

Original article

Personal resources in coping with stress among paramedics part 2

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ABSTRACT

The purpose of this project was to determine the relationships between the sense of coherence and paramedics' coping with stress styles. Owning such resources as high sense of coherence or task-oriented coping with stress style does not imply triggering them in encountering a critical situation. However, if triggered, they become an important variable acting as an intermediary between stressful events and coping. Two concepts serve as a theoretical basis: R. Lazarus' transactional theory of stress and Antonovsky's salutogenic theory.

KEYWORDS

personal resources, sense of coherence, paramedics, coping with stress



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1. Introduction

The continuous increase in the pace of development of society brings with it an increase in sudden health and life hazards. This requires creating a modern health care system, which is based on current knowledge in the field of emergency medicine, the rise of public awareness and the ability to take advantage of this system. Nowadays the priority is security. It is important not only for individuals but also for the whole country. The effectiveness of health structures is a working prehospital emergency system, hospital base of emergency medicine, hospital emergency departments and hiring qualified medical personnel [16].

New threats that arise change the world, and thus, medical emergency. Civilizational development is modified by dangers of natural origin, thus creating a new kind of threats. The literature distinguishes the main threats of the 21st century, which can have a huge impact on the safety and human health. Among other things there are: population growth, environmental degradation, new diseases, hazardous materials, chemical weapons, nuclear threats, cultural conflicts, or economic changes.

2. The nature of work of a medical lifeguard in medical rescue teams

A paramedic profession is a relatively young one, hence it does not always have a prestige and respect it deserves. It appeared on Polish labour market in the 90s of the twentieth century. It is a response to the professional training of medical personnel prepared to provide assistance to patients in the states of health emergency. The concept of prehospital care, which was adopted in Poland, assumed the departure from the profession of an orderly and passing the current role to a new profession of a paramedic [1]. The first and only legal act that constitutes a paramedic profession in Poland is the Act of September 8, 2006 on the State Emergency Medical Services.

The rescue operation is teamwork, discipline and ability to cooperate is required. The rescuer must be independent and able to make quick decisions, to control the emotions that prevent quick and effective action. It is often a rush, a race against time, physical and mental effort, a drive with the siren on, carrying patients down the spiral staircase. Totally different is the nature of Medical Rescue Teams' work in the city and in rural areas where the access to the place is associated with longer commuting time. In such cases first aid provided by the witnesses of an incident is priceless. Sometimes another difficulty is finding the address. Many properties are unmarked or numbers are outdated and sometimes additional pressure is exerted by dispatcher's voice calling by the radio station that the family urges due to deteriorating condition of the patient, or the patient stops breathing. Among other problem may be that buildings are scattered over a big area and the crew must ask locals for guidance, which can be difficult at night. There are often unfavourable terrain conditions, e.g. mud, deep snow, tree branches [15]. If the team needs support of police or firefighters, the time is also extended. If the team S needs to be present at the place of accident, quick access can also be impossible, because there is only one specialist team that is currently performing other job in the region. In such conditions the rescuers have to manage on their own and deal with, e.g. several people injured in need of immediate help, or with an aggressive patient. The legislator allows two-person P Medical Rescue Teams, which seems to be a big misunderstanding in the case of rural areas. It is impossible to secure the patient positioning on an orthopedic board by two rescuers, to conduct effective resuscitation, or to provide transport and performing concurrent medical activities of the signs of life. In such situations it is a tough piece of work. Working by twos includes distribution of equipment and patient's weight among smaller number of people. These are only a few examples of hard work of two-person teams in a rural area. This may result in more frequent injuries, staff overload or doctor's leaves [8].

The responsibility imposed on members of medical rescue teams, for the life and safety of other people, may accumulate tensions and traumas that have a destructive impact on a professional and personal life of a rescuer [9]. By working in various weather conditions, shifts, they are often at risk of aggression (psychological and physical hazards), chemical and biological hazards. This makes their work stressful and health weakening, and the earnings are low and do not compensate for the negative sides of the profession [4].

3. The psychology of work stress among members of medical rescue teams

The work of rescuers is inevitably associated with the exposure to severe stressors, which can sometimes exceed their adaptive capacity. Such stressors are often found in occupations related to helping and saving people during traumatic events, such as threat to life, gruesome scenes, death, and extensive damage. There may also appear chronic stressors of medium intensity but lasting permanently. An example is the shift work, conflicts at work, unpredictability of events during on-call duty, etc. [3].

To minimize the negative consequences of stress, one should possess the necessary knowledge about stress and how to cope with it. As it was written previously, stress induces emotional symptoms (anxiety, fear, tension, nervousness, worry), somatic symptoms (muscle tension, increased heart rate, dry mouth) and psychological ones (seeking information or help to solve the problem). Acute stress reaction is associated with significant decrease in efficiency, and symptoms usually have a variable nature. The initial state is bewilderment, narrowing awareness and attention, not understanding the incoming stimuli and disorientation. The consequence may be withdrawal from the situation or agitation and hyperactivity. These symptoms usually occur in the first minutes after the impact of the stress stimulus and disappear after a few hours or days [10].

A typical reaction to stressful situation is the coping mechanism in the form of avoiding conversations about the event. Denial is an unconscious defense mechanism in the form of feeling as if nothing had happened. All this leads to anxiety relief, and by a process of 'working through', there is a gradual withdrawal of symptoms. It also happens that anxiety is alleviated by using wrong methods, such as: alcohol, drugs, transferring anger on others, or regression which manifests itself as childish helplessness towards stress [5].

The awareness and understanding of the mechanisms underlying the behavior and reactions of victims is the effective performance of rescue operations. At the same time it should be remembered, that the same mechanisms and reactions also apply to members of the Medical Rescue Teams.

Supporting a person in stress is based on relating to them, which helps to regain the internal balance. One should remember to avoid rush and impulsive actions. Patience and calm inspire trust and give a sense of security. Definitely, active listening and understanding the emotional state help to resolve the issue.

The main mistakes which make it difficult to make contact with a victim are:

- slope plain of contact, which is the prevention from conscious experiencing unpleasant emotions called 'looking down'. Despite everything, difficult emotions unconsciously evoke reactions in the form of tensions, irritability, headache, nausea, diarrhoea, etc.;
- artificiality, the mask in the form of an artificial smile, meaningless consolation, or impersonation of a ruler who knows all best;
- attitude of the judge intensifies the feeling of guilt escalating the victim's stress [11].

The correct treatment of a victim affected by stress is based on individual assessment of the case. In order to do this, one should:

- ensure comfortable conditions as much as possible;
- not impose oneself, but be available;
- enable to express feelings;
- make it possible to contact the family;
- offer help in solving current problems;
- be prepared for expressing strong emotions [14].

Rescuers involved in difficult situations are exposed to similar stress reactions to that of victims and witnesses of the incident. In order for the rescuer to function effectively in such an environment, he or she should be properly trained in terms of stress reaction, to get to know their emotions, relaxation methods and they should participate in trainings to mitigate the consequences of job stress.

Stress as a natural phenomenon can be constructive, useful or it can improve efficiency, the so-called 'eustress' as a 'good stress'. Excessive 'distress' interferes with the functioning of an individual. The symptoms of an excessive reaction tend to be difficulty with concentration, irritability, sleep disturbance, unjustified feeling of guilt, loss of interests and appetite, or isolation. Then one must take actions to mitigate the effects of stress in the form of more rest, physical exercises, changes in the organization of time, reducing drugs, relaxation, or ask for help from a psychotherapist or psychologist [17].

Unfortunately, sometimes there appears post-traumatic stress disorder reaction to a traumatic situation characterized by a delayed (a few weeks) or prolonged over a month. It manifests itself by re-experience of secondary trauma, which recurs in the memories, nightmares, emotional dejection, rejection of interpersonal contacts, the ability to experience the pleasure, avoiding situations that may remind of injury. In addition, there is excessive vigilance and sensitivity to stimuli, sleep disorders, anxiety and depressive mood.

To prevent the occurrence of acute stress response, and thus reduce the efficiency of rescuer's activities, it is necessary to discuss his or her reactions to severe stress with an experienced person. The ability to master ways of relaxation improves the efficiency at work. Common methods are: yoga, meditation, breathing trainings or visualization techniques [14].

Psychological trainings help release negative consequences. The classes are conducted in two types:

- defusing - during 10 to 30 minutes the rescuer's thoughts and feelings related to the action are expressed;
- debriefing - 24 to 48 hours after extremely difficult rescue actions. This is a longer group discussion on experiences, with the purpose of regaining inner balance.

This is carried out in several phases:

- the leading person collects the most important information from the rescuers;
- rescuers' introduction, discussing the principles of confidentiality and freedom;
- comparison of various facts presented by participants;
- time to express one's own feelings, thoughts and experiences;
- description of emotional reactions during the action;
- descriptions of stressful situations;
- revision of information about stress, reactions, ways of coping with stress;
- summary and conclusions [16].

To sum up the above process, it should be noted that debriefing is the concept of learning by experience. On the basis of experiences and analysis of events, the theories of possible behavior that generates new experiences are introduced. A new meaning is given to them in the context of knowledge, thus new solutions and skills are introduced [13].

The rescue action is a difficult situation. It is connected with high emotional burden for both, the victims and aid workers. Teams work mostly in conditions of severe stress, experiencing many difficult situations that create a variety of configurations. Human reaction to stimuli of a strong and negative impact is diverse and complex, biologically and socially conditioned [14]. Of key importance in difficult situations, requiring intense distress, is the sense of coherence. People with a high sense of coherence are able to cope in the most difficult circumstances. They can cope with the stressor and their own reaction. They believe in the survival and create positive outlook for the future [9]. They constantly learn the ability to use existing resistance resources, thus shaping mental toughness. The impact of traumatic events allows them to see positive changes in themselves. This is expressed in a greater emotional maturity, in getting richer life experience, an increase in the sense of strength, better cope with the difficulties, confidence and competence. At the same time family relationships deepen, together with sensitivity, openness to others, as well as appreciation of life and reevaluation of priorities [8].

4. The research methodology

The purpose of the undertaken research was to identify and describe the character of relationships between the sense of coherence, which are displayed by the employees of Medical Rescue Teams, and styles preferred by them in order to cope with stress. The realization of the research purpose started from establishing the research problem:

What is the sense of coherence and styles of coping with stress among employees of Medical Rescue Teams?

4.1. Research methods

As an indicator of a sense of coherence and its components the following issues were adopted: Life Orientation Questionnaire, (SOC-29) by Antonovsky, consisting of 29 items. The tool includes three scales: comprehensibility (11 items), resourcefulness (10 items), reasonableness (8 items) (Antonovsky, 2004). The research in original and Polish version indicate, that it is characterized by a satisfactory level of reliability and accuracy.

The indicators of styles of coping with stress were the results of Questionnaire CISS (Endler and Parker, 1999). The authors included in the questionnaire three scales appropriate to the category of distinguished styles of coping with stress. The first style focuses on the task (16 items), the second is the style focused on emotions (16 items), and the third style focuses on avoiding (16 positions). The last one includes two subscales: engaging in substitute activities and seeking social contacts. The questionnaire consists of 48 items [7].

To describe variables, descriptive statistics and distributions of variables were used. Differences estimates were based on one-way analysis of a variance of a test by F. Fisher. The test of relationships was performed using the Pearson correlation coefficient. The condition that $p < 0,05$ was considered statistically significant. The analysis was performed using the statistical package STATISTICA 12.0.

The study was conducted in the period from November 2014 to February 2015 on a group of 65 members of Medical Rescue Teams in one of Lower Silesian emergency stations. The survey was conducted among physicians, nurses and paramedics.

4.2. Research analysis

The analysis of data shows that the age of the respondents ranged from 34 to 67, the average age of the respondents was just over 38 (38,36). Secondary education 52% dominated in the study group. The remaining group 48% are the people with higher education. Most of the respondents are residents of small towns - 48%, 36% come from cities, and the remaining 16% are the people who declare residency in rural areas. The study was conducted in three occupational groups: system doctors, paramedics, and system nurses. The group of doctors comprised of 15 people representing 23% of all respondents, 27 rescuers (42%), and the group of nurses consisted of 23 people, that is 35%.

4.3. Assessment of the sense of coherence level and its components

The values of the applied life orientation SOC questionnaire suggest getting an average of 144,16, spread in this respect developed between the levels: the lowest 116 and the highest 168. Based on the research and calculations in different scales, one can notice that 11 people showed the highest score in the sense of resourcefulness (SOR) scale, whose average was 50,36. The sense of comprehensibility (SOCM) was slightly bigger than the sense of purpose (SOP) and the average result was 47,2. The lowest average of 46,6 proved to be the sense of meaningfulness. I also noticed that among 4 re-

spondents the received results in the sense of comprehensibility and meaningfulness scale were equal.

Table 1. Differences in the sense of coherence level and its components in the test group

Variable	Descriptive statistics (Coherence)							
	N important	Average	Confidence -95,000%	Confidence +95,000%	Min.	Max.	Variation. Std.	Standard. Mistake
Sense of comprehensibility	65	47,260	45,3697	49,3503	34,00	59,00	8,65032	0,998853
Sense of resourcefulness	65	50,366	48,7012	52,3121	36,00	64,00	7,84714	0,906110
Sense of meaningfulness	65	46,633	42,8966	46,1700	36,00	54,00	7,11362	0,821410
TOTAL SOC GLOBAL	65	144,40	137,7020	147,0980	116,00	164,0	20,41925	2,357812

Source: own elaboration

The average standards presented by Antonovsky fall within the 130-160 points. The employees in most of the experimental group, that is 68%, fit into the average standards. The two remaining groups presented different standard. One had a low sense of coherence (they were people comprising 12%), and the second group was characterized by a high degree (20%).

4.4. Data results based on the questionnaire of coping with stress CISS

Most people pointed to the style focused on the task (SFT), whose average was 63.64, and the spread between the lowest and the highest score was between 51-74. The style focused on emotions (SFE) - its average score was 35.15 (the spread ranged between 19-54), and the style focused on avoiding (SFA) 40.08 (range 27-77). Consequently, most people chose the style focused on the task, and then the style focused on avoiding. 24 people placed themselves in SFT, and one person in the SFA. It should be also noted that the style focused on avoiding is divided into two subscales, in which, after the calculations, the following adequate averages were received: engaging in substitute activities (ESA) - the average was 16.44, and the search for social contacts (SSC) - the result was 16.24. As can be seen, these two subscales are roughly balanced. The questionnaire for coping with stress has another scale called - others, whose average was the lowest and amounted to 7.32.

Secondly, the more likely chosen style was the style focused on emotions. 15 people chose it. For the remaining 10 people the right style was the style focused on avoiding. It was also noted that regardless of education this style was chosen the most often.

Analyzing the obtained results it can be concluded that the subjects do not differ in the case of style focused on the task, but they differ in the case of style focused on emo-

tions and in the case of subscales of the style focused on avoiding, that is, substitute activities and social contacts.

Table 2. Descriptive statistics questionnaire CISS

Styles of coping	Number of people	Average	The minimum	The maximum
Task	25	63,64	51	74
Emotional	25	35,16	19	54
Evasion- substitute activities	25	16,44	10	53
Evasion- social contacts	25	16,24	10	22
Evasion- Total	25	40,08	27	77
Other	25	7,32	5	10

Source: own elaboration

The conducted analysis of correlation between variables of the sense of coherence and variables of the styles of coping with stress revealed the occurrence of statistically significant ($p < 0,05$) strong correlation between the style focused on the task and the sense of meaningfulness and global sense of coherence. The results are presented in Table 3.

Table 3. The relationship between the level of sense of coherence and its components and coping styles in the study group

Variable	Correlation (Coherence)			
	Marked correlation coefficients are important with $p < ,05000$			
	Sense of comprehensibility	Sense of resourcefulness	Sense of of meaningfulness	Total soc global
Style Focused on Task	,1232	,2072	,3568	,2561
	N=75	N=75	N=75	N=75
	$p = ,292$	$p = ,074$	$p = ,002$	$p = ,027$
Style Focused on Emotions	-,5654	-,5991	-,5126	-,6483
	N=75	N=75	N=75	N=75
	$p = ,000$	$p = ,000$	$p = ,000$	$p = ,000$

Variable	Correlation (Coherence)			
	Marked correlation coefficients are important with p<,05000			
	Sense of comprehensibility	Sense of resourcefulness	Sense of of meaningfulness	Total soc global
Style Focused on Avoidance (engaging in substitute activities)	-,1157 N=75 p=,323	-,0667 N=75 p=,570	-,2316 N=75 p=,046	-,1553 N=75 p=,183
Style Focused on Avoidance (searching for social contact)	-,0135 N=75 p=,908	,2362 N=75 p=,041	,1360 N=75 p=,245	,1324 N=75 p=,257
Style Focused on Avoidance	-,0328 N=75 p=,780	,0302 N=75 p=,797	-,1885 N=75 p=,105	-,0680 N=75 p=,562

Source: own elaboration

The correlation ranged from 0.35 to 0.25, which means that the higher sense of coherence the examined person had, the more frequently he or she used the style of coping with stress focused on the task. According to the theory by Antonovsky, people with a high sense of coherence tend to make an effort aiming at solving the problem, changing the situation or cognitive transformations [2].

However, in the case of the style focused on emotions, a strong negative correlation was obtained with the level of the sense of coherence, they ranged from -0.51 to -0.64. The lower the sense of coherence, the more often the studied person applied the style focused on emotions. People with a low sense of coherence tend to focus on themselves, on their own emotional experiences, often feel anger, guilt, tension, or think wishfully [11].

It results from the conducted analysis of styles of coping with stress that among almost all the people the dominant is the style focused on the task, which an optimal outcome, because it is a style most desired (concentrated less on avoiding and even less on emotions). Therefore, such factors as the occupation, age and education had no importance. People problem-oriented can handle or remove the effect of stress. They undertake direct action, focusing on solving the problem. Such attitude can be described as coherent and logical, taking into considerations the stressors referred to be-

fore. The tension resulting from a situation that took place does not change into a permanent and strong stress.

Interpretation of the overall results on the basis of analysis of Life Orientation Questionnaire indicates the achievement of the average level of standards by the staff of Medical Rescue Teams. Being divided into particular scales, the sense of resourcefulness turned out to be the most preferred feeling, followed by the sense of understanding and the sense of meaningfulness. Such style preference may suggest that individuals with a lower sense of meaningfulness do not have enough motivation to be able to see the event as a challenge worth the commitment. However, among these three scales significant differences were not noticed. One could say that they are placed on an approximate level. According to the author of the questionnaire Aaron Antonovsky, people characterized by equal level of three scales show a stable type of experiences [2]. The pattern of perceiving the world is stable or, as Antonovsky calls it - coherent. In other words, the relationship between generalized receptive resources and coherence is consistent. The higher the resources, the higher the sense of coherence. Repeatability of life experiences, which are characterized by consistency, creates the balance between underload and overload, and thus develops a sense of coherence. The respondents showed confidence of having enough resources to cope with difficulties. The choice of such a strategy has a positive effect on physiological reactions, which maintain health in good condition.

People with such a sense of coherence treat stressors not as a threat, but as a challenge, which can be faced. Whereas those with a low sense of coherence are focused on negative emotions and take anti-health actions. Focusing on oneself and on the negative experiences causes the tensions to maintain and perpetuate, which leads to stress.

The results gathered during the survey analysis allowed learning the relation between coherence and the styles of coping. The scope of the project ignored the other elements of the stressful transaction, but it can be a framework for further research among the employees of Medical Rescue Teams.

Conclusions:

- among almost all members of Medical Rescue Teams the dominant was the style of coping focused on task; the result is optimal and desirable due to the nature of the work;
- education, place of residence, profession and age in the study group has no connection with the styles of coping;
- members of medical rescue teams are placed in medium norms of a sense of coherence and are characterized by a stable type of life experiences focused on the task style.

Conclusions

The work of members of Medical Rescue Teams, like hardly any professional group, is more prone to stress. An inherent aspect of this work is the contact with traumatic events affecting people. Rescuers are witnessing pain, despair, mutilation or death. Social expectations towards them are clear, they have to be brave, strong and resilient. During the rescue action, Medical Rescue Team focuses on the most important tasks. Responsibility for life and safety of other people can accumulate resentment and tensions that have destructive impact on their professional and personal life. Also, it should be realized that a rescuer work involves a risk of exposure to identify with a victim waiting for help. Then the rescuer has a sense of an enormous commitment. If the final of a rescue operation is not successful, the feelings of failure and guilt appear, which are independent of the contribution to the effort and commitment involved in the rescue. Then the only thing left is to cope with one's own emotions. This group of rescuers, characterized by emotional attitude, experiences more ethical dilemmas in their work.

There are many books, publications and research on stress and ways to cope with it but there is no effective method that could reduce the resulting tensions. This is due to biology and individual psyche, which is a subjective matter. Therefore, every person must develop a method for stress reduction. The methods that will be doable, satisfying, giving mental and physical relief. First of all, one must realize that with the things, which we have no influence on, we need to reconcile, but one can also do something that is within our capabilities. What I mean here is at least the care about the psycho-physical culture in the form of physical activity, diet, avoiding stimulants, etc. However, to be able to effectively help oneself, at least the basic knowledge of biology and psychology of stress is needed. Sometimes the best methods are not able to replace the greatest resource, which can be support from the family, relatives or friends.

One's view of stress depends on personal and social resources. Coping with stress is combined with the involvement of positive emotions. Each of us is looking for satisfaction and pleasure in life. However, the perception of difficult situations by a man largely depends on the efficient coping with stress. Everyone has psychological skills to positively perceive and analyze difficult situations.

Modifying negative beliefs, reaching for the resources that lie within us, changing lifestyle, care and self-respect can facilitate effective coping with stress.

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Conflict of interests

The author declared no conflict of interests.

Author contributions

Author contributed to the interpretation of results and writing of the paper. Author read and approved the final manuscript.

Ethical statement

The research complies with all national and international ethical requirements.

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