# Public Health Aspects of Post -Traumatic Stress Disorder in Patients Who Have Experienced a Car Accident

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**Abstract**

The main aim of this research was to show the public health aspects of the emergence of post-traumatic stress disorder patients (PTSD) following a traffic accident.

**Keywords:** anxiety disorder, injury, pain, event, trauma, memory

## Introduction

Posttraumatic stress disorder is an anxiety disorder that occurs in some individuals after witnessing or experiencing a dangerous event. Primary this disorder has been observed in war veterans, but it can also occur as a result of some other traumatic events. One of the causes of posttraumatic stress disoreder are traffic accidents. Traffic accidents can be terrifying accidents. Quite often during accidents some people are physically injured, sometimes with serious injuries, and the vehicles are damaged too. Hence, traffic accidents represent a traumatic experience for the survivors, especially if there is chronic pain for several months after the event, which can induce the presence of post-traumatic stress disorder. Early detection of these patients is essential for intervention and prevention of major damage.

## Material and methods

The study was conducted as observational cross-sectional study. It was conducted in n O.E. Emergency Center - Skopje (part of the clinic TOARILUC). The data required for the research were provided by specialist reports from patients who have received bodily injuries following traffic accident, data from the history of the pacient, data from PTSD test (Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association, 4th Ed., 2004), data from PTSD Check list - Civilian Version (PCL-C), as well as data obtained from a questionnaire designed for the survey. Statistical processing was done in the statistical program SPSS for Windows 17,0, where we used the following methods or tests:

-In series with numerical marks and homogeneous distribution descriptive parameters were use, i.e. measures of central tendency (mean, standard deviation, minimum and maximum values of the parameters analyzed).

-In the series with attribute marks are calculated percentages (i.e., ratio and proportions).

-For testing the significance of the differences between certain variables, depending on the distribution of the data, we used tests for independent samples (Chi-square test with Yates correction and no, t- test for independent samples, Mann-Whitney U test, Kruskal-Wallis test, Analisys of Variance, Linear Regression Analisys).

-For determination of correlation between two variables was used Pearson's coefficient of linear correlation (r).

For statistically significant p values were taken.

## Results

The study presents the results obtained with the analysis and evaluation of data from 86 respondents, patients from the Emergency Center in Skopje, who responded to the review or were brought after experienced car accident. The gender structure of respondents comprised 54 (62.79%) men and 32 (37.21%) of respondents were female. Descriptive analysis

of the age of the respondents found that their average age is 37,73 ± 13,7 years. The youngest patient with experienced accident of this group is 19 years old, and the oldest is aged 65 years. In the structure of education of the respondents dominate patients with secondary education represented 51 (59.3%) respondents, followed by 33 (38.37%) of respondents who have completed higher education, and only 2 (2.32%) respondents have primary school. The distribution in terms of nationality constitute 61 (70.93%) Macedonians and 25 (29.07%) Albanians. The highest number and percentage of respondents - 41 (47.67%) their financial condition described as moderate, 26 (30.23%) of them have a high socio-economic standards, the remaining 19 (22.09%) respondents have a low standard residence. The study included 50 (5814%) respondents who suffered damage or injuries from severe degree, while 36 (41.86%) respondents suffered minor injury. During the accident, most of the respondents were drivers of the vehicle - 40 (46.51%), co-drivers were 22 (25.58%) respondents, and only 9 (10.46%) were located on the back seats. The majority of respondents participated in traffic accident with a motor vehicle - 71 (82.56%) or at the time of the accident 59 (68.6%) respondents were in the car, a motorcycle and a bicycle 6 (6.98%), while 15 (17.44%) of respondents in the accident have participated as pedestrians. In the traffic accidents 81 (94.19%) respondents were injured with direct collision and only 5 (5.81%) of them had a independent crash.

Our results showed that the financial situation of the patients who experienced an accident has significant impact on the occurrence of PTSD (Chi-square: 12, 14, df = 2p = 0,0023). Respondents with average socio-economic status significantly more likely than those with low and high socio-economic status, develop stress disoreders after an accident (p = 0,0005, p = 0,026). The emergence of posttraumatic stress disorder is also significantly associated with the degree of the injury acquired in the accident (Chi-square: 11,83 df = 1, p = 0,00058).

According to research, older people and co-drivers are more like to have memory problems about the accident, than the other participants in the accident.

**Conclusion**

The study answered the main purpose or confirmed the occurrence of posttraumatic stress disorder in patients who survived an accident. It confirmed that age and level of education significantly affect posttraumatic disorder. The severity of the damage occurred after an accident is significantly associated with the level of PTSD. PTSD significantly more frequently occurs after an accident with a mild degree of injury. Also, there is a significant difference of more frequent occurrence of PTSD at co-drivers compared with the passengers sitting in the back seats of the vehicle during the accident.