

THE IMPACT OF STRESS AND FATIGUE ON THE LEVEL OF OCCUPATIONAL INJURIES

Zemlyanska O. V., Senior lecturer, Polukarov Yu. O., Ph.D., Ass. Prof. (Dep. LPICS of Igor Sikorsky Kyiv Polytechnic Institute)

Abstract. The paper examines the relationship between the psychophysiological state of workers, in particular the level of stress and fatigue, and the frequency of occupational injuries. The main reasons for the increased risk of accidents in a state of emotional and physical exhaustion are identified, and the directions for preventing these negative phenomena in the modern conditions of the activities of Ukrainian enterprises are outlined.

Keywords: stress, occupational injuries, danger.

Анотація. У роботі розглянуто взаємозв'язок між психофізіологічним станом працівників, зокрема рівнем стресу та втоми, і частотою виникнення виробничого травматизму. Визначено основні причини підвищення ризику нещасних випадків у стані емоційного та фізичного виснаження, а також окреслено напрями профілактики цих негативних явищ у сучасних умовах діяльності підприємств України.

Ключові слова: стрес, виробничий травматизм, небезпека.

Introduction. The problem of the impact of stress and fatigue on occupational safety is becoming increasingly urgent in conditions of socio-economic instability and martial law, when most enterprises operate with increased workload and in conditions of uncertainty. Psychological stress, overwork, lack of rest and emotional exhaustion directly affect the ability of employees to adequately assess risks, concentrate and make safe decisions when performing production tasks [1-3].

Analysis of the issue. Stress is the body's natural reaction to external or internal stimuli that require adaptation. In a short-term state, it can mobilize a person's strength, however, prolonged or chronic stress negatively affects cognitive functions, causing inattention, irritability, errors in actions and impaired coordination. According to the International Labor Organization, up to 60% of cases of occupational injuries are associated with the human factor, including stressful and fatigued states of workers.

Purpose of the work: to investigate the relationship between stress load on employees and the level of occupational injuries.

Methods, materials, and research results. As practice shows fatigue is a state of reduced working capacity that occurs as a result of physical or mental overload, insufficient rest or monotonous work. In production conditions, it manifests itself through slowed reactions, loss of attention and violation of the logical sequence of actions. This is especially dangerous in industries where work requires high concentration, such as construction, transport, assembly or energy work. Even a short-term loss of attention can have serious consequences, especially in enterprises with a high level of risk.

In small and medium-sized enterprises, where employees often combine several functions, work overtime and do not have the opportunity to fully rest, the risk of developing stress conditions increases significantly. Additional factors are insufficient organization of workplaces, the absence of a psychological support system and a low level of corporate safety culture [4]. In conditions of constant tension, conflicts or fear of losing a job, motivation to comply with safety rules decreases, which in turn increases the likelihood of injuries.

A particular danger is the combination of emotional stress with physical fatigue, which causes disruption of psychophysiological processes, distortion of the perception of time and space, impulsiveness of actions and a decrease in the ability to predict the consequences of one's own decisions. As a result, an employee may act automatically, without proper assessment of the situation, which often becomes the direct cause of an accident.

In modern conditions of increased danger, it is important not only to provide employees with personal protective equipment, but also to form a psychophysiological risk management system. It should provide for rational planning of work and rest regimes, psychological training, regular training in self-regulation and stress resistance techniques [5]. No less important is the creation of an open psychological climate at the enterprise, where an employee can report fatigue or emotional exhaustion without fear of punishment or condemnation.

The problem of stress and fatigue becomes particularly acute in war conditions. A significant part of employees has post-stress conditions associated with experienced events, which requires comprehensive attention from employers. Adapting the occupational health and safety system to such conditions involves the introduction of psychological support, flexible work schedules, and professional rehabilitation programs.

Conclusions. Stress and fatigue are significant factors that increase the level of occupational injuries, as they affect the cognitive and behavioral reactions of employees. Their impact cannot be completely eliminated, but it is possible to minimize it through a systematic approach to the organization of work, the development of a safety culture, psychological education of personnel and the creation of favorable conditions for the restoration of working capacity. Concern for the mental health of employees should become an integral part of the occupational health policy, because only a physically and psychologically stable team can ensure safe, effective and productive activities of the enterprise.

References

1. Julià, M., Catalina-Romero, C., Calvo-Bonacho, E., & Benavides, F. G. (2013). The impact of job stress due to the lack of organisational support on occupational injury. *Occupational and environmental medicine*, 70(9), 623-629. <https://doi.org/10.1136/oemed-2012-101184>

2. Askaripoor, T., Siadat, M., Saleh, E., & Aghaei, H. (2024). Resilience, job satisfaction, occupational stress, and occupational accidents among healthcare professionals: A Bayesian network analysis. *Work*, 79(3), 1357-1367. <https://doi.org/10.3233/WOR-240178>

3. Torres, G. M. S., Backstrom, J., & Duffy, V. G. (2023, July). A systematic review of workplace stress and its impact on mental health and safety. In *International Conference on Human-Computer Interaction* (pp. 610-627). Cham: Springer Nature Switzerland.

4. Шаповал, О. М. (2022). Психологічні аспекти безпеки праці та профілактики виробничого травматизму. *Науковий вісник Ужгородського національного університету. Серія: Педагогіка, соціальна робота*, 1(50), 195–198.

5. Лазарєва, Ю. В. & Бугайова, Н. В. Проблема психоемоційного стресу та її вплив на виробничий травматизм. *Вісник Харківського національного університету імені В. Н. Каразіна. Серія «Медицина»*, 43, 45–50.