production facility.

Materials and methods of research. The phytochemical production workshop is located on the 1st, 2nd, 3rd, and 4th floors of the building, while the rutin section, which is part of the phytochemical workshop, is situated in a separate building. On each floor, there is a potential for the release of dust and toxic substances into the air, and there are also sources of heat emission. The workshop produces pharmacopoeial and technical preparations of ferramide, galantamine, phytin, plantoglucid. Mainly plant products are used as raw materials (rice flour, fig leaves, Japanese pagoda tree fruit, licorice).

Results: Analysis revealed that a ferramide production unit is located on the first floor of the building, where rice flour is roasted, technical fiber is dissolved, and it is steamed and packaged. The second floor houses the main part of the workplace (raw material grinding, extraction, drying, crystallization, and packaging of preparations). On the third floor, pharmacopoeial phytin and galantamine are produced, on the fourth floor - rectification of alcohol and storage of extractants. The ventilation of the plant chemistry workshop is inlet-outlet. Air supply is carried out without cleaning by three KD-600 fans with a total capacity of 180000 m³/h. More than 40 C4-70 fans are used for exhaust, providing local suction and general exchange ventilation. Total drawing volume - 162700 m³/h. The ratio of inflow and outflow is 1:1.

Discussion: The main factors affecting workers are: dust of plant raw materials (rollering, grinding, and loading of raw materials for extraction); extractant vapors (preparation of extractants, extraction, crystallization of a technical preparation, its final purification, and regeneration of waste); elevated air temperature and equipment (frying rice flour, extraction of preparations, crystallization, and drying of preparations); dust of finished medicinal preparations (grinding and packaging of preparations).

Conclusions: Thus, it was revealed that a number of unfavorable factors occur in the phytochemical workshop, such as the microclimate during the cold season, which does not meet hygienic requirements for 49% of workplaces. In particular, the air temperature at these locations fluctuates from 10.2±0.2 to 15.8±0.6°C, which is 2-7°C lower than the required. The most unfavorable air temperature readings were observed in the phytin production department (10.2±0.2 - 13.4±0.2°C). During the warm season, the average air temperature in the phytochemical workshop



(262 measurements) is $34.6 \pm 0.4^{\circ}\text{C}$, fluctuating from 32.3 to 39°C ; air humidity is $40.3 \pm 1.8\%$, and air velocity is 0.27 ± 0.02 m/s. The dust content in the workshop air at most workstations is 5-5.6 times higher than the maximum permissible concentration.

Thus, workers in the phytochemical workshop are exposed to elevated concentrations of medicinal dust and significant levels of high-frequency noise. Additionally, there is insufficient natural lighting at workstations, and in some cases, inadequate artificial lighting as well.