

Influence of Industrial Noise on Prevalence of a Chronic Pathology at Workers of the Metallurgical Enterprise, Depending on Age

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ABSTRACT

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Opinion

Considerable contingents of workers of all industries are exposed to influence of industrial noise. Therefore studying of influence of noise on various categories of workers actually and socially significantly. As a research objective studying of influence of noise on prevalence of a chronic pathology at workers of various age categories by results of medical inspection of 2018 with use of methodology of the analysis of professional risk of scientific research institute of medicine of work of a name of academician N.F. Izmerov served [1]. In total 11497 persons, including, working in the conditions of noise above the specification 80 TM SA - 3501 are examined. Prevalence of a chronic pathology (PCP) at working in the conditions of the raised noise levels and without influence of noise of the same age was compared. For criterion of communication of disease with noise influence the indicator of relative risk - RR is taken. By research it is established that accumulation of cargo of illnesses at working in the conditions of noise occurred advancing rates in comparison with other population of workers of the same age groups that was expressed in value RR> 1 in the majority of groups.

At young workers about 25 years are elderly at the work experience in noise of 0,5-7 years already the raised relative risk of development of a pathology of systems of blood circulation, respiratory organs, kostno-muscular, endocrine systems, a skin (RR 1,1-1,3 is observed; small degree of communication with working

conditions); PCP digestion systems (RR=1,7; communication of average force, P<0,05). At this age prevalence of hyperglycemia in 1,6 times, new growths - in 2,0 times above, then in control; prevalence (43,6 %) and relative risk (1,3) gynecologic pathologies maximum from all age groups. Persons of age group of 26-35 years, to the changes specified above, have raised in 1,7 times, in comparison with control, risk PCP of an ear and in 1,6 times - mental frustration (average degree of communication); were observed maximum of all groups PCP of illnesses of nervous system (31,1 %) and risk of new growths (RR=2,2; P <0,05), the raised risk of prevalence of significant risk factors chronic diseases (cardiovascular, oncological): the raised arterial pressure, superfluous weight of a body, hyperglycemia and hyperholesterinemia (RR 1,1-1,5; degree communication with working conditions small). At workers of an age category of 36-45 years at noise influence, along with growth PCP of the majority listed above diseases, it is revealed the greatest PCP and relative risk of formation of a pathology of respiratory organs (14,2 % and 1,7; communication of average force, P <0,05), considerable growth of risk of a pathology of an ear and a skin (RR 3,1 and 3,7; communication degrees high and very high).

At the age of 46-55 years higher prevalence PCP of respiratory organs, systems of blood circulation, digestion, kostno-muscular system, diseases of an ear, a skin, the raised arterial pressure and blood glucose (RR 1,2-2,2 is revealed authentically; degree of communication from small to high, P <0,05), and PCP systems of

digestion and new growths, PCP all chronic diseases in the sum are maximum (19,0 %, 5,1 % and 99,6 % accordingly). At persons at the age of 56 years also is more senior it is marked maximum PCP blood circulation systems (65,4 %), kostno-muscular (65,0 %), endocrinal systems (32,5 %), eyes (94,5 %), skin (14,8 %), raised weights of a body (78,5 %), arterial pressure (62,0 %), blood glucose (30,8 %) and cholesterol (72,2 %). Sharp jump PCP of a pathology of an ear, in comparison with group of 46-55 years (from 5,6 % to 16,0 % is revealed; RR=3,1, high degree of communication with working conditions, $P < 0,05$). In the senior age group the risk of a pathology of organs of vision (1,1) is marked raised, in comparison with control. High prevalence of a chronic pathology and biological risk factors does senior citizens by the most vulnerable to influence of harmful production factors.

The raised risk of development of a pathology of an ear starts to be shown at the work experience in noise of 8 years and more when significant become combinational changes from noise and age influence. In all age groups prevalence of a pathology of system

of blood circulation, kostno-muscular system, a skin, raised blood glucose, in 4 of 5 groups - an ear, respiratory organs, system of the digestion, the raised arterial pressure, and distinction between exposed to influence of noise and not exhibited persons on PCP an ear (RR 2,1-3,1 were observed raised, in comparison with control; high degree of relationship of cause and effect of infringements of health with work) and the raised arterial pressure (RR 1,2-1,3; small degree of communication) at workers were more senior 36 years are statistically significant ($P < 0,05$). The resume. Noise has proved as harmful production factor, increasing risk of occurrence of a pathology of many bodies and organism systems in all age groups, since first years of work. Traditionally improvement programs join, first of all, workers with a long standing. Proceeding from results of our research, young workers need improving actions in the conditions of noise influence also.

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