Each responding professional, trained volunteer responder and responding community should know the fundamentals of the first psychological aid. It is an aid which should be given to the victim of an emergency not only by psychologists but also by other specialists who participate in the area of early recovery. The emergencies of various characters affect a whole spectrum of human life. They significantly influence also the psyche of a wide range of people involved who participate in solving emergencies and subsequent recovery. Each emergency can be understood as a certain critical incident bearing a potential of developing a crisis and trauma – it represents a source of psychical burden for an individual. The psychical burden develops as a consequence of growing imbalance between the external conditions of the environment (the crisis phenomenon arisen) and the internal conditions of people to solve them. Each person experiences the psychical burden in a different way. People can respond to it either positively or negatively and it reflects in people’s behaviour and actions (increase or decrease of performance, decreased attention, motivation, irritation, overall changes of experiencing and behaviour, ...). Experiencing the psychical burden is very subjective and can achieve various dimensions and a different qualitative form. The stages of the psychical burden (common, increased, marginal and extreme) express just this quantity and quality of experiencing the disharmony. The professional literature also distinguishes the types of the stress situations (situations of inadequate tasks and requirements, problem situations, frustrating situations, conflict situations, depriving situations and stress situations), however, the borders between them are not determined exactly and often overlap and this fact is closely connected with the subjective character of people’s experiencing [3].

**Emergency Situations and Victims**

In connection with solving the emergencies there are often mentioned some specifics (work in changeable and demanding working conditions, time stress, lack of information, shift operation, ...) which place demands also on the employees’ working capability. Except for the professional, physical, moral capability it is also necessary to deal with the psychical capability of employees participating in the early recovery.

The units of the Integrated Rescue System, the members of the police and according to the extent of the emergency also volunteers and volunteer’s and non-profit organisations (Red Cross, Blue Angel, ADRA, ...) participate in solving the emergencies. As shown in the figure 1, also those people can become victims of an emergency who solve it and rescue the others. Baštecká[2] introduces the following possible groups of people who can be affected:

- direct victims (primary victims) are people who are present in the event or mass accident and are exposed to it in the largest extent,
- relatives and friends of the primary victims or the bereaved persons (secondary victims),
- rescuers and helpers who free, resuscitate, ...,

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4. Artykuł recenzowany.
• people who are closely connected with the event, (e.g. those who provided the first aid to people),
• citizens living in the affected area.

Disaster recovery in urban environments is a complex process. Because of high population densities and the presence of many societal and infrastructural dependencies, urban areas are prone to severe loss of self-reliance in case of a disaster. Rebuilding such areas to a self-sustaining state is a daunting task, and requires a high degree of community effort and comprehensive knowledge about the affected environment. All too often, these requirements are not properly met, leading to a long recovery trajectory and misalignments between recovery efforts and community needs. We suggest that most issues in disaster recovery stem from ‘collaboration gaps’: flawed organisational structures between stakeholder parties that exist between levels of operation and between phases in the recovery process. We introduce two innovation pathways to close these gaps, and on the background we present the basis of the COBACORE project that will explore these pathways, and create a collaborative platform for effective community-based comprehensive disaster recovery.

The employees of the rescue units are directly affected by the emergencies, impacts of accidents on the victims, they have negative feelings, emotions and stress during their work therefore also their selection and preparation for these working positions is realised also from the psychological point of view and their overall working capability is tested as well. Also further training is necessary (professional, psychological) for them to be able to do their work effectively. The table 1 shows an overview of emergencies during the last five years.
As the table 1 shows the biggest amount of emergencies occurring in Slovakia is caused by natural disasters and accidents. The largest increase was recorded in 2010 – out of the total number of 68 natural disasters 54 ones were floods and inundation.

The tables 2 and 3 show the effects of accidents and fires on the health and lives of victims, impacts on the rescuers’, employees’ of the fire and emergency brigades as well as volunteers’ health – this represents only part of people participating in solving the crisis phenomena. We can say that during the emergency phenomena health and lives of the employees of the emergency brigades are threatened. The emergency brigade employees and also the volunteers come to conflicts with the emergency victims more frequently. The individual indicators (see the table 2 and 3) can be a potential source of the psychical burden, stress or trauma of the rescuers and volunteers as well.

*Source: An overview of emergencies in 2014 [5].*

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural disasters</th>
<th>Accidents</th>
<th>Disasters</th>
<th>Others</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>43</td>
<td>41</td>
<td>1</td>
<td>26</td>
<td>111</td>
</tr>
<tr>
<td>2010</td>
<td>68</td>
<td>52</td>
<td>6</td>
<td>7</td>
<td>133</td>
</tr>
<tr>
<td>2011</td>
<td>59</td>
<td>34</td>
<td>4</td>
<td>12</td>
<td>109</td>
</tr>
<tr>
<td>2012</td>
<td>45</td>
<td>58</td>
<td>7</td>
<td>9</td>
<td>119</td>
</tr>
<tr>
<td>2013</td>
<td>198</td>
<td>80</td>
<td>0</td>
<td>11</td>
<td>289</td>
</tr>
</tbody>
</table>

The table 3 shows the impacts of fires on the health and lives of victims and the employees of the rescue brigade and the firemen – volunteers as well. All who participate in the early recovery work with the victims of these events and they should be also trained both professionally and psychically for this fact (how to work with the victims of the emergencies or with their relatives or mass media, ...).
Tab. 3. An overview of fire impacts on health and lives of victims during 2007-2011.  
Source: State Budget of the Slovak Republic, 2012 [16].

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>Fires</td>
<td>14 366</td>
</tr>
<tr>
<td>Killed persons</td>
<td>53</td>
</tr>
<tr>
<td>Injured persons</td>
<td>234</td>
</tr>
<tr>
<td>Children (0 – 15 years)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Civilians (15 - 60 years)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Civilians (over 60 years)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Professional firemen</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Other firemen</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

A – killed persons, B – injured persons

The employees of the rescue units and volunteers participating in the early recovery can respond to the psychical burden in different ways. Here we can speak about experiencing stress and its influence on the employees’ or volunteers’ performance efficiency.

**Psychological Stress and its Effects**

Seley[15] defines stress as a characteristic physiological response of the organism to the damage or its threat which can be recognised through the adaptation syndrome (in [6]). The behaviour of the involved persons in solving an emergency can be affected by a lot of factors (the stressors like e.g.: the personality of the employees and victims, working conditions, available information, conflicts, ...) which increase the requirements on their activity or make the conditions more difficult. Paulík[13] specifies the demonstrations of stress and says:

- the active response to stress (muscle tonus, strong sweating, sensations of heat, significant emotions, auto-aggressive tendencies, lack of concentration, deteriorated communication ability, ...),
- the passive response to stress (lethargy, limitation of movements, clumsy and uncoordinated movements, icy hands and feet, turning pale, widening of the pupils, declining the body perception, significantly decreased ability to understand the verbal information, ...).

Vargová (in[4]) presents the following types of the victims’ reaction to an emergency:

- normal reaction (being terrified, confused, ...),
- individual panic (crying is out of control, extreme activity, ...),
- hyperactive reaction (lack of concentration, senseless requirements and proposals, ...),
- depressive reaction (the victim is standing or sitting without a movement, he/she does not communicate, ...),
- somatic reaction (dizziness, spasms, vomiting, ...).
The rescue operations connected with floods, fires, mass accidents and other emergencies can affect the psyche of all participants, victims and including their rescuers. A person is not stable to exist in an unbalanced situation with the environment and under stresses for a long time and this fact affects the overall operation of the organism both from the psychical and physical point of view. There are the following disorders caused by a long-term psychical burden:

- pathological fatigue or even chronic pathological fatigue,
- reaction to serious stress and adaptation failures,
- acute stress reaction,
- dissociative amnesia,
- permanent personality change after catastrophic experience,
- selective mutism,
- chronic fatigue syndrome,
- burn-out syndrome and others.

The performance of all people changes under the influence of psychical burden and stress. The positive stress helps and motivates the activity; however, if the load starts to be excessive, the performance efficiency decreases. The employees of the rescue units should master the methods and techniques aimed at coping with the psychical burden and stress as well as their prevention. They should utilise these methods and techniques for their own coping with the load and stress but also in the case of providing the first psychological aid for the emergency victims.

Stress activates the human organism if people are threatened. The organism responds to the threat in certain phases. Mikšík[12] describes coping with stress situations in three phases:

1. the first phase – mobilising the psychical defence forces of the organism develops readiness to an activity based on the orientation in new conditions (regulation of the organism through the central nervous system and endocrine glands). The organism prepares for averting dangers and also for the possibility to respond promptly in the expected changed conditions;
2. the second phase – the resistance, improving the resistance against various influences – own (passive or active) solution of the stress situation which is carried out in two ways:
   a. the active resistance against negative influences (against load),
   b. active coping with the given situation (with load);
3. the third phase – the stabilisation or exhaustion represent concrete ways of coping with stress and renewing the balance or failing during the stress situation and being defeated by the stress influences.

All people experience and cope with the psychical burden and stress in different ways and everybody responds to them differently. Therefore it is important for people to identify the sources, namely the causes of the psychical burden and to look for adequate methods of solving and coping with the stress situations.
Coping Psychological Stress and Psychical Resistance

Coping with the stress situations can be understood as a form of behaviour through which people are able to resist the stress situations or to overcome them. It is a process of coping with both external and internal requirements taken as those which bring stress, i.e. which at that moment are exceeding the possibilities of an individual. The coping phase takes place on the conscious and unconscious level of people’s experience.

In the framework of the stress situations it is important to admit the problem, to identify its real causes and finally to overcome it for the psychical burden to affect the human performance efficiency as minimally as possible. Each human being solves the stress situations individually.

Praško [14] describes also the approach of people aimed at solving the stress situations according to its type and it can consist in:

- changing the situation, it can be an important decision (to move closed to your office) or a simple thing (to repair a tap which is dripping),
- training abilities for coping with a situation, using new methods, techniques of coping with stress situations,
- changing the view at the situation, learning to see not only the situation but also its effects from various views and to cope with it more efficiently.

The adaptation to a subjectively unpleasantly experienced reality (stress situation) is often ensured by our defence mechanisms. The unconscious repression and conscious repression can be considered the basic defence of our self-portray and sensation of certainty. The repression is based on removing unpleasant and impermissible psychical experiences from the human consciousness. Although people are not aware of them they can affect their living and behaviour. The repression consists in giving up a certain (for people subjectively attractive) activity or its postponement [13]. The regression, projection, trivialisation, rationalisation, social isolation, compensation and aggression belong also to the defence mechanisms.

Each individual copes with the psychical burden in a different way. The employees of the rescue units work predominantly in complicated conditions demanding on their psyche and have to cope with many situations in their effort to help other people and to prevent damages and losses. There are many methods how to cope with the stress situations.

There are following methods and techniques of active and conscious coping with stress situations:

- techniques for coping with fear (rational analysis of the causes of fear, autosuggestion),
- relaxation techniques (autogene training, Jacobson’s progressive relaxation),
- meditation,
- techniques aimed at coping with pain (acupuncture, acupressure),
- breathing exercises (conscious breathing),
- positive imagination.

The breathing exercises are a suitable method how to cope with the psychical burden and stress of the employees of the rescue brigades and volunteers as well as the victims of emergencies. The breathing exercises are part of physical exercises, relaxation techniques and also common movement activities and affect the whole organism. The rhythm of breathing influences the muscular as well as the psychical stress. The inspiration supports active movements, mobilisation of energy, concentration on a certain subject and the expiration is connected with release, relaxation and here is an effort to get rid of undesira-
ble ideas, imaginations, disruptive events or subjects. For the breathing exercises to be effective and for them to be used for relaxation or directly during coping with the psychical burden (e.g. during solving a crisis phenomenon) it is necessary to master the breathing technique described in the professional literature or to learn it during trainings with professionals. Conscious breathing can reduce the influence of the stress on the human performance efficiency, to improve concentration, attention; it helps cope with a fit of anxiety [13].

The prevention and improvement of the resistance of people against stress situations is also very important. The interest in our health, rational nutrition, positive way of thinking, relaxation, the team management tools (Pareto principle, Eisenhower principle, ABC method,...) assertive behaviour, using breaks during processes, rest, movement activity (yoga, walks, active exercising), trainings aimed at the area of stress situations belong to the assumptions improving our resistance. If necessary, we can find an expert who (based on the analysis of the given problem) will suggest a possible solution method.

Vymětal[20] says that the resistance against the stress factors and situations can be strengthened by mastering suitable methods and techniques reducing the load. He gives strategies for coping with stress:

- short-term strategies which aim at immediate reduction of the stress reaction of the organism (e.g.: working with breath, movement, internal monologue, to divert our attention purposefully, ...).
- long-term strategies whose goal is to reduce the stress reaction of the organism (e.g.: appropriate regime, planning, analysis of problems and mastering a systematic procedure how to solve it, movement, open communication, relaxation exercises, ...).

Based on the empirical experience it can be assumed that during emergencies (especially catastrophes and mass accidents) even 25 % of victims will respond abnormally from the psychological point of view [4].

The figure 2 shows how the psychical resistance of the people involved in the accidents can vary. When they receive help and appropriate approach they can recover within a few minutes. Immediately after an emergency the psychical resistance of the affected person declines to 20 %, subsequently after 30 minutes it increases to 75 % (the persons are aware they have survived). After 24 hours the psychical resistance drops to 40 % again (further detected losses – social, family, economic, ...). The psychical resistance achieves the value of 80 – 90 % after a few days again. In an emergency situation only 5 % of the affected citizens are able to organise support actively, 10 % are able to help other people and 30 % to help under organised management [4].
We can assume that the responding professionals, trained volunteer responders will cope with the psychical burden better and the stress connected with solving emergencies and the subsequent recovery as well as their psychical resistance will not vary significantly. The responding professionals, trained volunteer responders and responding community should be prepared for coping with the stress situations as well as for providing the first psychosocial aid to the victims. It is necessary for them to cope with the reactions not only of the individuals but also groups (chaos, panic). The Anglo-Saxon countries created a system of preventive care and crisis intervention for the crisis victims called CISM (Critical Incident Stress Management) managing the critical stress incidents. It is a supporting process which has a form of structured meetings after an event; it includes preventive training whose goal is for the participants to cope with their activities better. All CISM techniques and methods are understood as a short-term intervention but no psychotherapy or psychological consultancy. In the framework of the psychosocial care of the crisis victims we also use the methods of the crisis intervention which belong to the CISM area.

In Slovakia and the Czech Republic also the following methods of the crisis intervention are used [19] and[2]:

- the individual crisis intervention utilising the SAFER model (S – to get the victim as far as possible from the place of event, A – accepting the crisis, F – assessing the attitude to our own reactions, E – understanding the interconnections between the crisis and stress and coping with them, R – renewing the situation adapted to the functionality),
- the group crisis intervention is utilising the following methods:
  - demobilisation (determined for large groups consisting of more than 10 members especially for the members of individual rescue units and victims; its goal is the improvement of the psychical and time transition from the crisis to the everyday stereotype, everyday life, psychical recovery),
  - defusing (used immediately after the event, it is to limit the action of the stress and to stabilise the situation),
  - debriefing (serves for processing a potentially traumatising experience, it has seven phases and it should be run by an expert).

Individual methods and techniques of the crisis intervention and psychosocial support have the goal to teach the traumatised victims how to live with memories, to normalise the abnormal things, not to allow to develop or to remove evasive behaviour, to integrate trauma to everyday life, giving up the experiences from the past and building a new prospects for the future, to inform the victims about the opportunities and practical methods for coping with stress situations, to inform about institutions close to the victim’s residence providing psychological care.

The demandingness of the activities of the rescue employees requires for them to be trained also in the area of psychology not only for them to able to cope with the stress situations but also for them to know how to work with the crisis victims – how to approach them, how to be able to feel empathy with their experiences. On the other hand also they need care of the professionals to be able to perform as appropriately as possible and to be healthy both psychically and physically. Mastering the psychological theory of the stress situations enables the rescue employees and volunteers to identify the causes and to recognise symptoms of the individual stress situation types. They can foresee the behaviour of the affected employees as well as that of the victims and to eliminate the possible negative consequences by providing the first psychological aid immediately after the event.
Conclusion

The stress influences during emergencies affect negatively the experiencing and behaviour of the involved persons as well as the solution of the arisen crisis phenomenon and its victims. The solution of the crisis phenomena belongs to demanding activities where the rescuers and volunteers encounter a high level of stress. Its influence on the psyche and organism as well is significant and therefore it is necessary to deal with solving and coping with stress situations. The education in this area plays an important role. The employees of the rescue units, volunteers should have at disposal the basic knowledge in the area of psychology for them to be able to assess the arisen situation appropriately, to respond to it adequately and to provide the first psychological aid for the crisis victims. Of course, an adequate rate of load and stress is motivating, however, if necessary, it is suitable to find an expert who based on an analysis of the given problem will suggest a possible solution method.

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In case of emergency situation the Ministry of Labour, Social Affairs and Family of the Slovak Republic, is establishing new type of centres for Coping Psychological Stress and Psychical Resistance. This paper is based on the cooperation with the Ministry, author’s long time research at their institution and cooperation. The main reason is to support the time during the reaction and through the recovery process after the disaster occurs and the emergency management is on site.

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Abstract

The stress influences during emergencies affect negatively the experiencing and behaviour of the involved persons as well as the solution of the arisen crisis phenomenon and its victims. The solution of the crisis phenomena belongs to demanding activities where the rescuers and volunteers encounter a high level of stress. Its influence on the psyche and organism as well is significant and therefore it is necessary to deal with solving and coping with stress situations. The education in this area plays an important role. The employees of the rescue units, volunteers should have at disposal the basic knowledge in the area of psychology for them to be able to assess the arisen situation appropriately, to respond to it adequately and to provide the first psychological aid for the crisis victims. Of course, an adequate rate of load and stress is motivating, however, if necessary, it is suitable to find an expert who based on an analysis of the given problem will suggest a possible solution method.

Projekt COBACORE i możliwe wsparcie psychologiczne dla ofiar zdarzeń kryzysowych w fazie powrotu do zdrowia

Oddziaływanie stresu w sytuacjach nagłych negatywnie wpływa na przeżycia i zachowania zaangażowanych osób, jak również na sposób rozwiązania powstałej sytuacji kryzysowej i na jej ofiary. Rozwiązywanie zjawisk kryzysowych należy do wymagających działań, w których ratownicy i ochotnicy narażeni są na wysoki poziom stresu. Wpływ stresu zarówno na psychikę jak i organizm jest znaczący i dlatego umiejętność rozwiązywania problemów i radzenia sobie w sytuacjach stresowych jest bardzo istotna. Edukacja w tym obszarze odgrywa ważną rolę. Pracownicy jednostek ratowniczych, a także ochotnicy
powinni posiadać podstawową wiedzę w zakresie psychologii, by móc właściwie ocenić zaistniałą sytuację, odpowiednio na nią zareagować zapewnić pierwszą pomoc psychologiczną ofiarom kryzysu. Oczywiście, odpowiedni poziom stresu i obciążenia działa motywująco. Jednakże, jeżeli zajdzie taka konieczność, zalecane jest znalezienie eksperta, który, na podstawie analizy danego problemu, zasugeruje możliwy sposób rozwiązania.

**LITERATURA / BIBLIOGRAPHY**


