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TRANSPORT UNIVERSITETI**

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Analysis of occupational diseases associated with noise pressure levels in workplaces of railway enterprise employees

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Abstract: The article analyzes the noise pressure levels at workplaces in machine-building enterprises within the railway sector, which exceed established permissible limits, and examines the resulting occupational diseases, particularly those affecting the auditory system. The study presents data on the adverse effects of industrial noise on workers' health and the increased risk of occupational diseases development due to elevated noise levels. Additionally, the article reviews and critically assesses various researchers' studies related to noise-induced occupational illnesses and health issues. Medical records of employees registered at the central railway polyclinic were examined to evaluate the incidence of diseases linked to noise exposure. Furthermore, the importance of regular medical examinations and auditory function assessments for preventing the adverse effects of noise on workers is emphasized. The necessity of developing technical and organizational solutions aimed at reducing noise levels in the workplace to mitigate noise-related problems and improve labor conditions is highlighted. Such measures contribute to preserving workers' health, preventing occupational diseases, and enhancing production efficiency. This research provides a foundation for future scientific investigations in the field of occupational safety and health within railway enterprises.

Keywords: noise, impact of noise on human health, occupational safety, workplace noise, industrial noise pollution, hearing ability, hearing loss, sanitary and hygienic standards

Temir yo'l korxonalaridagi ishchi xodimlar ish o'rinlarida ishlab chiqarishdagi shovqin bosimi darajasini bilan bog'liq kasb kasalliklarini tahlili

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Annotatsiya: Maqolada temir yo'l sohasidagi mashinasozlik korxonalarida faoliyat yuritayotgan ishchi xodimlarning ish o'rinlaridagi shovqin bosimi darajasi belgilangan chegaraviy me'yorlardan yuqori ekanligi sababli, kasb kasalliklari, xususan, eshitish organlari bilan bog'liq muammolar yuzaga kelishi tahlil qilingan. Tadqiqotda ishlab chiqarishdagi shovqinning ishchilar sog'lig'iga qanday salbiy ta'sir ko'rsatishi, shuningdek, shovqin darajasining oshishi natijasida kasbiy kasalliklarning rivojlanish xavfi haqida ma'lumotlar keltirilgan. Maqolada shuningdek, turli olimlarning shovqin ta'siri bilan bog'liq kasbiy kasalliklar va sog'liq muammolariga oid tadqiqotlari ham o'rganilib, ularning yondashuvlari tahlil qilingan. Temir yo'l markaziy poliklinikasi ro'yhatidagi ishchi xodimlarning tibbiy kartalari orqali kasallik holatlari o'rganilib, shovqinning kasb kasalliklari yuzaga kelishidagi ta'siri tahlil qilingan. Shu bilan birga, ishchilar orasida shovqin ta'sirining oldini olish uchun muntazam tibbiy ko'riklar va eshitish funksiyasini baholash choralari ham muhim ahamiyatga ega ekanligi qayd etilgan. Ish joylaridagi shovqin muammosini bartaraf etish va mehnat sharoitlarini yaxshilash maqsadida ish o'rinlaridagi shovqin darajasini kamaytirishga qaratilgan texnik va tashkiliy yechimlarni ishlab chiqish zarurligi ta'kidlangan. Bu esa ishchi sog'lig'ini saqlash, kasb kasalliklarini oldini olish va ishlab chiqarish samaradorligini oshirishga xizmat qiladi. Mazkur tadqiqot temir yo'l korxonalarida mehnat muhofazasi sohasida kelgusida olib borilishi kerak bo'lgan ilmiy-tadqiqot ishlari uchun asos bo'lib xizmat qilishi mumkin.

Kalit so'zlar: shovqin, shovqinning inson organizmiga ta'siri, mehnat muhofazasi, ish joyidagi shovqin, eshitish qobiliyati, eshitish yo'qotilishi, sanitariya-gigiyena me'yorlari

1. Kirish

So'nggi yillarda temir yo'l infratuzimasiga qarashli mashinasozlik korxonalaridagi ish o'rinlari mehnat

sharoitlarini attestatsiya natijalaridan ma'lumki, ishlab chiqarishdagi shovqin darajasi sanitar-gigienik me'yorlarda yo'l qo'yilgan chegaraviy qiymatlardan yuqoridir. Turli dastgohlarda faoliyat yurituvchi ishchi xodimlar bosim darajasi me'yoridan yuqori shovqin ta'sirida kasb kasalliklariga uchrash holatlari ko'paymoqda.

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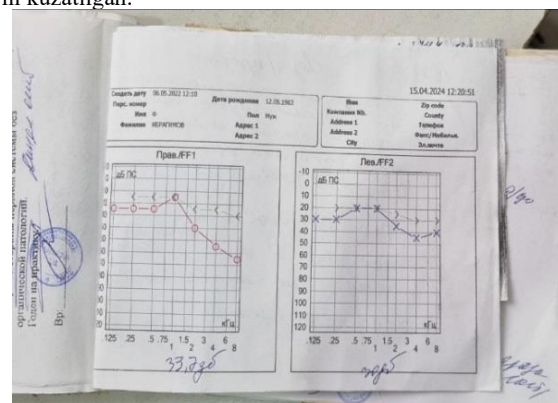
Bosim darajasi me'yoridan yuqori shovqinning ishlab chiqarish korxonalari ishchilarning sog'lig'iga ta'siri bo'yicha tadqiqotlar dunyoning turli mintaqalarida keng olib borilgan. O'tkazilgan tadqiqotlar shovqinning nafaqat eshitish organlariga, balki yurak-qon tomir, asab, ovqat hazm qilish tizimlari va boshqa hayotiy muhim organlarga salbiy ta'sir ko'rsatishini tasdiqlagan.

2. Tadqiqot metodologiyasi

Shovqinning inson salomatligiga ta'siri bo'yicha Mathias Basner Suter, A. H. Franks, J. R. Morata, T. C. (AQSH), Wolfgang Babisch, Clark, C., Martin, R., Stephen A. Stansfeld, Charlotte Clark, Lex Brown (Yevropa), Liu, J. Kumar, R. (Xitoy, Xindiston), Vladimir Kozlov, Sergey Stepanov, Aleksandr S. Karpov (Rossiya), Sunatulla Sulaymanov, Shavkat Qurbonov, Sarvar Ashurmahmatov, Ergash Kobilov, Shavkat Qambarov, Dilshodbek Ismoilov (O'zbekiston) va boshqalar tomonida ilmiy izlanishlar olib borilgan [4-21]. Ushbu tadqiqotchilar ilmiy izlanishlari natijalariga ko'ra shovqinning uyqu sifati va kognitiv funksiyalariga ta'sir etishi, insonning uzoq muddatli shovqin ta'sirida nevrologik buzilishlarga uchrashi mumkinligini ko'rsatilgan[4]. Ish joyidagi shovqin va uning eshitish qobiliyatiga ta'sirini o'rganilgan, yuqori shovqin bosimi darajasi eshitish qobiliyatining yo'qolishiga olib keladi, ayniqsa qurilish va sanoat sohaslarida[5], sanoat shovqini va eshitish qobiliyatining yo'qolishi o'rtasidagi bog'liqlikni aniqlangan, shovqin darajasi 85 dB dan oshganda eshitish qobiliyatining yo'qolishi xavfi sezilarli darajada oshadi[6], kimyoviy moddalar bilan birgalikda shovqinning eshitish qobiliyatiga ta'sirini o'rganilgan, shovqin va kimyoviy moddalarning birgalikdagi ta'siri eshitish qobiliyatini tezroq yo'qotishiga olib kelishi aniqlangan[7]. Yurak-qon tomir kasalliklari va shovqin o'rtasidagi bog'liqlikni o'rganilgan. yuqori shovqin darajasi yurak xastaliklarining ko'payishiga sabab bo'ladi[8], ish joyidagi shovqin va uyqu buzilishi o'rtasidagi bog'liqlikni o'rganilgan, shovqin uyquni buzadi, surunkali charchoq va stressga olib keladi[9], tadqiqotlar shovqinning inson ruhiy salomatligiga salbiy ta'sir ko'rsatishini isbotlangan[10], bolalar rivojlanishiga shovqinning diqqat, xotira va ta'lim jarayoniga to'sqinlik qilishi mumkinligini aniqlangan atrof-muhit shovqinining inson hayot sifati va umumiy farovonligiga ta'siri o'rganilgan[11,12]. Xitoyda sanoat shovqini va uning ishchilarning sog'lig'iga ta'sirini o'rganilgan, shovqin darajasi yuqori bo'lgan korxonalarda ishchilarda eshitish qobiliyatining yo'qolishi va yurak-qon tomir kasalliklarining ko'payishi kuzatilgan[13]. Hindistonda sanoat shovqini va eshitish qobiliyatining yo'qolishi o'rtasidagi bog'liqlikni o'rganilgan, shovqin darajasi yuqori bo'lgan korxonalarda ishchilarning 60% dan ortig'i eshitish qobiliyatining yo'qolishi bilan og'riqligi qayt etilgan[14]. Rossiyada shovqinning inson organizmiga ta'siri yuzasidan olib borilgan tadqiqotlar tibbiyot, sanitariya-gigiyena va mehnat muhofazasi yo'nalishlariga qaratilgan, olib borilgan izlanishlar shovqinning asab tizimiga ta'sirini o'rganishga qaratilgan bo'lib, u uzoq muddat shovqinda ishlovchi kishilarda nevrologik buzilishlar yuzaga kelishini aniqlagan[15], sanoat korxonalarida shovqinning inson salomatligiga umumiy ta'sirini oqibatida ishlab chiqarish unumdorligiga salbiy ta'sir ko'rsatadi[16]. Yurak-qon tomir kasalliklari va shovqin o'rtasidagi bog'liqlikni chuqur o'rganilgan, shovqinning bolalar salomatligiga ta'siri,

yuqori shovqin darajasi bolalar orasida stress, asabiylashish va diqqat yetishmovchiligi sindromiga olib kelishi aniqlangan[17]. Ishlab chiqarishdagi shovqin va mehnat muhofazasi bo'yicha tadqiqotlar orqali, ish joylarida shovqin darajasini kamaytirish usullarini ishlab chiqilgan. Sanoat shovqini va uning immunitet tizimiga ta'sirini o'rganilgan, shovqin stressni keltirib chiqarish oqibatida immunitet tizimini zaiflashtirishi qayt etilgan, sanoat shovqini va yurak-qon tomir kasalliklari o'rtasidagi bog'liqlik o'rganilgan, shovqin darajasi yuqori bo'lgan korxonalarda ishchilarda yuqori qon bosimi va yurak xastaliklarining ko'payishi kuzatilgan[18]. O'zbekiston olimlari ham sanoat korxonalarida shovqin va tebranishning inson organizmiga ta'sirini o'rganishga katta hissa qo'shgan, olib borilgan tadqiqotlar sanoat sharoitida shovqinning inson organizmiga ta'sirini eksperimental o'rganishga qaratilgan bo'lib, uning ishlari kasbiy eshitish yo'qotilishi va yurak-qon tomir kasalliklari bilan bog'liq muammolari yoritilgan[19], shovqinning inson organizmiga fiziologik ta'sirini o'rganishga qaratilgan bo'lib, mehnat muhofazasi choralari ishlab chiqilgan[20], shovqinning asab tizimiga salbiy ta'sirini tahlil qilib, nevrologik kasalliklarning rivojlanishiga sabab bo'lishi mumkinligini aniqlangan, shovqinning yurak-qon tomir tizimiga salbiy ta'siri va gipertoniya rivojlanishiga olib kelishini ilmiy asoslab berilgan, bolalar organizmiga shovqinning ta'sirini o'rganilgan, uning rivojlanish jarayoniga salbiy ta'sir ko'rsatishini aniqlangan. O'zbekistonda sanoat shovqini va uning eshitish qobiliyatiga ta'sirini o'rganilgan. yog'ochni qayta ishlash korxonalarida ishlaydigan ishchilarda eshitish qobiliyatining yo'qolishi kuzatilgan, sanoat shovqini va uning yurak-qon tomir kasalliklariga ta'sirini o'rganilgan, shovqin bosimi darajasi yuqori bo'lgan korxonalarda ishchilarda yuqori qon bosimi va yurak xastaliklarining ko'payishi kuzatilgan[21].

Yuqorida keltirilgan ma'lumotlarga tayangan holda, shovqin bosimi darajasi yuqori bo'lgan ishlab chiqarish korxonalarida va transport sohasida ishlovchi ishchilar orasida ushbu masala muhim va yanada dolzarbdir. Shuning uchun, temir yo'l transporti sohasi xodimlari orasida eshitish qobiliyatining pasayishi darajasini o'rganish maqsadida "O'zbekiston temir yo'llari" aksiyadorlik jamiyatining Markaziy poliklinikasida turli kasb egalari ambulator kartalaridagi kasallik tarixi va davriy tibbiy ko'rik natijalari tahlil qilindi. Tahlil natijalariga ko'ra, temirchilar orasida eshitish qobiliyatining sezilarli darajada pasayishi holatlari hi kuzatilgan.



1-rasm. Ishchi xodimlar audiogramma o'tkazilish jarayoni va audiogramma natijalari

Ma'lumki, temir yo'l korxonalarida shovqin ta'sirida ishlovchi kasb egalari davriy tibbiy ko'rikdan o'tishda,



majburiy ravishda audiogramma tekshiruvlaridan o'tishi lozim, uning natijalari tibbiy ambulatoriya kartalarida qayd etiladi (1-rasm).

O'tkazilgan tahlillar shuni ko'rsatdiki, temirchilarning 40 foizi davriy tibbiy ko'rikdan o'ta olmagan. Ushbu holat ularning eshitish qobiliyati pasayishi sababli qayd etilgan bo'lib, natijada bu ishchilar boshqa lavozimga o'tkazilgan yoki davolanish uchun ma'lum muddat berilgan.

3. Xulosa

Ushbu tahlillar temir yo'l sohasidagi mashinasozlik korxonalarda ishlovchi ishchi xodimlarning, ish o'rinlaridagi shovqin belgilangan chegaraviy me'yoridan yuqori ekanligi tufayli, kasb kasalliklariga uchrash holatlarini keltirib chiqarmoqda.

Ishlab chiqarishdagi shovqinning ishchilar salomatligiga salbiy ta'sirini bartaraf etish orqali mehnat sharoitlarini xavfsizligini oshirish ularni ish o'rinlaridagi shovqin darajasini pasaytirish bo'yicha innovatsion texnik yechimlar ishlab chiqish lozim va ushbu masala dolzarb ahamiyatga ega.

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