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MANAGEMENT OF WORK-RELATED STRESS IN THE CONTEXT OF INTERVENTION AND RESCUE ACTIVITY – CASE STUDY

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Abstract: *In Europe, psychosocial risks and occupational stress are some of the most challenging issues in OSH, with a significant negative impact on people's health, organizations and functioning of national economies. The current paper presents a case study of stress prevention and management within the Industrial Safety Department of NIRD INSEMEX Petroșani, respectively within the Risk Rescue Laboratory. Its purpose was increasing safety at work in intervention and rescue activities in toxic /flammable /explosive environments, by implementing preventive strategies for managing occupational stress associated with the activity. "Being prepared" is simply a desirable approach in many life situations and circumstances, specifically when talking about emergencies that can be particularly dangerous, extremely stressful, or even life threatening.*

Key words: *coping, intervention and rescue, stress, workplace*

1. INTRODUCTION TO PSYCHOSOCIAL RISKS

The International Labour Organization sets out the definition of psychosocial risks as being, first of all, the interworking of job content and management and other environmental and work conditions and, secondly, the interworking of conditions related to workers, their skills and requirements. Thus, psychosocial risks make reference to specific interactions that have the potential, based on workers' perception and experience, to negatively influence their health [1].

Thus, it can be stated that, within all stressors, psychosocial occupational ones are those that result from interactions between occupational factors and personal factors (respectively skills and abilities, individual needs, aspirational level, level of cultural development, education, etc.). The result of this interaction may be the same for all affected persons (when based on biological and psychological characteristics of individuals) or may be different, depending on the affected person (when based on characteristics of a

particular person, individual and his work context).

In Europe, the second most common problem related to occupational health is stress. As much as ¼ of workers in Europe consider that a near their whole working time can be characterised as stressful, of which a quarter state that "work negatively affects their health" [2]. Also, as much as 50% of workers in Europe think that the way in which occupational stress is managed, within their workplaces, is not effective. Things got to this point because although most managers show concern over stress at work, only a small proportion of them develop and implement specific procedures, targeting this issue [3].

Romanian workers are somehow equally divided, one group stating that stress at work is commonly found in their activity, while the other group state that work-related stress is rather sporadic [4]. If stress at work is prolonged, workers may experience the burnout syndrome, a phenomenon of modern society, a state of exhaustion affecting, at the same time, their physical integrity, emotions and mental health.

2. CASE STUDY

2.1 Research questions and objectives

The case study presented is an intervention within the Industrial Safety Department of NIRD INSEMEX Petroșani, respectively within the Risk Rescue Laboratory, which performs, among others, fundamental and applied research and scientific and technological services in areas such as: risk assessment and forecasting of occupational injury and illness, occupational health and safety, rescue activities in toxic, explosive and flammable environments.

The objective was to increase safety at work in intervention and rescue activities in toxic, flammable, explosive environments, by implementing preventive strategies for managing occupational stress associated with the activity. In order to reach the objective, several steps had to be taken, in order to have a better grasp of the problem and possible solution

to solve it, as one of the necessary conditions in understanding and mastering a phenomenon is knowledge of the mechanism of its occurrence and development in time.

2.2 Methodology and tools

The first step was to perform the job analysis of the considered workplace. This represented an important first step because only when demands required from workers, in terms of tasks and behaviour, are identified, designing a risk management program and a personnel's assessment and management system, become possible.

Job analysis is a complex process by which information describing activities and tasks corresponding to a workplace are systematically collected, as well as information on knowledge, skills, abilities, and other work-specific features that make a person able to successfully complete job requirements.

		LEVEL	1	2	3	4	5	
SKILLS	COGNITIVE	Fluency of ideas			X			
		Memory				X		
		Deductive thinking			X			
		Inductive thinking			X			
		Ordering information			X			
		Categorical flexibility			X			
		Speed of information structuring				X		
		Structural flexibility			X			
		Spatial orientation				X		
		Ability to view				X		
	Speed of perception			X				
	Selective attention				X			
	Distributive attention				X			
	Reaction time				X			
	PSYCHOMOTOR	PHYSICAL	Static force				X	
			Explosive force				X	
			Dynamic force				X	
			Trunk strength				X	
			Flexibility of the extension				X	
			Dynamic suppleness				X	
Coordination of all movements						X		
Body balance						X		
Physical resistance						X		
SENSORIAL			Close visual acuity			X		
	Remote visual acuity			X				
	Chromatic vision			X				
	Night vision				X			
	Peripheral vision				X			
	Perception of depth			X				
	The view in bright light			X				
	Auditory sensitivity			X				
	Auditory attention				X			
	Sound location				X			
SOCIAL	Speech recognition			X				
	Self - control				X			

Fig. 1 Profile of people carrying out activities in the considered workplace.

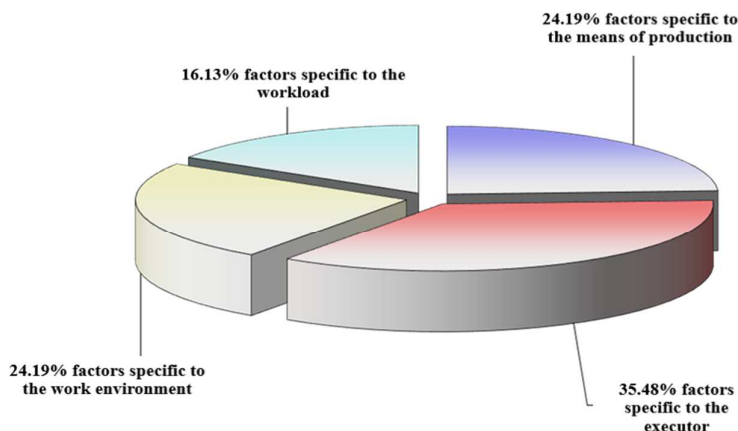


Fig. 2. Share of identified factors.

The job analysis method chosen was the FJAS system, because it is one of the most elaborate systems in the field. This method provides a direct link between specific tasks of a job and qualities that individuals must possess to perform them correctly [5]. As a result of the job analysis process the psychological profile of workers was outlined (Fig. 1) [6].

The assessment of risks represented the logical next step in reaching the objective of creating a safer workplace. Regardless of workplace type, such an assessment allows risks to be ranked according to size and resources to be efficiently allocated for proper measures.

National Research and Development Institute of Occupational Safety Bucharest (N.R.D.I.O.S.) developed a risk assessment method that was chosen from the multitude of existing methods for assessing occupational risks, method that aims to quantitatively determine the level of occupational risk, based on systemic analysis and assessment. The outcome is represented by a centralizing document which includes the overall level of risk of workplaces.

When assessing risk, the first step is to identify all risk factors within a chosen workplace. Afterwards, all identified risks are ranked, taking into consideration two important aspects: how critical the risk is (severity) and how frequent the worst consequences occur. Two types of outcomes are found: the partial and the global risk levels [7].

Calculation of global risk level showed a value equal to 2.98, rating the activity as a low

to medium risk level workplace [8]. Regarding the share of identified risk factors, according to their generating source within the work system, the situation is shown in Fig. 2 [8]. The relevance of this approach has been discussed in [9, 10, 11] related to the general concept of intellectual capital management.

If considered from their severity point of view, all psychosocial risks identified fall into the class of negligible or small consequences, respectively very low incapacity to perform work. But, at the same time, it was important to understand that their frequency is high and very high, representing a constant presence for intervention and rescue activities. A well-known fact is that stress is both active and cumulative. It accumulates, over time, until the state of crisis, when physical and mental symptoms manifest. Thus, when we discuss stress as an occupational risk factor, we must consider not only severity of reactions to stress but also, perhaps, their frequency [12].

The risk analysis included some suggestions regarding to what would be the most appropriate approach to manage occupational stress associated to this activity: development of strategies for stress adaptation. First of all, and most important, people need to be taught how to develop coping strategies, which help them deal with various problems they face [8].

Coping strategies represent cognitive, affective and behavioural responses developed to downsize, contain or bear internal and external demands, exceeding personal resources of individuals. Aiming at marking out coping

strategies (cognitive and behavioural ones) most fervently used by personnel trained within INSEMEX Petrosani, two distinct psychological tests were used: Strategic approach to coping scale SACS and Cognitive Emotion Regulation Questionnaire CERQ. The two tests were administered to 38, respectively 70 trainees.

As it turned out, the responders showed that they use coping strategies that are adaptive, as well as maladaptive ones (resulting in psychological problems).

Raising awareness of individuals regarding the coping strategy used when facing stress at work as well as implementing psychological and self-development programs may have the potential of teaching workers which coping strategies bring them the most benefits and which are to be replaced [12].

Thus, so far, we may conclude that trainees in the field of rescue may be thought, through psychological programs, how to avoid using maladaptive coping strategies and how to replace them with more efficient ones.

2.3 Results – the intervention program

In view of all that has been stated so far, we developed such a psychological development intervention, a five-steps process, aiming to help rescue workers by developing their self-confidence, sense of control over their work, and, overall, feel better adapted to face stress at work.

Components of a traumatic stress prevention program must include at least [13]: information on stress and stressors; relationship between strain and stress; information on what to expect immediately before and during intervention; information about adaptive and maladaptive coping strategies; information on the importance of psychophysical training; initiation into relaxation techniques (Jacobson technique, autogenic training, breathing techniques, etc.); mental training (visualization).

The psychological prevention program involves active, integrated, multidisciplinary measures and can be translated into theoretical and practical activities [11]. Theoretical activities include information on psychological risks of interventions, influence of environment on human psyche, qualities and mental states conducive to effective interventions,

symptomatic charts specific to most common mental dysfunctions, methods, procedures and stress management techniques. Theoretical training activities ensure:

- Explaining psychological and social foundations of behaviour in intervention;
- Identification of most common stressors affecting endurance and mental stability and description of possible reactions to them;
- Mastering theoretical aspects of self-control and self-relaxation techniques, as well as principles and to streamline individual and collective behaviour.

Practical activities refer to psychological training, respectively a strategy of systematic practice of behaviours, which amplifies the adaptive value of stress reactions. It starts with the natural adaptation potential, expanding it by learning how to correctly empower and invest response resources.

As mentioned before, the process consists of five modules and its goal is to assist personnel in preparing for stressful emergency situations, to help alleviate the impact of stress.

The number of modules is justified, on the one hand, by the large amount of information intended to be brought to the attention of participants. On the other hand, the structure of the training program follows the structure of the training / re-training courses for intervention and rescue personnel in toxic /explosive /flammable atmospheres carried out within NIRD INSEMEX, which takes place over five days. Also, the length of a module must be limited in time, as learners' attention and motivation to participate can be maintained at higher levels for limited periods of time [14].

3. DISCUSSION ON MANAGEMENT OF WORK-RELATED STRESS

When approaching the stress at work issue, both in terms of prevention and management, the organizational, as well as the personal frameworks must be considered. Prevention, as in most other situations, is key in managing stress at work. Being prepared means that people and the organisations in which they work can anticipate stress sources and mitigate them, preventing crises from occurring [15].

Organizational approaches to prevent and manage stress at work may refer to [8]: effective leadership and leadership structures, clear definition of purpose and objectives and strategies, appropriate to each situation, clear definition of everyone's role, training and guidance, cultivating team spirit, developing a stress management plan, providing information and psychological advice related to traumatic stress readily available in a variety of formats etc.

Individual approaches to stress prevention and management may refer to [16]: workload management (prioritization, delegation, etc.), balanced lifestyle (exercise, healthy eating, quality rest, creating a social support system, etc.), learning and applying stress reduction techniques, practicing self-awareness (e.g., recognizing early warning signs for stress reactions, accepting help, avoiding over-identification with victims, examining personal prejudices and stereotypes, etc.) etc.

When it comes to stress management, the main goal is to bring the individual from the stage of "affected individual" to that of "individual ready to deal with the situation".

4. CONCLUSION

The golden rule, stating that prevention is better than curing, also applies to psychosocial risk management approaches. Thus, the most effective programs are prophylactic ones, namely elaborate recruitment and selection processes (selection of those persons who, following evaluations, prove to be potentially able to manage stress level of respective job) and training and development programs, through which employees learn or develop skills and knowledge that facilitate adaptive management of occupational and general stress.

Specific knowledge and psychological strategies, such as inoculation of stress, coping with emotions and stress mitigation interventions, personal growth, optimisation of cognition, solving problems, learning techniques to induce relaxation and so on have the potential of being learned and implemented by intervention and rescue staff in toxic /flammable /explosive environments for effective

management of psychosocial risks. Psychological training can help individuals think clearly and rationally, reducing the risk of serious injury and loss of life, thus contributing to increasing the level of health and safety at work. Also, there have been considered for future research the context of different university-industry collaborations due to the mutual advantages for education and research activities [17].

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Managementul stresului ocupațional în contextul activității de intervenție și salvare – Studiu de caz

Rezumat: În Europa, riscurile psihosociale și stresul profesional sunt unele dintre cele mai provocatoare probleme în SSM, cu un impact negativ semnificativ asupra sănătății oamenilor, organizațiilor și funcționării economiilor naționale. Lucrarea de față prezintă un studiu de caz de prevenire și management al stresului în cadrul Departamentului Securitate Industrială al INCD-INSEMEX Petroșani, respectiv în cadrul Laboratorului Riscuri Salvare. Scopul principal a fost reprezentat de creșterea siguranței la locul de muncă în activitățile de intervenție și salvare în medii toxice/inflamabile/explozive, prin implementarea de strategii preventive de gestionare a stresului profesional asociat activității. „A fi pregătit” este pur și simplu o abordare de dorit în multe situații și circumstanțe de viață, în special atunci când se vorbește despre urgențe care pot fi deosebit de periculoase, extrem de stresante sau chiar amenințătoare pentru viața angajaților.

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