International Journal of Medical Research Professionals
P-ISSN: 2454-6356; E-ISSN: 2454-6364
DOI: 10.21276/ijmrp

IJMRP

Original Research Article

Assessment of Incidence of Post-Traumatic Stress Disorders among Road Accident Trauma Patients at a Tertiary Care Centre

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ABSTRACT

Background: Motorization has enhanced the lives of many individuals and societies, but the benefits have come with a price. Post-traumatic stress disorder (PTSD) occurs in a minority of road traffic accident victims. Hence; under the light of above mentioned data, the present study was undertaken for assessing the incidence of post-traumatic stress disorders among road accident trauma patients.

Materials and Methods: A total of 179 patients who reported to the emergency department because of road traffic accident were enrolled in the present study. Complete demographic details of all the patients were obtained. All the patients underwent treatment according to the extent of injuries. After the discharge, follow-up of all the patients was done. A self-framed questionnaire was given to all the patients on follow-up for assessing the incidence of PTSD. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results: PTSD was found to be present in 25.12 percent of the road accident patients. PTSD was found to be present in 29 males and 16 females. Prevalence of PTSD was found to be significantly higher among males in comparison to females. Significantly higher prevalence of PTSD was found among subjects of younger age group. No-significant results were obtained while assessing the distribution of PTSD patients divided on the basis of different socio-economic classes.

Conclusion: PTSD is significantly common among road traffic accident patients, especially among young males.

Keywords: Post-Traumatic Stress Disorder, Trauma.

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Article History:

Received: 11-12-2016, **Revised:** 03-01-2017, **Accepted:** 25-01-2017

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2017.3.1.066	

INTRODUCTION

Motorization has enhanced the lives of many individuals and societies, but the benefits have come with a price. Although the number of lives lost in road accidents in high-income countries indicate a downward trend in recent decades, for most of the world's population, the burden of road-traffic injury-in terms of societal and economic costs-is rising substantially.[1,2] Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries.[3]

Case reports and general population surveys indicate'" that post-traumatic stress disorder (PTSD) (intrusive memories, avoidance, distress) occurs in a minority of road traffic accident victims, and previous authors have reported a postal survey showing that anxiety about travel-both as a driver and as a passenger-is frequent five to six years after injury. There are also many, largely retrospective reports of "compensation neurosis" in highly selected groups of litigants.[4-6] Hence; under the light of above mentioned data, the present study was undertaken for assessing the incidence of post-traumatic stress disorders among road accident trauma patients.

MATERIALS AND METHODS

The present study was conducted in the Department of Psychiatry, Srinivas Institute of Medical Sciences and Research Center, Mangalore, Karnataka (India) and it included assessment of the incidence of post-traumatic stress disorders among road accident trauma patients. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 179 patients who reported to the emergency department because of road traffic accident were enrolled in the present study. Complete demographic details of all the patients were obtained. All the patients underwent treatment according to the extent of injuries. After the discharge, follow-up of all the patients was done. A self-framed questionnaire was given to all

the patients on follow-up for assessing the incidence of PTSD. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

In the present study, PTSD was found to be present in 25.13 percent of the road accident patients. PTSD was found to be present in 29 males and 16 females. Prevalence of PTSD was found to be significantly higher among males in comparison to females. 44.4 percent of the patients with PTSD belonged to the age group of less than 20 years. 31.2 percent of the patients belonged to the age group of 20 to 40 years. Significantly higher prevalence of PTSD was found among subjects of younger age group.

No-significant results were obtained while assessing the distribution of PTSD patients divided on the basis of different socio-economic classes.

Table 1: Prevalence

Parameter	Number of patients	Percentage of patients
Patients with PTSD	45	25.13

Table 2: Distribution of patients with PTSD among males and females

Gender	Number of patients with PTSD	Percentage of patients with PTSD	p- value
Males	29	64.4	0.00
Females	16	35.6	(Significant)

Table 3: Distribution of patients with PTSD among subjects divided on the basis of age group

Age group (years)	Number of patients with PTSD	Percentage of patients with PTSD	p- value
Less than 20	20	44.4	0.00
20 to 40	14	31.2	(Significant)
40 to 60	10	22.2	
More than 60	1	2.2	

Table 4: Distribution of patients with PTSD divided on the basis of socio-economic class

Socio-economic class	Number of patients with PTSD	Percentage of patients with PTSD	p- value
Upper	15	33.3	0.74
Middle	12	26.7	(Non- Significant)
Lower	18	40	

DISCUSSION

According to World Health Organization (WHO) report (2004), road traffic accidents (RTAs) are currently ranked ninth for global disease burden, and it is projected to move to the third position by 2020. Road Traffic Injuries are one of the leading causes of premature deaths, hospitalizations, disabilities, and socioeconomic losses. The problem is hidden and unrecognized due to the absence of good quality information within the health and related sectors. The currently available data reveal only the number of deaths due to different causes of injuries which is not enough to formulate injury prevention programs. The Injury surveillance system aims at collecting relevant information from a large number of participating organizations in a uniform way to understand injury profiles and characteristics.[4- 6]

In the present study, PTSD was found to be present in 25.12 percent of the road accident patients. PTSD was found to be present in 29 males and 16 females. Prevalence of PTSD was found to be significantly higher among males in comparison to females. 44.4 percent of the patients with PTSD belonged to the age group of less than 20 years. 31.2 percent of the patients belonged to the age group of 20 to 40 years. In the present study, significantly higher prevalence of PTSD was found among subjects of younger age group. No-significant results were obtained while assessing the distribution of PTSD patients divided on the basis of different socio-economic classes. Blanchard et al., reported an association between PTSD severity, heart rate (HR), and diastolic blood pressure (DBP) recorded in the emergency department (ED) setting. Patients who met criteria for PTSD at 13 months after RTA are likely to have lower HRs and lower DBP in the ED, compared to those who did not develop PTSD. Identification of patients and families at risk for PTSD symptoms using a screening tool presented some limitations, but overall acceptability of the process is high for both ED staff and patients. So, introducing a new screening tool or validating existing ones in adult ED may help in early identification and prevention of late sequelae of post-trauma effects. Screening, identification, treatment, and follow-up with psychiatric counseling are needed. [7]

Skodol et al.,[6] have recommended a two-step approach to early identification of PTSD. In the first step, self-reporting measures are administered and if the predetermined cutoff score

is exceeded, a more extensive and diagnostic evaluation is recommended. This helps in early identification of the affected individuals and assisting with appropriate referrals to effective RTA-PTSD treatment. Overall, this approach affords the opportunity for clinicians to allocate the services where they are needed most. Use of psychometric measures like PCL (PTSD Check List) is very helpful in this regard. The PCL is a 17-item self-report measure reflecting DSM-IV symptoms of PTSD.[7-9] Armstrong JL et al[10] assessed mental illness and road traffic accidents. One hundred psychiatric patients were carefully matched with 100 physically ill patients and their driving records compared. The psychiatric patients were consuming far greater quantities of psychotropic drugs and included a larger number of alcoholics and heavy drinkers. During the six months before admission there were no significant differences between the two groups of patients with respect to accident and traffic code infringements. Apart from individual patients, drugs did not appear to be influencing the outcome in statistical terms. Alcoholics and heavy drinkers showed an increased lifetime accident liability. No specific psychiatric diagnosis was otherwise associated with increased accident rates. The majority of accidents reported were relatively trivial.[10]

Brand S et al investigated the incidence of PTSD after traffic accidents in Germany. Data from an accident research unit were analyzed in regard to collision details, and preclinical and clinical data. Preclinical data included details on crash circumstances and estimated injury severity as well as data on victims' conditions (e.g. heart rate, blood pressure, consciousness, breath rate). Clinical data included initial assessment in the emergency department, radiographic diagnoses, and basic life parameters comparable to the preclinical data as well as follow-up data on the daily ward. Data were collected in the German-In-Depth Accident Research study, and included gender, type of accident (e.g. type of vehicle, road conditions, rural or urban area), mental disorder, and AIS (Abbreviated Injury Scale) head score. AIS represent a scoring system to measure the injury severity of traffic accident victims. A total 258 out of 32807 data sets were included in this analysis. Data on accident and victims was collected on scene by specialized teams following established algorithms. Besides higher AIS Head scores for male motorcyclists compared to all other subgroups, no significant correlation was found between the mean maximum AIS score and the occurrence of PTSD. Furthermore, there was no correlation between higher AIS head scores, gender, or involvement in road traffic accidents and PTSD. In our study the overall incidence of PTSD after road traffic accidents was very low (0.78% in a total of 32.807 collected data sets) when compared to other published studies. The reason for this very low incidence of PTSD in our patient sample could be seen in an underestimation of the psychophysiological impact of traffic accidents on patients. Patients suffering from direct experiences of traumatic events such as a traffic accident and presenting with signs of clinically significant distress or impairment in social interactions should be treated in a team approach including not only trauma surgeons and surgical skilled staff but also psychophysiological experienced physicians.[11]

CONCLUSION

From the above results, it can be concluded that PTSD is significantly common among road traffic accident patients, especially among young males. However; further studies are recommended.

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Source of Support: Nil.

Conflict of Interest: None Declared.

Cite this article as: Bijoy Pratim Chaudhuri. Assessment of Incidence of Post-Traumatic Stress Disorders among Road Accident Trauma Patients at a Tertiary Care Centre. Int J Med Res Prof. 2017; 3(1):317-19. DOI: 10.21276/ijmrp.2017.3.1.066