

The Psychological Impact on the Emergency Crews after the Disaster Event on February 20, 2010

Jardim, Helena Gonçalves¹, Silva, Rita², Baptista, Márcia Silva¹ and Gouveia, Bruna Raquel³

1. Madeira University, Madeira, Portugal

2. The SESARAM Hospital, Madeira, Portugal

3. Nursing School St. Joseph of Cluny Madeira, Portugal

Abstract: The scope of this article is to screen the symptoms of Post-Traumatic Stress Disorder (PTSD) among the professionals of health and public safety security who provided humanitarian aid for the population of Madeira after the 2010 alluvium. It involves a cross-sectional study. The list of life events (LAV) and the peri-traumatic experiences questionnaire (PTSB)—adult version were used for screening symptoms. The participants included 405 professionals on the emergency crews (mean age = 34.51). Most are male (83.5%) and was in his residence (52.8%) at the time of the event. The results showed that there are significant differences between the profession and the response to the event ($P < 0.001$), as well as in relation to Post Traumatic Stress Disorder (PTSD), being most evident in the group of firemen and military ($P < 0.001$) of developing PTSD. Therefore, the mental health care of the professionals should suggest the vital need for specific training and the prevention of psychological disorders.

Key words: Natural disasters, Post-traumatic Stress Disorder, peritraumatic experiences, psychological impact, emergency crews.

1. Introduction

The post-traumatic stress disorder is a disturbance by anxiety caused by exposure to a traumatic situation very uncomfortable, in which the person experiences later repeatedly the traumatic situation.

The situations that are a threat to the life or that can cause serious injury may affect people long after they occurred. The intense fear, abandonment or terror can obsess a person. The traumatic situation is experienced repeatedly, usually as nightmares or images that come to mind. The person avoids persistently things I remember the trauma. Sometimes the symptoms until many months and even years after the traumatic event. The person experiences a reduction in their overall capacity for reaction and hyperactivity symptoms (such as difficulties to reconcile the sleep or scare easily)

The post-traumatic stress disorder affects 1% of the population at least once in their lives. People with

higher risk, as the war veterans and the victims of rape or other violent acts, has a higher incidence. Chronic post-traumatic stress doesn't go away, but often becomes less intense over time, even without treatment. However, some people get indefinitely marked by this disturbance.

The natural disaster of February 20 of 2010 was a relevant and unexpected event for the entire population that lived, so it is pertinent to study their impact, with a view to understanding of their consequences for the mental health of the population covered, as well as the planning of appropriate interventions to this reality. Natural disasters across the globe spark high levels of spontaneous assistance [1] and affect emergency teams to varying degrees, causing trauma [2].

The risk factors for mental health can be determined according to the experience of professionals to cope with these situations [3]. The gravity of the situation, as well as the behavior and response of those will be different, depending on the extent of the catastrophe, such as the number of deaths,

Corresponding author: Jardim, Helena Gonçalves, Ph.D., research fields: psychology and health sciences.

destruction, duration and degree of rapidity of the phenomenon [4].

Knowing that the reactions to a disaster are very variable, it is not possible to predict the time of traumatized people need to recover. There are some factors that can help or hinder the recovery of these people, as the existence of support systems inside and outside the community involved, which underscores the importance of psychological support specifically directed to these needs.

Professional acts exposed to stressful situations, such as natural disasters, presents also reactions that can be physical, emotional, and cognitive.

This requires, therefore, that with a thorough knowledge of the techniques employed, the Professional is aware of relevant aspects of your personal condition for this kind of activity and to identify their needs for rest, relief, even away from the activity.

Is an individual at risk.

The purpose of the study isto evaluate the psychological impact of the emergency crews after the natural disaster of February 20, 2010.

2. Material and Methods

This cross-sectional study involved a representative sample of entities, composed of 405 adults (age 18 or more years) that were involved directly in the emergency teams at the time of the catastrophe, focusing in the municipalities most affected, such as Funchal, Ribeira Brava e Santa Cruz. The selected entities were the elements of the corporations of Municipal Fire Department and Red Cross volunteers, Armed forces, public security police and health professionals of the Emergency Service who were or have been recruited to work on the day of the mudslide.

In addition, the assessment tools used were Sociodemographic characterization (e-g. age, gender, profession, religion, sleep disturbance, etc.); Posttraumatic stress disorder (PTSD) scales in

particular the questionnaire of Peritraumatic Experiences (QEPT) and the Scale of Assessment of Response to Traumatic Event (EARAT). We used the Portuguese version of these data collection instruments making minimal changes. Kept the number and the structure in the original ordering of the items and introduced only the changes considered necessary for their understanding, taking into account the Portuguese culture related to the semantic equivalence and validity of content [5].

Ethical issues were considered, because we have been granted informed consent before any participation and being guaranteed the anonymity and confidentiality of the data. This research was preceded by an appreciation and positive opinion of the Ethics Committee for the health of the Health Service of Madeira (SESARAM). The data collection was carried out between the end of 2012 and 2013. The statistical procedures included simple descriptive statistics and analysis of variance (ANOVA), using the statistical software SPSS, version 20.

3. Results and Discussion

The professional group included a sample of 405 participants' residents in Madeira, distributed as follows: Firemen (41.7%), Military (32.8%), Police (17.3%) and Health Professionals (8.1%).

The average age of the individual respondents was 34.5 years and the standard deviation of ± 10.02 years. In this sample, 83.5% of respondents were male, 48.9 % resident in Funchal, mostly married and 48.9% of participants at the the time of the event were in residence.

In table 1 are presented the main results of this study and the data show that there are significant differences between the profession and the response to the event ($P < 0.001$), as well as in relation to Post Traumatic Stress Disorder (PTSD), being most evident in the group of firemen and military ($P < 0.001$).

Table 1 Comparison of the results of the scales applied in function of the professional group.

Professional Group	n	\bar{x}	s	F	P
EARAT Impact					
Police	70	2.49	2.96	10.180	< 0.001
Military	133	2.14	3.10		
Firemen	169	4.03	4.14		
Health Professionals	33	1.42	2.36		
QEPT- Impact					
Police	70	57.24	35.18	12.942	< 0.001
Military	133	36.54	36.54		
Firemen	169	58.28	34.12		
Health Professionals	33	66.42	30.62		

4. Conclusions

As preventive measures for installation of the symptoms of Post-Traumatic Stress Disorder (PTSD) in this population, it becomes obvious that the main point of departure should be the dissemination of relevant information along to them, in order to make known this pathology and its symptoms. This is the only way to be able to create the basic conditions for the early recognition of the need to adopt measures, which aim to prevent the development of this pathology [6].

The results suggest the vital need for specific training in the field of mental health to these professional groups aimed at the prevention of psychological disorders.

In view of the increasing risk of disasters around the world due to population growth, urban development and climate change, it is likely that informal volunteers' will provide a lot of additional surge capacity to respond to the most frequent emergencies and disasters in the future. The data in this article highlight the need for training of these informal volunteers in emergency and disaster management. . We should pay special attention to professional training due to greater accessibility of information and communication technologies, but too simple and rudimentary. Culture, knowledge and legal

responsibility are important with a view to greater participation of volunteers [7].

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