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Problems of patients after traumatic brain injury: A cross sectional study

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ABSTRACT A Descriptivestudy was conducted to identifyproblems of the patients after traumaticbrain injury attending the neuro out-patient department, Ananthapuri hospitals and research institute, Trivandrum among selected 60 patients attendingneuro out-patient department, by using convenient sampling technique. An interview was conducted toidentify the problems of the patients after traumatic brain injury. The study findingssuggests that the cognitive problems of patients have significant association ($p < 0.01$)with the GCS score at admission, the physical problems have shown difference oncomputation but, no significant statistical association was found with the GCS scoreof patients at admission.Problems after traumatic brain injury are more among severe traumatic brain injurypatients than in mild and moderate traumatic brain injury. In conclusion, the studyshowed that traumatic brain injury is more among males and the patients are sufferingfrom cognitive, physical and psychosocial problems after traumatic brain injury.

KEYWORDS : Traumatic brain injury; cognitive problems; Interview schedule.

Introduction

Traumatic brain injury (TBI), is a silent epidemic of post industrialization era. It affects young and productive people, leading to significant loss of life and economy. Among TBI, the commonest form is mild TBI. Though the name suggests the benign nature of condition in terms of risks to life, however the consequences of mild can impair general health and functioning. There is lot of variation in the management of mild TBI globally.

Degree of injury and its consequences vary, but reduced physical function, cognitive function and reduced practical and social functioning are common sequelae after TBI. In moderate to severe cases of TBI, problems and limitations regarding ADL functioning, as well as social functioning may be long lasting, sometimes life-long. Even in cases of mild to moderate TBI without significant intracranial injury one faces problems regarding work and social participation because of unregistered physical, cognitive and/or emotional sequelae due to subtle brain dysfunction and emotional reactions to trauma.

Traumatic brain injury (TBI) is a complex injury with a broad spectrum of symptoms and disabilities. The impact on a person and his or her family can be devastating. Every day, men, women and children suffer head injuries. A trip or fall, a car accident, a sports injury – these everyday injuries can range in severity from concussion to coma. Traumatic Brain Injury (TBI) can be fatal or, in survivors, can produce persistent problems that significantly affect the livelihood and well-being of millions around the globe.

A study reveals that memory loss, the most common cognitive impairment among head-injured people, occurs in 20-79% of people with closed head trauma, depending on severity. Impairment in efficiency and speed of information processing, attention and vigilance are seen in most cases. Alertness is impaired in severe traumatic brain injury. The patient may be withdrawn, dull, and apathetic. Deficit of alertness often accompany deficits of motivation. Divided attention deficits are present.

A Prospective cohort study suggests sexual difficulties were present in a substantial portion of community-dwelling people with TBI at 1 year after injury. Educational interventions to increase awareness among people with TBI and rehabilitation professionals are warranted, as well as interventions to improve sexual functioning. Women reported greater dysfunction than men for sexual cognition/fantasy and arousal. Sixty-eight percent of participants indicated that they would spontaneously raise issues of sexual difficulties with health care professionals, while the remainder would either bring it up only if directly asked or would not discuss it at all.

TBI induces disturbances in different domains (physical, cognitive and social abilities) at different levels. Further, it involves disruption in the course of psychic state and the life plan of the person and often changes in personality and behaviour.

The incidence of traumatic brain injury is increasing day by day. Complications of traumatic brain injury are crucial. It is the responsibility of the nurse to prevent these complications and to make the client at the maximum level of well-being. For that, the nurse must be competent to identify the problems of the patients after traumatic brain injury and act judiciously.

Materials and methods

A descriptive study was conducted to identify problems among patients after traumatic brain injury.60 patientsattending neuro out-patient department" of Ananthapuri hospitals and research institute, Trivandrum were selected using convenient sampling technique. An interview was conducted toidentify the problems of the patients after traumatic brain injury. The tool consists of seven sections; Section 1: Socio demographic data-It includes 11 questions regarding age, gender, religion, marital status, place of residence, educational status, type of family, present occupation, previous occupation, monthly income, support system, and co morbid illness; Section II : Clinical Data- This section contains 14 questions which includes type of admission, area of brain affected, history of associated injuries other than traumatic brain injury, condition of patient at admission, consciousness after the period of injury, GCS score at admission, ventilator support during hospitalization, undergone intracranial surgical intervention during hospitalization, history of seizure during hospitalization, duration of hospitalization, Glasgow Coma Score at the time of discharge; Section III : Data related to injury- It consists of 9 questions which includes the duration between the time of injury and hospitalization, cause of injury, predisposing factor for the cause of road traffic accident, type of vehicle used by the person at the time of injury, status of action during accident, time of injury, day of injury, events that followed immediately after injury; Section IV : General Assessment- This section contains 7 questions about the appearance, grooming, consciousness, orientation, posture and gait of the patient at the time of data collection; Section V : Cognitive problems-This section contains 4 questions related to the cognitive problems of the patients after traumatic brain injury; Section VI : Physical problems- 21 questions about the physical problems of patients after traumatic brain injury are included.Section VII: Psychosocial problems- It consists of 14 questions regarding psychosocial problems of patients after traumatic brain injury. Data was collected after obtaining ethical clearance and informed consentwith the assurance of maintaining confidentiality.

Results

a. Sample characteristic's

Age wise distribution of subjects revealed that 41.7% patients belong to <30 years, 23.3% are between 30–39years, 21.7% between 40-49 years, 13.3% >=50 years.Majority of subjects (63.3%) were males and 36.7% were females.Among the subjects, 38.3% Hindus, 36.7% Muslims, and 25.0% Christians. 60.0% were married, 26.7% unmarried, 6.7% widow/ widower, 6.7% were divorced/separated. Majority(71.7%) were from urban and 28.3% from rural population, 40.0% were collegiate, 21.7% were professional, 17% were illiterate, 15.0% were having secondary education,11.7% were having technical education, 10.0% were having primary education.Majority of 55.0% were from nuclear family, 40.0% from joint family and 5.0% from extended nuclear family. Among the subjects 30.0% had cardiovascular problems, 28.3% with diabetes, 23.3% had bronchial asthma and 18.4% were having renal problems.

b. Cognitive problems among patients

Table 1: Frequency and percentage distribution of subjects according to cognitive problems
(n = 60)

Cognitive problems	Almost		Sometimes		Never	
	f	%	f	%	f	%
Memory problems	3	5.0	38	63.3	19	31.7
Able to complete the task with concentration	3	5.0	32	53.3	25	41.7
Attention deficit	3	5.0	36	60.0	21	35.0
Difficulty in making decisions	3	5.0	27	45.0	30	50.0

Table 1 reveals that 3 patients (5.0%) of them almost have all the cognitiveproblems, whereas 38 of them (63.3%) are found to have memory problemssometimes and 19 of them (31.7%) never had memory problems, 36 patients (60.0%)had sometimes attention deficit, and 27 of them (45.0%) sometimes had difficulty inmaking decisions.

c. Physical problems after traumatic brain injury

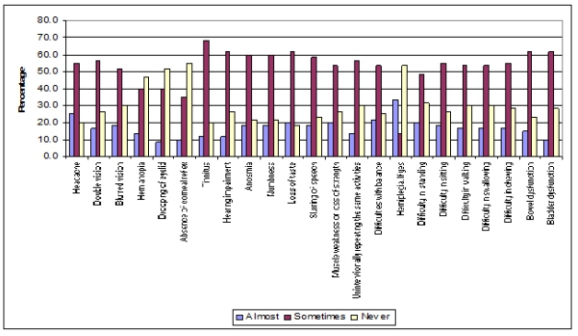

Figure 1: Distribution of subjects according to physical problems

d. Psychosocial problems of subjects

The subjects sometimes had the psychosocial problems of feel sad, feel hope about future, like to interact with friends, interested to participate in social gatherings, feel anxious about physical problems, feel calm and quiet and never had problems with the feeling of being punished

Discussion

Traumatic brain injury continues to be an enormous public health problem, even with modern medicine in the 21st century. Patients who had traumatic brain injury face various cognitive, physical and psychosocial problems. Present study mainly focused on identification of problems of patients after mild, moderate and severe traumatic brain injury. It is classified as mild, moderate or severe depending on a patient's level of consciousness and level of neurologic functioning.

The memory impairment was found to bein 63.3% of the subjects. The evidence is supported by the study that memory loss, the most common cognitive impairment among head- injured people, occurs in 20-79% of people with closed head trauma, depending on severity.

Present study depicts that 25% of patients had headache following traumatic brain injury. This is intune with another study which reported that nearly 38% of patients with moderate or severe traumatic brain injury had acute post traumatic headache.

In the present study it was found that the most common psychosocial problems identified were feel hope about future, like to interact with friends, get angry quickly, interested to participate in social gatherings, feel anxious about physical problems. Different studies agree with this finding that traumatic brain injury may cause emotional or behavioral problems and changes in personality. There are three symptoms that are most differentiated in patients with depression which include feeling hopeless, feeling worthless, and difficulty enjoying activities. A systematic review to examine the relation between traumatic brain injury and cognitive impairments 6 months or longer post brain injury was found evident.

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