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Post Traumatic Stress Disorder among Patients with Orthopedic Injury

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Abstract: ***Posttraumatic stress disorder (PTSD) is a disorder that some people develop after seeing or living through an event that caused or threatened serious harm or death which is usually characterized by re experiencing, avoidance and numbing, and hyper arousal. Orthopedic injury mainly caused by motor vehicle accidents is considered as one of the important factor for the development of PTSD. Objectives: The purpose of the study is to identify the prevalence of post traumatic stress disorder among patients with orthopedic injury and its association with the socio demographic variables. Methodology: Quantitative research approach-descriptive research design was adopted for the study.150 Patients who had orthopedic injury attending orthopedic outpatient department in Narayana Medical college hospital was selected by simple random sampling technique. Socio demographic variables questionnaire and Impact of Events Scale-Revised (IES-R) which has 22 items was used to collect the data. Descriptive and inferential statistics was used to analyze the data .Findings: Among 150 patients 45(30%) have post traumatic stress disorder and 105(70%) have absence of post traumatic stress disorder. 25(16%) were between the age group of 20-30years.Females had a higher rate of PTSD than male. 42(28%) had high score on the avoidance scale, 40(27%) had high score on the intrusion scale, and 39 (26%) had high score on the hyper arousal scale. There is a significant association between the prevalence of PTSD with the socio demographic variables like age, gender, marital status, type of accident, type of injury ,duration of injury at the level of p<0.05 level. Conclusion: The study provides an insight that PTSD is a significant disorder which develops following the injury.***

Keywords: Post traumatic stress disorder, orthopedic injury, trauma, Psychological symptoms

1. Introduction

Road traffic accidents have become very common nowadays**.** There has been a global increase in reports dealing with the psychiatric sequalae of trauma. Road traffic accidents are the sixth leading causing of death, disability and hospitalization. Motor vehicle accident is a recognized cause of trauma resulting in severe morbidity and mortality. Post traumatic stress disorder (PTSD) is a disorder that some people develop after seeing or living through an event that caused or threatened serious harm or death which is usually characterized by re experiencing, avoidance and numbing and hyper arousal. Suffering with a trauma can have long lasting and serious implication on health status.

The **DSM-V criteria** for identifying PTSD requires that symptoms must be active for more than one month after the trauma and associated with a decline in social, occupational or other important area of functioning. The three broad symptom clusters can be summarized as follows:

a**. Persistent Re-experiencing**: A person experiences one or more of the following: recurrent nightmares or flashbacks, recurrent images or memories of the event, intense distress at reminders of trauma, or physical reactions to triggers that symbolize or resemble the event.

b**. Avoidant/Numbness Responses:** A person experiences three or more of the following: efforts to avoid feelings or triggers associated with the trauma; avoidance of activities, places or people that remind the person of the trauma; inability to recall an important aspect of the trauma; feelings of detachment or estrangement from others; restricted range of feelings; or difficulty thinking about the long-term future.

c**. Increased Arousal**: A person experiences two or more of the following: difficulty falling asleep or staying asleep, outbursts of anger/irritability, difficulty concentrating, increased vigilance that may be maladaptive, or exaggerated startle responses.

It has also been recognized that trauma play a very important role in development of PTSD. **3.5% of individual** suffer with PTSD stated by Anxiety and depression association of America. **Healmy ptsd (2014)** an estimated 8% of adults ie **24.4** million people have PTSD at any given time. Sources of National institute of mental health reveals that **3.3%** suffer with PTSD following accidents and almost **50%** of all outpatient mental health patients have PTSD. An estimated **1 out of 10** women develops PTSD; women are about twice as likely as men. Among people who are victims of a severe traumatic experience, **60 – 80%** will develop PTSD. To prevent the consequences of psychiatric morbidity it is essential to identify the disorder at an early stage

2. Statement of the Problem

A study to identify the prevalence of Post Traumatic Stress Disorder among patients with orthopedic injury in selected hospital, Nellore

3. Objectives

- To identify the prevalence of Post Traumatic Stress Disorder among patients with Orthopedic injury
- To associate the prevalence of Post Traumatic Stress Disorder among patients with Orthopedic injury with their socio demographic variables.

4. Operational Definition

- **Prevalence:** Number of individual affected with PTSD

- **Post traumatic stress disorder**: Individual who score between12-88 in Impact of Events Scale Revised (IES-R)
- **Orthopedic injury:** Individual who is a survivor of road traffic accident and taking treatment following injury

5. Materials and Methods

A descriptive cross sectional study was conducted among patients who have orthopedic injury attending orthopedic outpatient department in Narayana Medical College Hospital. The sample size for the study is 150 patients who were selected by Probability systematic random sampling technique. The criteria for sample selection were patients between the age group of 20-59 years, both genders, who had injury at least one month prior to the interview. Patients who were not willing to participate in the study and who don't know English and Telugu were excluded from the study. The data was collected by using Impact of Events Scale Revised (IES-R) which has 22 items with a minimum score of 0 and maximum score of 88. Subscales measures Intrusion, avoidance and hyper arousal. Descriptive and inferential statistics was used to analyze the data.SPSS-15 was used to analyze the data

6. Results

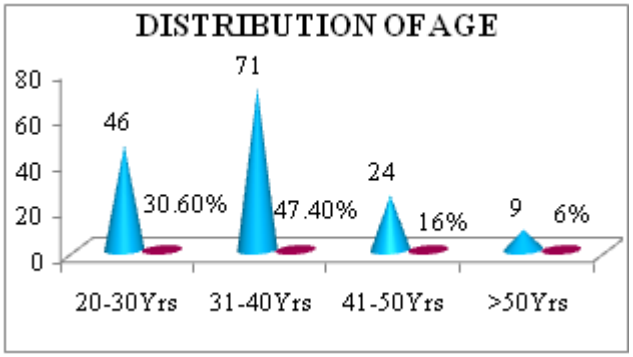

Figure 1: Frequency and percentage distribution of age

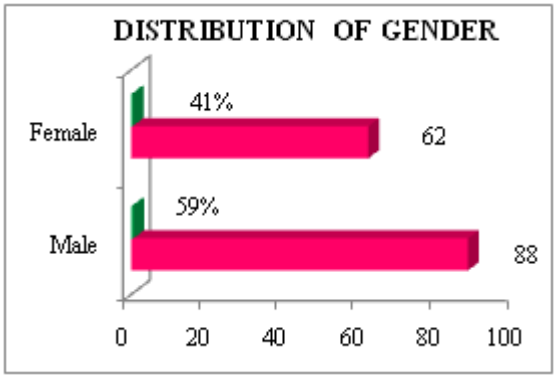

Figure 2: Frequency and percentage distribution of gender

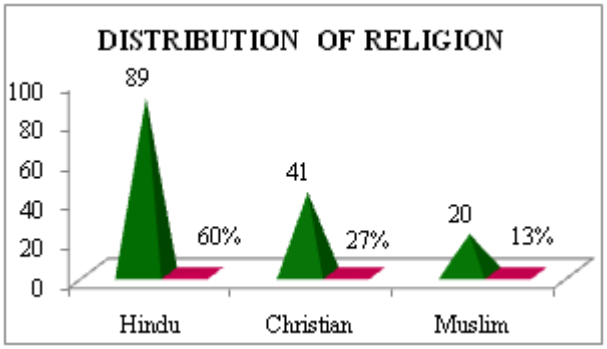

Figure 2: Frequency and percentage distribution of religion

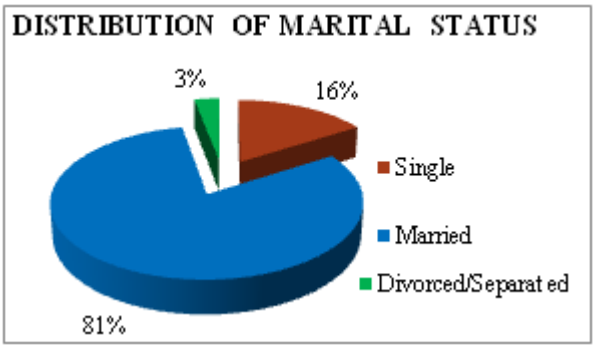

Figure 4: Frequency and percentage distribution of marital status

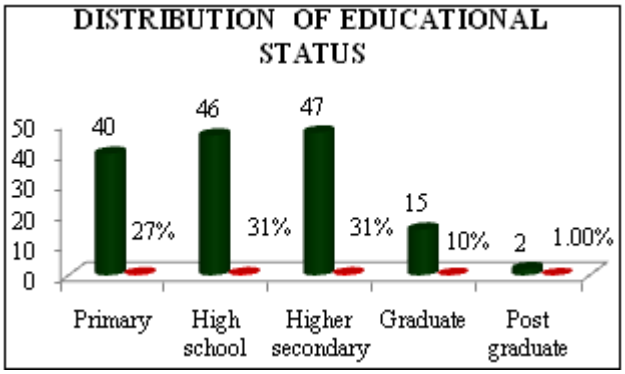

Figure 5: Frequency and percentage distribution of educational status

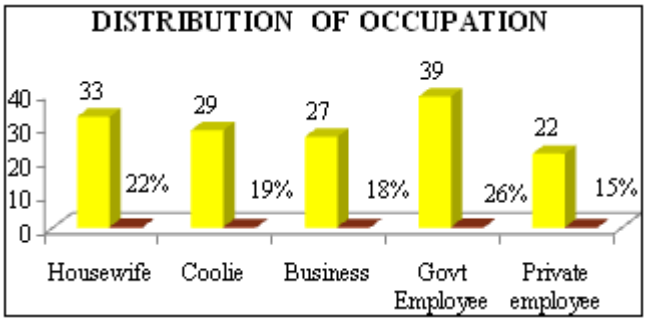

Figure 6: Frequency and percentage distribution of occupation

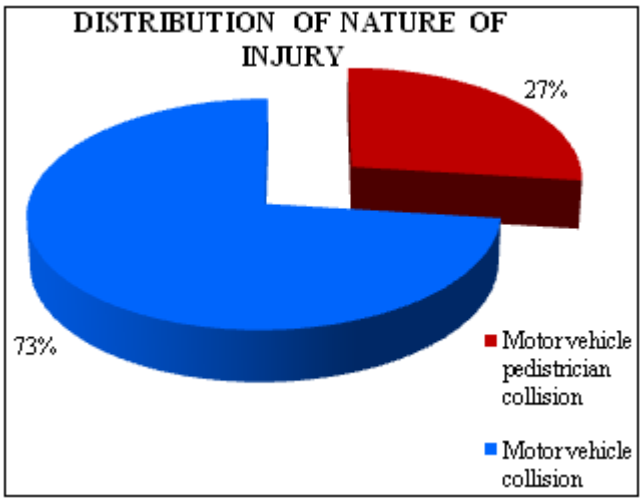

Figure 7: Percentage distribution of nature of injury

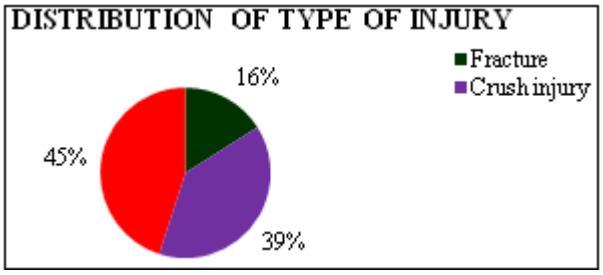

Figure 8: Percentage distribution of type of injury

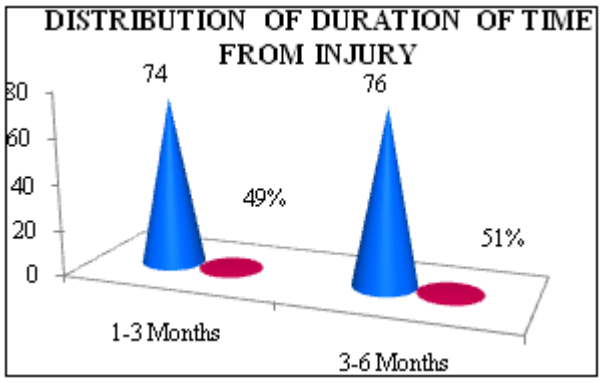

Figure 9: Frequency and percentage distribution of duration of time from injury

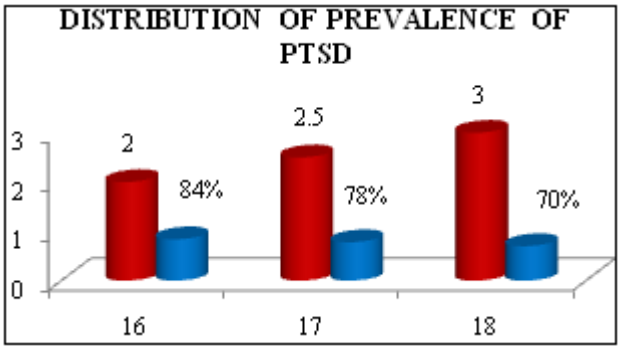

Figure 10: Frequency and percentage distribution of prevalence of PTSD

Table 1: Mean and standard deviation of prevalence of PTSD based on subscales

S.No	SUBSCALES	MEAN	SD
1	Avoidance	1.93	0.9
2	Intrusion	1.88	0.9
3	Hyper arousal	1.66	0.7

Table 2: Association between prevalence of PTSD with the socio demographic variables

Sl.No	Socio demographic Variables	Absence of PTSD		Risk for PTSD		Presence of PTSD		Chi square
1	**Age in years**	**Number**	**%**	**Number**	**%**	**Number**	**%**	
	20-30	26	17%	5	3%	20	10%	X2=4.3 ,df-4,p<0.05*
	31-40	45	30%	6	4%	15	13%	
	41-50	8	5%	9	6%	7	4.50%	
	>50	6	4%	0	0	3	2.50%	
2	**Gender**							
	Male	55	37%	8	5%	20	16%	X2=1.72 ,df-1,p<0.05*
	Female	31	21%	11	7%	25	13%	
3	**Religion**							
	Hindu	46	31%	12	8%	31	21%	X2=8.72 ,df-3,p<0.05
	Christian	25	17%	4	3%	12	8%	
	Muslim	15	10%	3	2%	2	1%	
4	**Marital status**							
	Single	15	10%	4	3%	5	3.40%	X2=14.52 ,df-5,p<0.05
	Married	68	45%	14	9%	39	26%	
	Divorced/Separated	3	2%	1	0.60%	1	0.60%	
5	**Education**							
	Primary	15	10%	3	2%	22	15%	X2=4.2 ,df-4,p<0.05
	High school	22	15%	6	4%	18	12%	
	Higher secondary	35	23%	9	6%	3	2%	
	Graduate	12	8%	1	0.60%	2	1%	
	Post graduate	2	1%	0	0	0	0	
6	**Occupation**							
	Housewife	20	13%	4	3%	9	6%	X2=6.38 ,df-3,p<0.05
	Coolie	21	14%	3	2%	5	3%	
	Business	10	7%	5	3%	12	8%	
	Govt Employee	20	13%	4	3%	15	10%	
	Private employee	15	10%	3	2%	4	3%	
7	**Nature of injury**							

	Motor vehicle pedistrician collision	20	13%	5	3%	15	10%	X2=16.4 ,df-5,p<0.05*
	Motor vehicle collision	66	44%	14	9%	30	20%	
8	**Type of injury**							
	Fracture	15	10%	3	2%	6	4%	X2=68.3 ,df-5,p<0.05*
	Crush injury	36	24%	13	9%	20	13%	
	Multiple injury	35	23%	3	2%	19	13	
9	**Duration of time from injury**							
	1-3 Months	55	37%	5	3%	14	9%	X2=6.3 ,df-3,p<0.05*
	3-6 Months	31	21%	14	9%	31	21%	

7. Discussion

Findings related to prevalence of PTSD

The findings of the study revealed that among 150 patients, 86(57%) have absence of PTSD, 19 (13%) have risk for PTSD and 45(30%) have PTSD which is similar to the cohort study finding conducted by **Haagsma JA .et al** (2012) on prevalence, predictors and long term course of PTSD after major trauma which revealed that 23% had probable PTSD

42(28%) had high score on the avoidance scale, 40(27%) had high score on the intrusion scale, and 39 (26%) had high score on the hyper arousal scale. In Avoidance, intrusion and hyper arousal subscales the mean & SD was high which indicates that most of them suffer with PTSD

Findings related to association between prevalence of PTSD with the socio demographic variables

Ongecha-Owuor FA, Kathuku DM, Othieno CJ, Ndetei DM (2004) studied Post traumatic stress disorder among motor vehicle accident survivors attending the orthopedic and trauma clinic which identified that in age majority of those with PTSD (42.9%) were young between 20 - 29 years with a significant congruence in present study where 10% have PTSD in the age group between 20-30 years and marital status being married had a significant association which is similar to the study. Gender has a significant association with the prevalence where female were more affected than comparing male which is supported by the study conducted by **Obiora Iteke (2011)** with females more likely to experience PTSD when compared to the males

Nature of injury which is of motor vehicle collision and crush injury had a significant association with the prevalence of PTSD

The present study has a significant association with the duration of time of injury as suggested **by L. V. Pillai (2006)** in the study on prevalence of post-traumatic stress disorder symptoms in relatives of severe trauma patients admitted to the intensive care unit where PTSD was significant at the early months and declined from 26% to 14 % at the end of 2 years

8. Recommendations for Further Study

1. A longitudinal study can be conducted to identify the impact of injury on psychological health
2. A comparative study can made with different types of trauma
3. An interventional Study can be conducted to reduce the impact of PTSD among patients
4. A similar study can be conducted in different settings with large sample size

9. Conclusion

The study concludes that majority of the individual experience PTSD. The study provides an insight that PTSD is a significant disorder which develops following the injury. Identification and early intervention can reduce the sequalae of trauma on individual .Counseling and psycho education will reduce the impact of injury

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