

PSYCHOLOGICAL SUPPORT TO THE POPULATION AS A MEASURE FOR ALLIEVATING THE CONSEQUENCES OF EARTHQUAKES

Rade Slavkovic¹, Slobodan Filipovic²

¹ College of Professional Studies for Criminology and Security Nis, Bulevar Svetog cara
Konstantina 80-86, Nis, Republic of Serbia, rade.slavkovic.kib@gmail.com

² College of Professional Studies for Criminology and Security Nis, Bulevar Svetog cara
Konstantina 80-86, Nis, Republic of Serbia, slobodan.filipovic.kib.22@gmail.com

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Abstract: Earthquakes are the most terrible natural disasters that occur our planet, which has attracted the attention of the human race since ancient times. They are catastrophic natural events. They are formed due to the movement of tectonic plates, and there is a displacement and even dislocation, soil. Strong earthquakes induce significant material damage, and there is a loss of life as the seismic event itself is not directly lethal.

It is not possible to safely predict the earthquake because only the prediction is a very complex process. Some countries have established a warning system for possible earthquakes, so in the event of an earthquake, the population is given a few minutes to evacuate or take other precautions and prepare for the earthquake. Earthquakes can cause different psychological reactions to humans, so psychological support is key to mitigating the consequences of the earthquake.

Key words: :Earthquake, Natural disaster, Psychological support

1. INTRODUCTION

In its development, every society has gone through and will go through different forms of danger - in the past these were natural or war dangers, while today we are faced with new dangers and challenges with diverse consequences for people, material and cultural goods and the environment, the devastating effect of which is in many ways more devastating than the dangers of the past. The causes of these phenomena are either the consequences of natural phenomena (seismological, meteorological, hydrological, biospheric) enhanced by human development (climate changes, global warming, ...), the activities of the human population, but also inactivity and other factors that can cause an emergency situation with all its incalculable consequences. One of these phenomena (dangers) is an earthquake.

Earthquakes are the most terrible natural disasters that occur on the planet, which is why they have attracted the attention of mankind since ancient times. This is why data on earthquakes are found in records that are thousands of years old. They are catastrophic natural events. They are created due to the movement of tectonic plates, and the ground is moved and even dislocated. Stronger earthquakes cause significant material damage and loss of life, because the earthquake itself does not kill.

It is not possible to predict an earthquake with certainty, because the prediction itself is a very complex process. Some countries have established a warning system for potential earthquakes, so in the event of an earthquake, the population is given a few minutes to evacuate or take other precautions and prepare for the earthquake. Earthquakes can have a profound psychological impact on the population.

In order to help the population, which was affected by the earthquake, education and training of first response teams and volunteers are carried out, who are trained to provide first aid, search the ground and rescue after the earthquake, as well as crisis management. It is also the first type of support after the earthquake.

Earthquakes can cause different psychological reactions by people, so psychological support is crucial in mitigating the consequences of earthquakes.

2. EARTHQUAKES

An earthquake is caused by the movement of tectonic plates, the movement of the Earth's crust or the occurrence of an impact. The consequence of this is the shaking of the ground due to the release of great energy. The strength of an earthquake depends on several factors.

Contrary to the widespread belief that these are rare phenomena, earthquakes happen very often. Fortunately, the largest number is of a lower intensity that does not cause damage. An earthquake cannot be predicted with certainty, but we can learn how to protect ourselves. The intensity of the earthquake reflects the destructive effect of the earthquake on the surface of the terrain. It is expressed by different scales, most often by the Mercalli scale of 12 degrees.

Earthquake magnitude, on the other hand, represents a unit of measure of the amount of energy released in the hypocenter, in the focus of the earthquake. It is expressed by the Richter scale, which has no upper limit, but since no earthquake of magnitude 10 has been recorded to date, it is usually represented by up to 9 units. (Internet source 1)

On the Earth's surface, earthquakes can manifest as shaking or dislocation of the ground. Sometimes, they can cause a tsunami, a destructive sea wave. Earthquakes can occur naturally or as a result of human activity. Smaller earthquakes can also be caused by volcanic activity, landslides, explosions and nuclear tests.

As a result of strong earthquakes, among other things, fires caused by damage to oil pipelines, gas pipelines, transmission lines, reservoirs of flammable substances can occur, so it is necessary to pay special attention to these objects. Often, when strong earthquakes occur, victims and damage from fires are many times greater than the direct consequences of the collapse of buildings. After strong earthquakes, it is necessary to ensure the control of facilities for the storage and transport of combustible materials. Also, it is necessary to control the transport of electricity and electrical lines which may break as a cause of fires. (Cvetkovic and Causic 2022, p. 110-111)

Everything previously mentioned, cause psychological consequences and trauma among the population in the threatened area. This also expands the type of psychological support that needs to be provided and enable the normal functioning of the population. Earthquake

prediction is complex and currently not possible with a high degree of precision. Scientists can identify earthquake-prone areas based on historical data and geological measurements, but predicting the exact time an earthquake will occur is difficult already happening. (Internet source 2) This can help prevent losses and damages caused by earthquakes.

Currently, there is no real system for predicting earthquakes. It is possible to limit the damage if the right protections are put in place in advance, but it is still something that must be thought in advance. So, an earthquake is currently a natural force that is difficult to predict and contain, but not impossible to oppose. (Internet source 3) Earthquakes can have a great impact on the environment, structures and human lives. They also lead to enormous destruction and a large number of human victims. How terrible the effects of earthquakes are and what their consequences are can be illustrated by the example of the earthquake in Riobamba, Ecuador. In addition to large-scale demolitions, fires and floods, under the vertical impact of shock waves, slabs on graves were raised and corpses with coffins flew up. This had a heavy psychological effect on people and increased fear. Several ways in which earthquakes can affect: (Ristanovic and Miljkovic 2009, p. 47-48)

- physical damage: earthquakes can cause serious damage to buildings, roads, bridges and other structures. These damages can lead to loss of life and injury.
- economic impact: earthquakes can cause large economic losses, including the costs of repairing and restoring damaged structures, as well as loss of production and jobs.
- psychological impact: earthquakes can have a significant psychological impact on people who have experienced them. This can include post-traumatic stress disorder (PTSD), anxiety, stress and depression.
- impact on the environment: earthquakes can cause changes in the environment, including landslides, tsunamis and changes in the shape of the land.
- social impact: earthquakes can have a profound social impact, including separation of families, loss of homes and changes in living conditions.

3. PSYCHOLOGICAL IMPACT OF THE EARTHQUAKES

Earthquakes, in addition to material damage, can cause a wide range of psychological reactions, including stress, anxiety, depression and post-traumatic stress disorder (PTSD). These reactions can be caused by the direct experience of trauma, loss of loved ones or home, immediate consequences of the earthquake, such as homelessness and lack of basic services, or in some other way. Each person is an individual, what one person fears for another is completely normal. So the psychological impact can be diverse.

Among hundreds of thousands of phobias, the fear of earthquakes has also found its place under the name of seismophobia. Our country is located in an area that is not earthquake-prone, so acute and chronic stress problems that can occur in people living in areas where earthquakes occur should not develop. (Internet source 4)

Institute of Clinical Physiology in Pisa created a mini-guide that clearly shows how urgent it is necessary to react in case of trauma after an earthquake, because it is so deep that it can cause other diseases (ANSA).

Psychological effects, risks and emotions caused by an earthquake:

- "Stress caused by such terrible events is able to change hormone levels (cortisol and catecholamines, in women and estrogen), change sleep and, in the long term,

hypertension, tachycardia and sometimes myocardial infarction. It is necessary to differentiate the perception of stress in adults and children.

- Anxiety is generally a two-sided emotion: on the one hand, it can encourage the individual to do his best through adaptation; on the other hand, it can limit the individual's existence, making him more vulnerable. Studies have shown that, even in dramatic situations such as surviving an earthquake, victims can experience positive emotions that are just as intense and persistent as negative ones." (Internet source 5)
- Fear is a common reaction during and after an earthquake. This fear can be particularly intense if the person has been exposed to direct danger or has suffered a significant loss. Psychological support and therapy can be useful in helping people cope with fear and anxiety after an earthquake.
- Panic attacks are also common after earthquakes. They represent episodes of sudden, intense fear or rapid escalation of normally present anxiety. People who have experienced panic attacks describe them as a terrifying experience, often sudden and unexpected, at least the first time. The fear of a new attack immediately becomes strong and dominant. (Internet source 6)
- Depression, like other disorders, is common after an earthquake and can be the result of a traumatic experience, loss, or post-traumatic stress disorder. "Symptoms of depression may include sadness, loss of interest or pleasure in activities that were previously enjoyable, changes in appetite or weight, difficulty sleeping, feeling tired or lacking energy, feelings of worth or guilt, difficulty thinking, concentrating, or making decisions, or thoughts of suicide." (Internet source 7)
- Post-traumatic stress disorder (PTSD) is caused by very stressful, frightening or disturbing events, so people who suffer from it relive the traumatic event through nightmares and flashbacks, and may also have difficulties with sleep and concentration. (internet source 8) A person tends to "relive" a traumatic event, suddenly losing contact with reality. These reactions can occur for months or years.

All people who have a traumatic experience do not react in the same way, a wide range of responses can vary from complete recovery and return to normal life in a short period of time, to more complex reactions that can prevent people from continuing to live their lives as before the event.

Factors that can influence the emotional state and psychological changes are exposure to the earthquake, proximity to the epicenter, and the degree of perceived threat. A lot of this depends on the person's previous life, so the previous history of trauma or emotional problems, different types of losses - material or loss of a close relative, level of education, social support, etc. is also important (Internet source 9) Parents behavior, their level of anxiety and the family atmosphere can influence the post-traumatic reactions of children.

Research conducted especially in the field of emotional reactions of individuals in countries destroyed by an earthquake show that fear, terror, shock, anger, despair, emotional change, guilt, irritability are the predominant responses to an earthquake. (Internet source 10)

4. PSYCHOLOGICAL SUPPORT TO ENDANGERED AFTER THE EARTHQUAKE

The definition of health includes all four aspects of being: physical, mental, spiritual and social, which is significant because of the provision of care for each of them. (Jeknic et al. 2015, p. 18) After stressful events that cause strong emotional changes and leave deep emotional scars, it is necessary to enable and provide adequate professional assistance to the population. If psycho-social help is not given to those who need it during this period, then

many people could end up with serious disorders such as post-traumatic stress disorder (PTSD), depression or drug abuse. (Internet source 11)

Before that, primary prevention is needed, in which the individual is put in a position to know his emotions and to know how to control the effects they have on behavior and psychological health. Through specific training with the help of courses and techniques to be applied, obviously in the periods preceding the disaster. Secondary prevention must also follow psychological support interventions are planned after the earthquake. (Internet source 12) Education about earthquakes, composure in the moments when it happens, respect for the rules on protecting yourself and others in case of ground shaking, can help to reduce the fear of possible earthquakes does not interfere with everyday life. (Internet source 13)

An earthquake can be considered a real traumatic event. Such a sudden event is traumatic, unexpected and the person perceives it as a threat to his survival, feels intense fear, helplessness, loss of control and destruction of everything around him. By publishing the lists of those endangered in the disaster, one direction of activity refers to the provision and distribution of material aid, and the other part to psychological activities. Psychological intervention goes from a transitional phase to intervention in a delayed period. It is carried out by the Psychological Support Team, which was formed in the meantime. (Jeknic and others 2015, p. 36) The most important thing is that people who need professional help seek it as soon as possible, in order to provide them with the necessary psychological help.

The reference center for psychosocial support has the following goals:

- to raise awareness of psychological reactions during accidents, crisis situations, disasters and/or social disturbances;
- to help develop psychosocial support in order to preserve the mental health of individuals and communities;
- to promote the renewal of the network of local communities and defense mechanisms; - to enable the National Red Cross and Red Crescent Societies to understand and respond more readily to the psychosocial needs of vulnerable groups;
- to improve care for helpers;
- emotional support for employees and volunteers. (Internet source 14)

Receiving psychosocial support in the early period after a disaster is very important for mitigating the psychological effects of trauma, psychologist Ege Ece Birsal said: "Psychological illnesses related to trauma can cause a loss of ability to cope with problems in the long term after a disaster. Traumatized people affected by a disaster can be in different emotional states such as helplessness, fear, confusion, anxiety, reliving the event, numbness, sadness, restlessness, feeling triggered at all times, anger and problems focusing. Emotions experienced after an earthquake are mostly normal emotional reactions and while all symptoms are experienced more intensely in the first weeks after the trauma, in the following periods they tend to subside spontaneously. If the symptoms of traumatic stress last longer than a month and increase instead of gradually decreasing, it can be considered post-traumatic stress disorder. In that case, you should seek professional psychological and, if necessary, psychiatric help for post-traumatic stress disorder, one of the psychological problems of disasters." (Internet source 15)

The two most vulnerable categories are children and the elderly. Psychotherapy continues with children, which is also practiced on parents and teachers, in order to create a real network around the child and help him recover. The goal is to help process the tragedy, by "channeling" emotions, with the goal of slowly reaching the point where they are no longer experienced. It is important to note that recovery time is needed after a traumatic event such as an earthquake,

and that it is normal to feel scared, sad or anxious, and psychological intervention after a major emergency, such as an earthquake, is crucial.

Natural disasters are traumatic events that can lead to changes in psycho-physiological and social-emotional balance. After the initial phase of shock, the phase of coping and processing follows. In order for a person to be able to face his emotions, material and other consequences of the event in a healthy way, the support of family, friends, local community and organizations is necessary. (Internet source 16)

Psychological support after an earthquake can include various forms of intervention, including individual counseling, group therapy, community support and stress management programs. These interventions can help individuals cope with stress and anxiety, process their traumatic experiences, and begin the recovery process.

There are several ways of psychological help, and some of them are:

- "Psychological counseling: Mental health professionals can provide direct support to individuals who have suffered the trauma of an earthquake. This may include stress management techniques, therapy for post-traumatic stress disorder (PTSD), and other forms of psychotherapy.
- Group support: Group sessions can be helpful for people who have suffered the same trauma. Sharing experiences and feelings with others who have gone through a similar experience can help people feel better and understand their feelings better.
- Community support: Community support can be an important aspect of post-earthquake recovery. This can include organizing events that encourage people to connect and support each other." (Internet source 17)
- Mobile teams for psychological assistance: Mobile teams are formed to visit the citizens of the affected area and provide them with first psychological assistance after the earthquake. This psychological help is sometimes more important than material help. (Internet source 18) This psychological intervention is carried out directly in the field by a team of psychologists specialized in immediate intervention. Psychological first aid is realized through individual and group work. Psychologists pay special attention to people from vulnerable groups, but also to healthy and strong people in order to remain so. in extraordinary circumstances. Post-disaster psychological activities are carried out in-patient and in the field. Stationary means activities in public space, while field work refers to home visits, work in collective centers and any other place where the victims are. Field work is a prerequisite for psychological support in emergency situations, for which a psychologist should be trained. (Jeknic et al. 2015)
- "After the first period after a disaster, in which psychological first aid is provided, there follows a period called transition. By it is meant the time in which the conditions are created for rehabilitation and leaving the reception centers. In that period, it is of particular importance to support the victims when dealing with the level of destruction and the possible psychological consequences of dealing with it. "Support in the delayed period means activities aimed at helping the victims in the new reality so that the phase of "sobering" goes as well as possible and so that reconstruction is accelerated." (Jeknic et al. 2015, p. 17)
- Online Resources: Online platforms can provide important resources for people recovering from an earthquake, including information on how to cope with stress and trauma, as well as virtual support groups. There are also many texts with ways to cope and overcome the consequences. However, due to unverified information and the possibility of misinterpretation, it is advisable to seek professional help.

- Telephone SOS lines for help: As one of the methods of psychological help after disasters, including earthquakes, SOS lines are formed, as a type and form of support for people who need help, in order to fight and overcome psychological obstacles.
- Media: Media play a major role in every domain of our lives. During a crisis event, both through radio and TV signals, as well as through the press, in addition to basic news, also provide information about the ways and means to contact in the event that help, both material and psychological, is necessary. In various broadcasts, which are broadcast, experts are also included with basic information and instructions on how to act in the mentioned situations. Also, in emergency situations, recorded or live broadcasts, short instructions, reminders and information about important phone numbers and ways to contact vulnerable persons are broadcasted.
- Headquarters for emergency situations: Headquarters for emergency situations are formed, which carry out certain tasks within their competence, and through the media, internet platforms, the press inform both persons from threatened areas, as well as persons from non-threatened areas, about the methods of action, the types of assistance available, meeting places, places where help and support are organized.

Any form and way of helping vulnerable people is hope and consolation that they are not forgotten. Also, all the ways of providing help are a form of psychological help after an earthquake or any other extraordinary event. Some people need professional help, some only need a conversation with experts, some find the necessary help and support in the circle of close people, some follow the instructions received, and for some it is enough to know that there are numerous services in the threatened area that will help to overcome everything.

5. CONCLUSION

In threatened areas, both after an earthquake and after any other emergency situation, it is most important to provide the vulnerable population with the necessary help, both material and psychological. That psychological help alone is worth much more to someone than any other type of help.

The entire population is psychologically affected by the formation of crisis headquarters, the additional engagement of people and resources, the formation of teams, telephone lines, informing people in the threatened area and other ways. Humanity sometimes exceeds the limits of reality, which additionally affects people who have survived some form of stress. The attitude that we are not abandoned is not negligible, no matter what happens, it is enough for someone to overcome the situation and help others.

Modern times, and technological progress itself, have greatly enabled the existence of various ways and means for quick connection, notification, assistance and response both during and after a crisis event, all with the aim of helping the population in the threatened area as soon as possible and removing consequences arising during emergency situations.

Every kind of help is necessary, and crucial for individuals. By forming teams and experts for psychological help and support for vulnerable persons who feel the consequences of an extraordinary event, additional losses of human life are prevented. The process of providing psychological help can be very long, even months, and in some cases even years after emergency situations.

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