

Assessing the Post-Traumatic Stress Among Survivors of Motor Vehicle Accidents in Hoshiarpur (Punjab)

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Abstract

Motor vehicle accidents are one of the leading causes of deaths, disabilities and hospitalisations. The present non-experimental descriptive research study, undertaken to assess post-traumatic stress among survivors of motor vehicle accidents, had sample size of 60 survivors of motor vehicle accidents after one month of accident attending OPD on follow-up basis. Assessment of post-traumatic stress was done with the help of standardised rating scale Impact Event Scale- Revised (IES-R) and assessment of severity of injury was done with Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS). Analysis showed that subjects had mild level of post-traumatic stress and as per subscales of post-traumatic stress, patients had highest mean percentage of post-traumatic stress score in hyper arousal subscale.

Expansion in road network, motorisation and urbanisation in the country has been accompanied by a rise in road accidents and consequent road traffic injuries. Every day, there are 3300 deaths and 6600 serious injuries on the road in the world. In India 1,20,000 people die on roads every year. Survivors of automobile accidents are highly prone to developing post-traumatic stress disorder, a common emotional disorder that can be linked to the physical and emotional trauma of motor vehicle collisions. It can be acute (2 weeks - 3 months), chronic (3 months and longer) or delayed (after 6 months). The symptoms can arise suddenly, gradually or come and go overtime. There are three main types of symptoms: intrusive upsetting memories of the event, flashbacks, night mares, feeling of intense distress when reminded of trauma and intense physical reactions. Avoidance symptoms are: avoiding activities; places; thoughts or feelings that remind of trauma. Hyper arousal: difficulty falling or staying asleep, irritability or outbursts of anger, difficulty concentrating, hyper vigilance and feeling jumpy.

In hospital, physical trauma and symptoms may take medical attention after motor vehicle accidents. Psychological trauma can be ignored, because the development of post-traumatic stress disorder may be delayed from 1 week to 3 years. If not recognised, post-traumatic stress disorder can disturb emotional or physical conditions. Early recognition and conservative management can reduce the functional impact upon those victims. The nurses assist individu-

als in identifying adaptive coping strategies aimed at the reduction of stressors. By this, patient will develop a sense of control with an increase in self-esteem as the practices are incorporated into daily activities.

Objectives

The objectives of the study were to assess post-traumatic stress among survivors of motor vehicle accidents, and to find out relationship between post-traumatic stress and selected demographic variables among survivors of motor vehicle accidents.

Conceptual framework

In present study conceptual framework has been developed on the basis of concepts from Lazarus and Folkman's Transactional model (1984) (Fig 1).

Method and Materials

Research approach adopted was quantitative type using non-experimental descriptive research design. The study was conducted at Orthopaedic, Trauma and Surgical OPDs of Civil Hospital and Bharaj Hospital, Hoshiarpur, Punjab. Sample size was 60 survivors of motor vehicle accidents who satisfied the inclusion criteria using purposive sampling (non-probability sampling) technique. Motor vehicle accidents survivors aged $\geq$ 18 years after one month of accident were included and subjects who were having some psychiatric illness or disease were excluded to become a part of study.

Development and Description of Tool

Section A: The demographic variables such as age,

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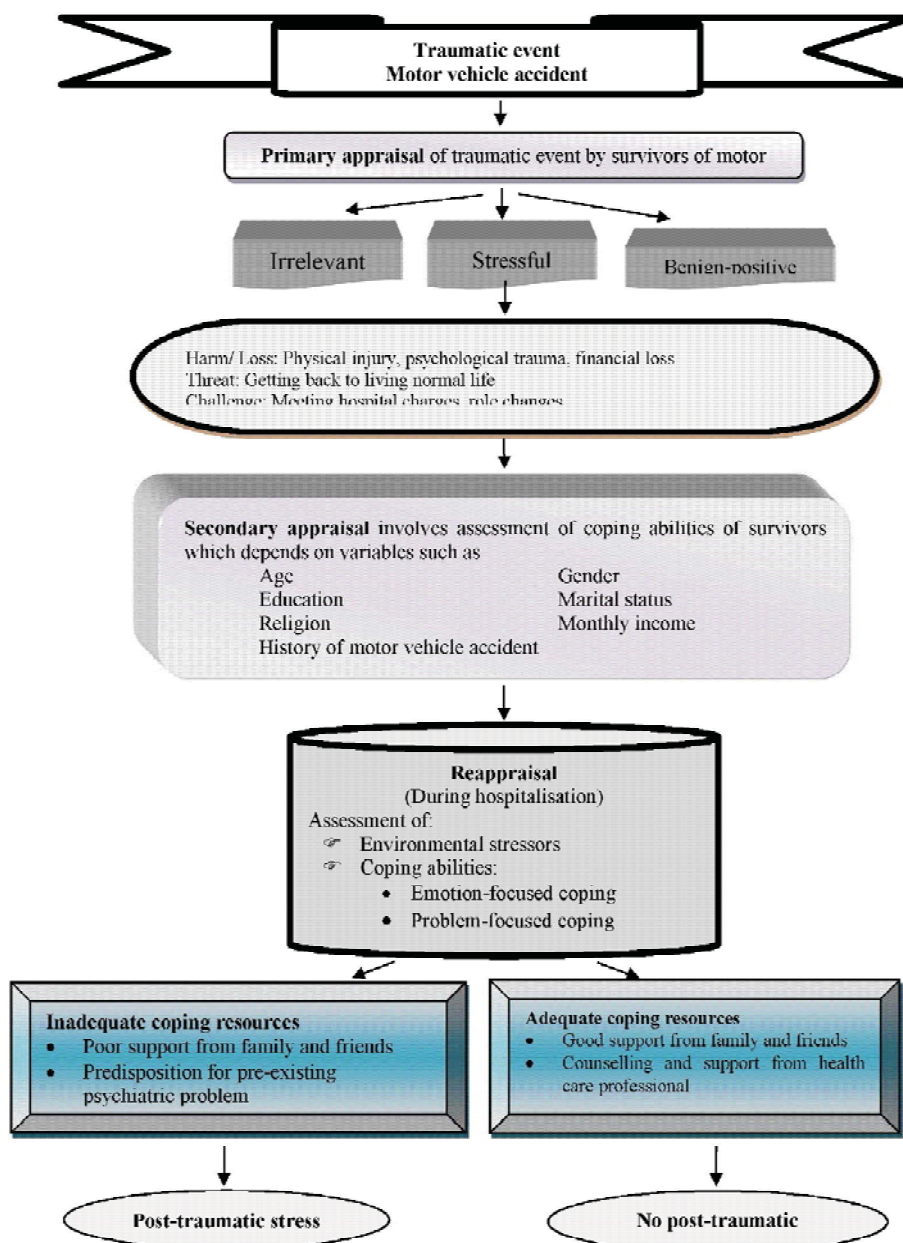


Fig1: Lazarus and Folkman's Transactional Model (1984)

gender, qualification, religion, income, marital status, history of motor vehicle accident, duration of hospitalisation, surgical intervention and severity of injury. Severity of injury was assessed by using Abbreviated Injury Scale and Injury Severity Score. Injuries are assigned to 5 body regions (general, head & neck, chest, abdominal, extremities & pelvis).

Injury severity score = (highest region score)² + (second highest region score)² + (third highest region score)²

Section B: A standardised rating scale i.e. Impact event scale (Revised) consists of 22 items besides 3 subscales i.e. Avoidance symptoms, intrusive symptoms and hyper-arousal symptoms. Scores that exceed 24 can require clinical concern for post-trau-

matic stress disorder. Patients were assessed from following score:

IES-R score: Sum of the above 3 clinical scales / Total IES-R score: —

Standardised tools were used without any modifications. Reliability of IES-R tool was 0.92 computed by applying Cronbach's alpha formula. Written permission was taken from author of tool and concerned authority prior to data collection. The tool was administered to subjects and informed written consent was obtained. Confidentiality of information was maintained. Analysis and interpretation of data was done in accordance with objectives by using descriptive and inferential statistics.

Results

Socio-demographic profile of present study shows that 38.33 percent survivors of motor vehicle accidents belonged to 18- 31 years of age group, 93.33 percent were male and 6.77 percent females. As per education, 48.33 percent of subjects had education up to senior secondary and 71.67 percent of subjects were having monthly income below Rs. 10,000; 50 percent of the subjects were Sikh and 50 percent were Hindu. Majority i.e. 41 (68.33%) subjects were married and only 17 (28.33%) were unmarried. Majority i.e. 76.67 percent of subjects were hospitalised for less than 15 days. 80 percent of survivors had no history of motor vehicle

accident. 48.33 percent were having severity of injury score 16- 24 and majority i.e. 73.33 percent had undergone surgical intervention.

Table 1 and Fig 2 depict that 63.33 percent survivors had mild level of post-traumatic stress, 20% had moderate level, 13.33 percent survivors had subclinical level of post-traumatic stress, whereas only 3.33 percent had severe level of post-traumatic stress.

Table 1(a) and Fig 3 show that mean percentage of post-traumatic stress score was highest i.e. 23.25 percent (Ranked I) in hyper arousal subscale followed by 22.41 percent (Ranked II) in avoidance subscale and 16.78 percent (Ranked III) in intrusion subscale.

Relationship between post-traumatic stress with

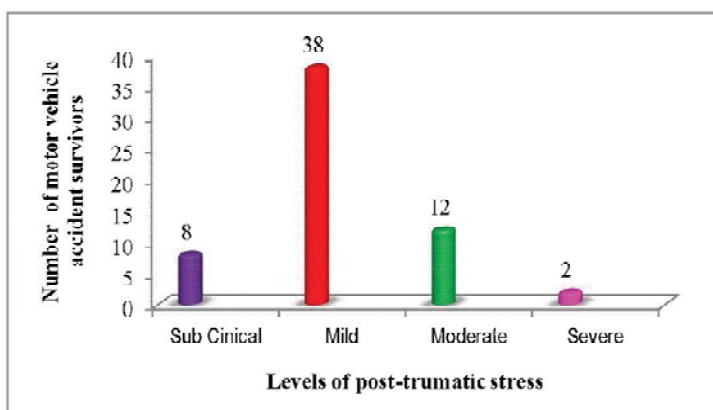
Table 1: Frequency and percentage distribution of survivors of motor vehicle accidents according to level of post-traumatic stress (N=60)

Level of post-traumatic stress	Criterion measure (Score)	Survivors of motor vehicle accidents	
		n	%age
Subclinical	0-8	08	13.33
Mild	9- 25	38	63.33
Moderate	26- 43	12	20
Severe	>44	02	3.33

Maximum score =88; Minimum score =00

selected demographic variables among survivors of motor vehicle accidents revealed that mean post-traumatic stress score (M= 37, SD= 8.48) was statistical significant in duration of hospitalisation i.e. more than 45 days (F= 2.79, p< 0.05 level). The difference as per avoidance subscale (F= 3.68) and hyper

Figure-2: Frequency distribution of survivors of motor vehicle accidents according to level of post-traumatic stress



arousal subscale (F=2.91) were also statistically significant (p< 0.05 level) in duration of hospitalisation. Surgical interventions were observed to be statically significant (t=2.49 at p< 0.05 level) impact on post-traumatic stress score (M=19.7, SD=11.33) among survivors of motor vehicle accidents patients who had undergone surgical intervention. The difference as per intrusion subscale was statistically significant (t=3.35, p<0.05 level).

Table 1(a): Mean, mean percentage and rank order of subscales of post-traumatic stress among survivors of motor vehicle accidents (N=60)

Subscales of post-traumatic stress	Maximum score	Post-traumatic stress score		
		Mean	Mean %	Rank order
Avoidance scale	32	7.17	22.41	II
Intrusion scale	32	5.37	16.78	III
Hyper arousal scale	24	5.58	23.25	I

Maximum score =88; Minimum score =00

Hence it can be concluded that duration of hospitalisation and surgical interventions showed statistically significant difference; other variables like age, gender, education, religion, month income (Rs.), marital status, history of motor vehicle accident and severity of injury score had no impact on post-traumatic stress.

Discussion

The findings of present study show that majority (63.33%) survivors had mild level of post-traumatic stress. A study by Maureen (2013) revealed that prevalence rate of post-traumatic stress disorder among the subjects of road traffic accident was 41 percent. In a similar study by Ulrich et al (2001) showed that at 18 months, 23 percent of hospitalised passengers, 11 percent of hospitalised drivers and 7 percent of non-hospitalised drivers reported significant levels of stress.

Another study supporting the findings of this study by Schell et al (2004) found that hyper arousal symptoms soon after trauma predicted the development of other post-traumatic stress symptoms clusters and were associated with lower symptom improvement over time.

Limitations

The study is limited to small sample due to time constraints so findings cannot be generalised and the sampling technique is purposive sampling.

Implications

1. The study could guide the nurses for their active involvement in assessment of post-traumatic stress among survivors of motor vehicle accidents.
2. Guidelines developed for health care professionals regarding prevention of post-traumatic stress among survivors of motor vehicle accidents can be used in Trauma units to identify trauma patients at risk to prevent occurrence of post-traumatic stress disorder.

Recommendations

- ❑ A similar study can be conducted among family members of trauma victims.
- ❑ A quasi experimental study to examine the effectiveness of psycho education interventions on post-traumatic stress and coping style of trauma survivors can be conducted.

Conclusion

Majority of survivors of motor vehicle accidents had mild level of post-traumatic stress and as per

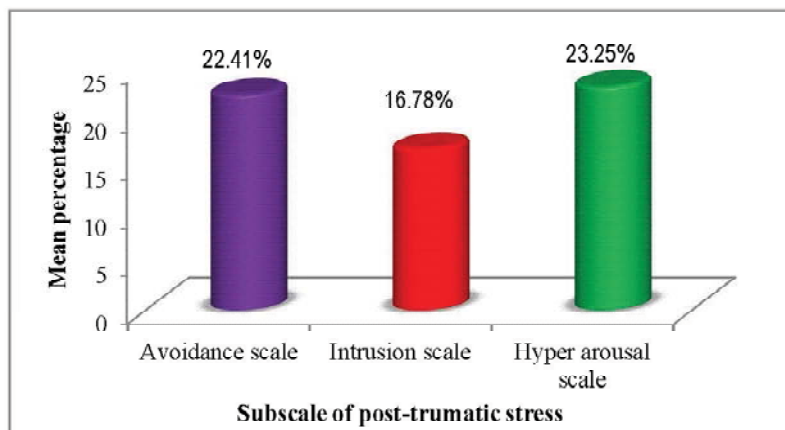


Figure-3: Mean percentage of subscales of post-traumatic stress among survivors of motor vehicle accident

subscales of post-traumatic stress; patients had highest mean percentage of post-traumatic stress score in hyper arousal subscale.

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