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## Caregiver's stress and anxiety of the patients with traumatic brain injury: Descriptive research study

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### Abstract

**Background:** Traumatic brain injury (TBI) is sudden damage to the brain caused by a blow or jolt to head. The injury that occurs at the moment of impact is known as the primary injury. After the initial impact occurs, the brain undergoes a delayed trauma – it swells – pushing itself against the skull and reducing the flow of oxygen-rich blood. This is called secondary injury.

**Aim:** The study aimed to assess the level of stress and anxiety among the caregiver of Traumatic Brain Injury patients admitted in selected neurological hospital, Guwahati, Assam.

**Materials and Methods:** The study adopted descriptive research design, 40 caregiver of traumatic brain injury patients admitted in Rahman Hospital Pvt. Ltd., Guwahati, Assam using convenience sampling technique. Demographic Performa, Clinical variable, Perceived stress scale (PSS), Generalized anxiety disorder-7 (GAD-7) Scale, Open ended question for factors related to stress and anxiety, Structured Opinionnaire question on booklet of traumatic brain injury were used to collect the data. Descriptive and inferential statistics were used to analysis the data.

**Result:** The findings revealed that the majority of caregivers 16(40%) are under the Age group of above 35 years, 26(65%) were Male, 14(35%) of caregiver are completed graduate, 18(45%) of caregiver belonged to Hindu religion, 11(27.5%) of caregiver had a family income Rs 40,000 and above, 18(45%) of the caregivers were self-employee, 22(55%) were joint family, 25(62.5%) of caregivers were married, 12(30%) was husband/wife, 19(47.5%) of caregivers are not having health status of Hypertension, Diabetes Mellitus. Majority 23 (57.7%) of the patient were Subdural Hemorrhage. Majority 26(65%) of the patient were severe head injury, 26(65%) of the patient are not Oriented in time, place and person, 17(42.5%) of patients are not associated with co-morbidity of Hypertension, Diabetes Mellitus, 17(42.5%) of patients are stay between > 1 week to 1 month, 24(60%) patients had a hemorrhage, 25(62.5%) were not alcoholic intoxication on the day of injury. Majority 18(45%) of caregivers were having severe stress level. Majority 19(47.5%) of them were having moderate anxiety level. that the factor related to stress and anxiety. All of them 40(100%) were having stress and anxiety regarding the Patient level of consciousness, Family and Children, and Financial problem. Majority (85%) of caregiver gives positive opinionnaire on booklet of traumatic brain injury.

**Conclusion:** From the finding of the present study, it can be concluded that the majority of caregiver have severe stress level and moderate anxiety level.

**Keywords:** Assess, stress, anxiety, caregiver, traumatic brain injury, information booklet

### Introduction

Traumatic brain injury (TBI) is an alteration in brain function, or other evidence of brain pathology, caused by an external force It occurs when an external force impacts the brain and often is caused by a blow, bumps, jolt, or penetrating wound to the head. However, not all blows or jolts to the head cause traumatic brain injury, some just cause bony damage to the skull, without subsequent injury to the brain. Mild traumatic brain injury is now more commonly referred to as concussion <sup>[1]</sup>.

### Methodology

The objectives of the study were to assess the level of stress and anxiety among the caregiver of Traumatic Brain Injury patients. The research approach chosen for the study was quatitative descriptive research design. The study was conducted among caregivers of traumatic brain injury patients admitted in Rahman hospital Pvt. Ltd. Formal permission was obtained from each participant. Every participant was Assuranced of her/his privacy and confidentiality.

**Sample size**

The sample size was 40 caregivers of traumatic brain injury patients who were admitted in Rahman Hospital Pvt.Ltd.

**Sampling technique**

Non-probability convenience sampling technique

**Tool for data collection**

The tool used in the study were-

Section –A

AI Demographic performa

AII Clinical variables

Section - B

BI Percieved stress scale (PSS)

BII General anxiety disorder-7 (GAD-7) scale

Section C- Open-ended question factor related to stress and anxiety

Section D - Structured opinionnaire question on a booklet on Traumatic Brain Injury

**Method of data collection:** Percieved stress scale(PSS), generalised anxiety disorder-7 (GAD-7) scale,open ended question for factor related to stress and structured opinionnaire question on a booklet on traumatic brain injury were used for the collection of the data in the study

**Procedure for data collection**

The data was collected in one month from caregiver of traumatic brain injury patient who are admitted at Rahman

Hospital Private Limited. Non-probability convenience sampling technique was used for the selection of staff nurses in the study. Formal permission was obtained from the concerned authority and caregivers. The investigator had given self – introduction, explained the purpose of the study, and ascertained the willingness of the subjects to participate in the study. The subjects were given a standardized tool for stress and anxiety (Perceived Stress Scale(PSS) and Generalized Anxiety Disorder-7 Scale) and Open-ended question factors related to stress and anxiety for the time period of 20- 30 mins to complete the questionnaire. After assessing the stress and anxiety, an information booklet on traumatic brain injury was distributed to the subject free of cost. After 20 mins of booklet distribution researcher will distribute an opinionnaire questions on booklet on traumatic brain injury and recollect after 5-10mins.

**Data analysis**

The data were analyzed and interpreted in accordance with the objectives of the study by using descriptive and inferential statistical methods. Frequency and percentage distribution methods were used for the analysis of demographic variables, clinical variables and structured opinionnaire questions on booklet on traumatic brain injury in the study.

**Results****Demographic characteristics of respondent**

**Table 1:** Frequency and Percentage Distribution of Caregiver in regard to Demographic Variable n=40

Sl. No.	Demographic Variables	Sub-Group	Frequency	Percentage
1	Age in year	20-25years	3	7.5
		26-30years	8	20.0
		31-35years	13	32.5
		Above 35 years	16	40.0
2	Gender	Female	14	35.0
		Male	26	65.0
3	Educational Qualification	Primary education	3	7.5
		Secondary education	13	32.5
		Higher education	10	25.0
		Professional education	14	35.0
4	Religion	Christian	9	22.5
		Hindu	18	45.0
		Muslim	13	32.5
5	Income in Rupees per month	10,000-20,000	10	25.0
		40,000 and above	11	27.5
		Above 20,000-30,000	9	22.5
		Above 30,000-40,000	10	25.0
6	Occupation	Govt. Emplpoyee	9	22.5
		Self – employed	18	45.0
		Unemployed	13	32.5
7	Types of Family	Extended Family	3	7.5
		Joint family	22	55.0
		Nuclear family	15	37.5
8	Marital status	Divorced	1	2.5
		Married	25	62.5
		Unmarried	14	35.0
9	Relationship with patient	Father/Mother	8	20.0
		Husband/Wife	12	30.0
		Relatives	11	27.5
		Son/ Daughter	9	22.5
10	Health status	DM	7	17.5
		DM with HTN	3	7.5
		HTN	11	27.5
		None of the above	19	47.5

**Table 2:** Frequency and Percentage Distribution of Patient in regard to Clinical Variables n=40

Sl. No.	Clinical Variables	Sub-Group	Frequency	Percentage
1	Types of Traumatic Brain Injury	Contusion	2	5.0
		Epidural Hemorrhage	6	15.0
		Intracerebral hemorrhage	9	22.5
		Subdural hemorrhage	23	57.5
2	Patient's level of consciousness according to GCS	Mild head injury	7	17.5
		Moderate head injury	7	17.5
		Severe head injury	26	65.0
3	Orientation	Person	4	10.0
		Place	1	2.5
		Time	2	5.0
		Time & Person	2	5.0
		All of the above	5	12.5
		None of the above	26	65.0
4	Associated co-morbidity	Diabetes Milletus	8	20.0
		Diabetes milletus with hypertension	3	7.5
		Hypertension	12	30.0
		None of above	17	42.5
5	Duration of illness	<1 week	5	12.5
		>1month – 3months	15	37.5
		>1 week- 1 month	17	42.5
		>3 months	3	7.5
6	CT scan investigation	Diffuse axonal injury	8	20.0
		Hemorrhage	24	60.0
		Infarction	4	10.0
		Skull fracture	4	10.0
7	Alcoholic intoxication on the day of injury	Yes	15	37.5
		No	25	62.5

**Table 3:** Frequency and Percentage distribution of caregiver according to stress level which measured by perceived stress scale n=40

Perceived Stress Scale	Frequency	Percentage
Mild	14	35.0
Moderate	8	20.0
Severe	18	45.0

**Table 4:** Frequency and Percentage distribution of caregiver according to anxiety level which measure by GAD-7 Scale n=40

Anxiety level	Frequency	Percentage
Mild	8	20.0
Moderate	19	47.5
Severe	13	32.5

**Table 5:** Frequency and percentage distribution of factors related to stress and anxiety n=40

Factors	Frequency	Percentage
Patient level of consciousness	40	100%
Family and children	40	100%
Finacial problem	40	100%
Not improving patient condition	14	35%
Treatment and investigation	9	22.5%
Negative thought	10	25%
Condition of patient	18	45%
Long stay at hospital	16	40%
To run the family	13	32.5%

**Table 6:** Frequency and percentage distribution of opinionative on booklet on traumatic brain injury n=40

Opinionnaire	Frequency	Percentage
Positive opinionnaire	34	85%
Neutral	6	15%
Negative opinionnaire	0	0%

## Discussion

The study revealed that the majority (45%) of caregivers had severe levels of stress, (35%) had mild levels of stress,

and (20%) had a moderate level of stress and the majority (47.5%) of caregivers had a moderate level of anxiety, (32.5%) had severe level of anxiety and (20%) had mild level of anxiety. Similar finding were reported Maryam K, Hossein E, Mohammad H, Morteza S, and Reza M (2019) on the prevalence of anxiety, stress, and depression with respect to coping strategies in caregivers of patients with head injury shows that majority 63.8% of caregivers had severe stress [2].

Finding is contradicted by a observational study by Basavakumar SA, Meenakshi M D, (2018) on anxiety and depression among caregivers of impatient suffering from chronic debilitating and terminal illnesses. The result shows that the majority (50%) of caregiver had a severe level of anxiety, (37%) of caregivers had a moderate level of stress, and (13%) of caregiver had a mild level of anxiety [3].

## Conclusion

From the finding of the present study, it can be conclude that the majority of caregiver have severe stress level and moderate anxiety level.

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