

**PSYCHOLOGICAL AND PHYSICAL CONSEQUENCES OF EMERGENCY
SITUATIONS IN MEMBERS OF INTEGRATED RESCUE SYSTEM**

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Abstract

This article deals with the issue of coping with psychological and physical consequences of emergency situations in members of the Integrated Rescue System (IRS). The up-to-date nature of this topic stems from the arduousness of the job, especially from the mental stress affecting the staff. Data was collected through an anonymous questionnaire survey that was distributed among members of the Fire Rescue Service of the Czech Republic, the Police of the Czech Republic and employees of the Czech Republic's Medical Emergency Service (MES). The research has been conducted on the basis of completed anonymous questionnaires distributed among 539 respondents.

Keywords: Integrated Rescue System, Stress, Mental and Physical Impacts.

INTRODUCTION

Each person has a different level of resistance to the effects of misfortunate events and also each person has a different way of coping with the intensity of such situations (Schavel & Olah, 2008). The psychological reaction represents a response to a particular event. Reactions to emergency situations (ES) are highly individual and show considerable intraindividual variability in time. The very first reaction of each person is to protect his/her life, lives of close people and their property. The affected person acts in this particular moment emotionlessly. We can encounter a wide range of behaviour and emotional

manifestations within the initial impact phase. As a result of an ES, the affected people experience stressful reactions perceived as a threat to the feeling of relative well-being.

These include certain body changes preparing an organism for an emergency (attack or escape reaction) as well as psychological reaction such as anxiety, anger and aggression, apathy and depression, and disturbed cognitive processes. These may take a form of an acute reaction to stress, post-traumatic stress disorders, or persistent personality changes, but also they may have an impact on somatic condition of an individual (Ralbovska, 2017). An injury can be physical but also mental, emotional. An emotional injury may be even more painful than the physical one and it may heal worse and longer. If left untreated, such injury can hurt for the rest of one's life. According to Prasko, Hajek, Praskova et al. mental injury is simplistically imagined trauma, which arises as a consequence of an event beyond common human experience (Prasko, Hajek, Praskova et al., 2003).

Traumatic mental disorders include a wide range of disorders including posttraumatic stress disorder (PTSD), depression and anxiety disorders. PTSD includes recurrent, alert memories of a traumatic event with memories that begin during the first six months and last for more than one month. Symptoms of PTSD can be subdivided into categories: intrusions, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. Most commonly, patients have frequent, unwanted memories replaying the triggering event. Nightmares and sleep disorders of the event are common (Greist, 2014).

Anxiety is regularly experienced by most people, but when it exceeds a certain level and causes dysfunction and inappropriate stress, it is also considered to be a disorder involving serious and lasting sadness that interferes with normal function and often leads to lack of interest or enjoyment of activity. One of the options how to effectively prevent consequences of ES is to provide members of the Integrated Rescue System (hereinafter referred to as IRS) the psychological support while educating them in the field of coping strategies through which it is possible to respond to stressful situations and solve them successfully. The coping strategies (coming from word: to cope) mean to be able to handle, overcome or manage something. These strategies do determine, how we are able to adapt and adjust to life difficulties. The above mentioned mechanisms stem mostly from basic reactions to stress.

Based on the definition by Mitchell (2003) we assume, that crisis intervention is defined as an active but temporary and supportive entry into an individual or group life

situation during a period of extreme emergency then crisis intervention and psychological assistance must be offered to IRS members. The specialised care of the IRS members, within the scope of providing psychosocial care, may also include provision of theoretical knowledge on traumas, their impacts on an individual's psyche, learning the right lifestyle and attitudes, provision of post-traumatic intervention care by prepared professionals and members of IRS trained to alleviate or eliminate post-traumatic stress. IRS members are expected to cope with emergency situations (Prasko, Slepecky & Olah, 2007), in all their aspects, professionally, given that they are trained to handle such situations. Based on this idea, we have found through our research the impact on the psychological and physical state of these professionals that have experienced emergency events and crisis situations.

METHODS

A quantitative research method was used for the purposes of processing the research while an anonymous, non-standardized questionnaire was applied. The questionnaire method belongs to one of the basic sociological methods of collecting information and it is based on the acquisition of empirical data. We decided to apply this method because of its simplicity and the possibility to reach as many respondents as possible.

Criteria for Selection of Respondents: The selection of respondents was conditioned by the service relationship at the Fire Rescue Service (FRS) of the CR and the Police of the CR, and the employment relationship at the Emergency medical services (EMS) of the CR. For the sake of obtaining more comprehensive view on the issue, we have selected several regions in the CR, such as: region of South Moravia, Central Bohemia and Pilsen. The respondents have not been chosen upon age, gender, education, and length of professional experience. Non-standard anonymous questionnaires in an e-form have been distributed to each of the agencies. We managed to acquire 154 validly completed questionnaires from the members of FRS of the CR, 167 questionnaires from members of the Czech Police, and 218 questionnaires from the employees of EMS of the CR. Overall, we managed to obtain 539 respondents out of members of IRS of the CR.

RESULTS

We have been interested in the frequency of experiencing ES which has a significant impact on the mental health of respondents.

Table 1 Variants of respondents' answers regarding the frequency of experiencing ES which has a significant impact on the mental health of respondents

variant of answer	FRS		Police		EMS	
	n _i	f _i	n _i	f _i	n _i	f _i
almost every shift	24	15,6%	18	10,8%	68	31,2%
one per week	28	18,2%	37	22,2%	74	33,9%
one per month	17	11%	19	11,4%	29	13,3%
one per six months	48	31,2%	56	33,4%	21	9,6%
one per year	22	14,3%	9	5,4%	9	4,1%
I have never experienced ES	14	9,1%	13	7,8%	12	5,5%
I do not want to answer	1	0,6%	15	9%	5	2,4%
Total	154	100%	167	100%	218	100%

Table 2 Variants of Respondents' Answers Regarding the Mental Impacts

Variant of Answer	FRS		Police		EMS	
	n _i	f _i	n _i	f _i	n _i	f _i
absence of symptoms	23	14,9%	22	13,2%	15	6,9%
combination of multiple symptoms	26	16,9%	34	20,4%	34	15,6%
difficulties with falling asleep	21	13,7%	23	13,7%	31	14,2%
early waking up	13	8,4%	9	5,4%	21	9,7%
concentration disorders	17	11%	22	13,2%	16	7,3%
emotional problems	12	7,8%	17	10,2%	29	13,3%
psychomotor restlessness	13	8,5%	16	9,6%	26	11,9%
apathy	12	7,8%	13	7,7%	17	7,8%
tendency to overeat	15	9,7%	6	3,6%	22	10,1%
other	2	1,3%	5	3%	7	3,2%
Total	154	100%	167	100%	218	100%

In the category „other“, the following forms of answers appeared: frequent family problems, feelings of social isolation, using of sleeping pills, feelings of frustration from occupation.

We have focused on finding out whether the respondents were offered by their employers to use professional assistance in the form of posttraumatic intervention care. 129 responders from FRS of the CR (83.7%), 138 respondents from the Czech Police (82.6%) and 186 responders from the EMS of the CR (85.3%) answered positively. When asked whether the respondents used the professional psychological assistance offered, we found that 14 respondents from FRS of the CR (9.1%), 19 respondents from the Czech Police (11.4%) and 36 responders from the EMS of the CR (16.5%) answered positively. We were furthermore interested in physical impacts of occupation at IRS.

Table 3 Variants of Respondents' Answers Regarding the Physical Impacts

variant of answer	FRS		Police		EMS	
	n _i	f _i	n _i	f _i	n _i	f _i
absence of symptoms	41	26,6%	25	15%	18	8,3%
combination of multiple symptoms	20	13%	32	19,2%	38	17,4%
back pain	11	7,1%	14	8,4%	35	16,1%
Headaches	13	8,5%	17	10,2%	31	14,2%
digestive problems	14	9,1%	29	17,3%	24	11%
weight changes	5	3,2%	9	5,4%	13	6%
palpitations	13	8,5%	7	4,2%	15	6,9%
impaired breathing	15	9,7%	6	3,6%	7	3,2%
Fatigue	16	10,4%	23	13,7%	26	11,9%
Other	6	3,9%	5	3%	11	5%
Total	154	100%	167	100%	218	100%

The category, other “included the following forms of answers: pain in joints, stomach-aches, skin reactions, loss of appetite.

DISCUSSION

The nature of IRS work requires exposure to trauma, so the increased incidence of traumatic events in our research was not surprising and supported by further studies. Our research has confirmed the psychological and physical effects of employment with the IRS. Also, authors Pacella, Hruska & Delahanty (2013) report that traumatic experiences can affect the physical and mental health of the individual. Symptoms of trauma are associated with an increased general medical condition and condition, with poorer physical health conditions, with greater frequency and severity of pain and cardio-respiratory and gastrointestinal problems.

Mental exhaustion can lead to burnout syndrome. Researchers refer to burnout as a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishments that occur among individuals who work with people. Increased professional burnout is associated with absenteeism, physical illness, emotional problems, poor job performance and negative attitudes for the professionals (Guntupalli, Wachtel, Mallampalli, Surani, 2014).

Measuring burnout syndrome and coping with it is usually done by the Maslach Burnout Inventory: Human Services Survey (MBI-HSS), and by Endler and Parker's Coping Inventory. Burnout syndrome and coping strategies in doctors have been for a longer time a subject of many research studies of authors from around the world, but the first research dedicated to burnout syndrome and self-reported care in an internal medicine residency program has been published only in 2002 (Shanafelt, Bradley, Wipf & Back, 2002). Professionals in psychological or spiritual care (Soltes, 2014), but also the students of such programs experience high impact of burnout syndrome, too (Zavis, 2010). It is therefore important to prevent burnout syndrome by right coping strategies, elimination of those maladaptive, increasing psychological resilience, etc. in all professionals dealing both with acute and chronic injuries of body and psyche in humans.

CONCLUSION

It is inevitable to systematically focus on successful management of psychological and health consequences of ES in IRS employees. This can be achieved particularly by enabling the employees to participate in individual specialised courses aimed at coping with stress and mentally demanding situations. The performance of a difficult job demanding maximum effort requires the support of relaxation activities and creation of satisfactory work and personal life. Author Otrisal (2017) recommends that psychological preparation should be

incorporated into everyday activities. Stress management training should become a common part of both theoretical and practical training. Practical training is the most useful when is done within real life situations. Among individuals, it is necessary to raise awareness about health and its protection and about options of professional care. Furthermore, it is important to deepen quality and functional relationships, to adopt effective communication and to form achievable aims. Within organizations, one of the most significant aspects is social support. An important role is also balance between the level of responsibilities and competencies. Stress may be alleviated by suitable work environment, adequate financial evaluation, moral and social evaluation, recreational activities outside working hours and realistic career opportunities. Condition for effective team work should be created, promoted and highlighted.

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