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"A Study To Evaluate The Effectiveness Of Informational Booklet On Knowledge Regarding Traumatic Brain Injury And Its Management Among Staff Nurses At Selected Hospitals, Bangalore."

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Abstract

Background: Traumatic brain injury usually results from a violent blow or jolt to the head or body. An object that goes through brain tissue, such as a bullet or shattered piece of skull, also can cause traumatic brain injury. Mild traumatic brain injury may affect your brain cells temporarily. More-serious traumatic brain injury can result in bruising, torn tissues, bleeding and other physical damage to the brain. These injuries can result in long-term complications or death. Traumatic brain injury can have wide-ranging physical and psychological effects. Some signs or symptoms may appear immediately after the traumatic event, while others may appear days or weeks later. **Objectives :** 1) To assess the pre test knowledge level of staff nurses regarding Traumatic brain injury and its management. 2) To assess the post test knowledge level of staff nurses regarding Traumatic brain injury and its management. 3) To assess the effectiveness of information booklet on knowledge of staff nurses regarding Traumatic brain injury and its management. 4) To determine the association between pre test knowledge of staff nurses regarding Traumatic brain injury and its management and selected demographic variables **Hypothesis:** H_1- There is a significant difference in the pre test and post testknowledge scores of staff nurses regarding Traumatic brain injury and its management. H_2- There is a significant association between the pre test knowledge of staff nurses regarding Traumatic brain injury and its management and selected demographic variables at the significance level of 0.05. **Methodology:** The research design consisted of pre experimental research design of one group pretest and post-test design. The population selected for the study was staff nurses of selected hospitals at Bangalore. The study samples were 60 staff nurses and were selected by using purposive sampling technique. The development of the tool involved steps of test construction i.e. preparing the blue print, selection of items, content validation and establishment of reliability. The content validity of the questionnaire was done and modifications were done according to the suggestions given by the experts. Pre

testing and reliability of the tools were done. The reliability co efficient of the knowledge questionnaire was found to be 0.893. The tool was found to be reliable. **Results:** In the Pre test of knowledge regarding Traumatic brain injury and its management among Staff nurses that the level of knowledge of Staff nurses before providing information booklet. In that Majority 57(95.0%) of the staff nurses. had Inadequate knowledge and 3(5.0%) of the staff nurses had moderately adequate knowledge and there were no staff nurses having adequate knowledge regarding Traumatic brain injury and its management. Where as in post test 47(78.3%) of staff nurses were have adequate knowledge, 7(11.7%) of them have inadequate knowledge and 6(10%) of staff nurses have inadequate knowledge. The mean paired difference in knowledge score was -18.8 with t-value=-22.7 with p-value less than 0.0001. The mean pretest knowledge score was 6.12 and mean post score was 24.8 and the difference in knowledge score was 18.8 with percentage improvement in knowledge was 75.8. Hence information booklet on knowledge regarding Traumatic brain injury and its management among Staff nurses was effective in enhancing their knowledge. The study was concluded that there was a significant improvement obtained following information booklet on Knowledge regarding Traumatic brain injury and its management. This study was recommended that there is an immense need for educational programme to improve the knowledge regarding Traumatic brain injury and its management among staff nurses.

Key words: Assess, effectiveness, Information booklet, Traumatic brain injury and its management, Staff Nurse.

Introduction

"Knowledge itself is power".

Francis Bacon.

Healthcare refers to a livelihood individual's operational or the efficiency of metabolism. In mankind, it refers to an individual's whole mental, physical, and spiritual well-being, that typically includes the absence of sickness, harm, or discomfort. In 1946, the World Health Organization, also known as the WHO, described wellness broadly as "a person's complete mental, social, and physical health, rather than having no signs of illness or weakness[1]."

A illness is an unusual situation that affects a living being's bodily functions. It is frequently understood as an infectious disease characterized by particular symptoms and indicators. It can be brought about by either outside factors, such as a viral illness, or intrinsic disorders, like autoimmunity. In individuals, "ailment" is frequently employed more commonly to describe any disorder causing discomfort, disorder, trouble, trouble with society, or mortality to the impacted individual, as well as equivalent problems for those who come into contact with them[2].

The preservation and development of health is accomplished through diverse interactions between the three areas, which are frequently referred regarded as the "good health triangles".

According to the WHO's 1986 Ottawa Principles for Prevention of Disease, wellness is more than an entitlement; it additionally serves as "an asset for daily existence, not an objective of lives." Healthcare is an encouraging term that emphasizes interpersonal, intimate, and physiological abilities.[3]

Avoidance, often known as prophylactic wellness, refers to every activity undertaken that safeguards the well-being of individuals while also preventing or reducing the likelihood of medical conditions, damage, and early demise. Successful prevention lowers the likelihood that people are going to get an injury, illness, or damage. It also helps patients handle current illnesses and disorders successfully, preventing their health from deteriorating. The wellness institute specializes in minimizing the incidence of ongoing disorders and illnesses. Preventative seeks to boost the Persons are likely to remain physically and mentally healthy for as many years as necessary. Preventative medicine, often known as preventative care, is the practice of taking precautions to avoid sickness.[4]

Traumatic brain damage is frequently caused by a forceful shock or collision to the central nervous system or body. Traumatic injuries to the brain may additionally occur by objects which travel throughout the tissue of the brain, including a gunshot or a fractured part of the skull. A modest brain injury caused by trauma may damage cells in the brain. A more significant head trauma can cause injuries, ruptured cells, hemorrhage, and additional neurological effects. These kinds of injuries can lead to complications over time or even mortality[5].

An injury to the brain that is traumatic is a catastrophic illness that affects the way the brain works as a consequence of a violent accident or shock into the forehead. This type of brain trauma can cause a variety of cognitive, neurological, and psychological deficits. The most prevalent sources of brain injuries (TBI) are motor vehicle crashes, falls, aggression or wounds from firearms, armed attacks, and explosive blasts. The following are the leading causes of non-traumatic mental damage: a cerebrovascular (main cause), a shortage of oxygen (hypoxia), a ruptured a brain lesions, other medical conditions that include carcinoma, swelling or infection of the cortex, infections such as the illness or brain damage, and exposition to toxins such as mercury and lead, along with certain chemical compounds.[6].

An individual with an intermediate or serious brain injury may experience a number of the signs and symptoms mentioned for a relatively minor Trauma. Some migraines worsen or persist. Blindness in either of the eyeballs. Persistent sickness or persistent discomfort Murmured pronunciation. Convulsions are or epileptic fits: Incapacity to awaken from slumber. Expanded pupils (gloomy centre) in either of the pupils, tingling or numbness in the arms or limbs, disorganized or "clumsy" motions, increasing disorientation, agitation, or loss of unconsciousness ranging moments to days[7].

Brain injury treatment involves immediate attention, with an emphasis on guaranteeing that an individual has a proper intake of oxygen and bloodstream, keeping the heart rate stable, and minimizing additional cranial or neck injuries. Individuals with intermediate to serious Concussion ought to be moved to a secondary medical hospital with neurosurgeon capabilities as soon immediately practicable. Medicine specialists can carry out operations to alleviate pressures within the skull, eliminate material from a piercing stroke, eliminate clotting blood, mend broken bones, and implant pressures and saturation monitoring in the cerebral cortex. Other therapies includes medications to reduce subsequent cerebral injury, breathing exercises and anesthesia, CSF draining - encephalitis its outside ventricle draining), and extraction of a medical disease such as acute internal hemorrhage (ICH), massive infarction, or cancer.[8]

The duties of nursing in managing the care of patients with traumatic brain will involve additionally instructing patients, additionally thorough psychological and neurological examinations and surveillance, as well as therapies to enhance the flow to the brain in order to avoid hypoxia. The course of therapy for Trauma varies according to the degree of the trauma. Clients should with minor head trauma are treated through brain scans and information regarding post-concussion characteristics such as moodiness, exhaustion, migraine, and difficulties falling asleep. While moderate effects of TBI typically recover on their own, persistent pain may necessitate an authorized examination[9].

Material and Methods

Research approach : Evaluative Research Approach.

Research design : Pre-experimental; one group pre-test, post-test design.

Research setting : Selected Hospitals at Bangalore.

Population : Staff Nurses.

Sample : Staff Nurses working in Selected Hospitals at Bangalore.

Sampling technique : Purposive sampling technique.

Sample size : 60 Staff Nurses.

Criteria for selection of the sample: The criteria for sample selection are mainly depicted under two headings, which includes the inclusion and the exclusion criteria.

Inclusion criteria

The study includes: The staff nurses; who are;

- Who are working in selected hospitals
- Who are willing to participate.
- Who are available at the time of data collection

Exclusion criteria:

The study excludes: The Staff nurses. who are;

- Who are sick or having critical illness.
- Who are not willing to participate in the study.

Development of the tool: The tool is a vehicle that could obtain data pertinent to the study and at the same time adds to the body of general knowledge in the discipline. Selection and development of tool was done based on the objectives of the study. After the review of related literatures, the structured knowledge questionnaire was found appropriate. The developed tool was refined and validated by the subject experts. The tool used for this study was structured knowledge Questionnaire.

Description of tool: The tool consists of the following sections:

Section A: Socio-Demographic Data:

The first part of the tool consists of 6 items for obtaining information about the selected background factors such as Age in year, gender, religion, Year of experience, type of family, and source of information.

Section B: Structured knowledge questionnaire

Structured knowledge questionnaire was prepared in the form of multiple choice questions. It consists of 30 items regarding the knowledge of Traumatic brain injury and its management.

Development of Information booklet

The script of information booklet was designed and developed by the investigator with the help of review of literature and suggestion of guide and experts. Information booklet was based on following aspects: Anatomy and Physiology of Brain, Introduction, Definition, Etiology and Risk Factors, Clinical manifestations, Diagnostic evaluation, Management, Nursing management, Complications, and Prevention on Traumatic brain injury.

Results and Discussion

Distribution of sample characteristics according to socio demographic variables.

Majority 22(36.7%) of the staff nurses were below 25 years, 19(31.7%) of the staff nurses were between the age groups 25 - 30 years of age, 12(20%) of the staff nurses were above 36 years and remaining 7 (11.7%) of the staff nurses were between the age groups of 31 - 35 years. Majority 34(56.7%) of staff nurses were males and remaining 26(43.3%) of the staff nurses were females. Majority 40(66.7%) staff nurses were Hindu followed by 10(16.7%) of the staff nurses who were Muslims, 8(13.3%) of the staff nurses were Christians and remaining 2(3.3%) of the staff nurses were belongs to other caste. Majority 31(51.7%) of the Staff nurses had 6 – 10 years year of experience, 16(26.7%) of the Staff nurses had Below 5 years year of experience, 7(11.7%) Staff nurses had 11 – 15 years year of experience and 6(10.0%) Staff nurses had years year of experience around 16 years and above. Majority 48(80.5%) of the staff nurses were belongs to the nuclear family, 9(15.0%) of the staff nurses were belongs to the joint family and remaining 3(5.0%) of the staff nurses were belongs to the extended family. Majority 40(66.7%) of staff nurses were getting information by Print materials, 11(18.3%) of staff nurses were getting information by ICE programme, 5(8.3%) of staff nurses getting information by electronic media. and 4(6.7%) of staff nurses getting information by Mass health education programme

OBJECTIVE 1. TO ASSESS THE PRE TEST KNOWLEDGE OF STAFF NURSES REGARDING TRAUMATIC BRAIN INJURY AND ITS MANAGEMENT.

SI.NO.	Level of knowledge	Frequency	Percentage
1	Inadequate	57	95.0
2	Moderately Adequate	03	5.0
3	Adequate	00	00
	Total	60	100.0

Statistics on professional nurses' awareness of injuries to the brain and how it is managed may be found in Table No. 8. Concerning injuries to the brain and its administration, almost all of staff nurses—57, or 95.0%—had insufficient expertise, followed by 3 (or 5.%) with fairly sufficient expertise, and none with sufficient information.

OBJECTIVE 2. TO ASSESS THE POST TEST KNOWLEDGE OF STAFF NURSES REGARDING TRAUMATIC BRAIN INJURY AND ITS MANAGEMENT.

SI.NO.	Level of knowledge	Frequency	Percentage
1	Inadequate	07	11.7
2	Moderately Adequate	06	10.0
3	Adequate	47	78.3
	Total	60	100.0

Following the distribution of an education document, Staff nurses afterwards understanding concerning brain injury caused by trauma and how to handle it is shown in Table No. 9. Of the Staff nurses, healthcare professionals, 47 (78.3%) had sufficient expertise, 7 (11.7%) had insufficient understanding, and 6 (10%) had insufficient understanding.

OBJECTIVE - 3. TO EVALUATE THE EFFECTIVENESS OF INFORMATIONAL BOOKLET ON KNOWLEDGE OF STAFF NURSES REGARDING TRAUMATIC BRAIN INJURY AND ITS MANAGEMENT.

SI.NO.	Level of knowledge	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Inadequate	57	95.0	07	11.7
2	Moderately Adequate	03	5.0	06	10.0
3	Adequate	00	00	47	78.3
	Total	60	100.0	60	100.0

Table No. 10 showed that after receiving a guidance document, Staff nurses understanding of traumatic brain injury and how to handle it had grown.

Following the distribution of educational booklets, 47 Staff nurses (78.3%) had acceptable awareness of traumatic brain injury and how to handle it, 6 Staff nurses (10.0%) had somewhat sufficient understanding, and 7 Staff nurses (11.7%) still had insufficient understanding. Therefore, the content of the pamphlet was successful in improving professional nurses' understanding of traumatic brain injury and its management.

Paired Differences			t	df	Sig. (2-tailed)
Mean	Std. Deviation	SE Mean			
-18.8	6.40	0.83	-22.7	59	**<0.0001(S)**

Table No. 11 demonstrated that the data contained in the pamphlet was successful in increasing professional nurses' understanding of traumatic brain injury and its administration, with the average matched variation in knowledge scores being -18.8 with t-value=-22.7 and the probability value below 0.0001.

The awareness increase as a proportion was 75.8.Therefore, providing employees with an educational pamphlet on brain injury after trauma and its administration helped them to become more knowledgeable.

To evaluate the effectiveness of information booklet research hypothesis is formulated

H_1: There will be significant difference between the pre –test knowledge and post-test knowledge scores of staff nurses regarding Traumatic brain injury and its management. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores. Hence the information booklet is proved to be effective

OBJECTIVE – 4 TO DETERMINE THE ASSOCIATION BETWEEN PRE TEST KNOWLEDGE OF STAFF NURSES REGARDING TRAUMATIC BRAIN INJURY AND ITS MANAGEMENT AND SELECTED DEMOGRAPHIC VARIABLES.

Table No. 13 demonstrated that the team of caregivers' understanding of injury to the brain and its treatment was shown to be correlated with demographic and socioeconomic factors using the chi-square testing. With a chi-square p-value of =0.02, no statistically significant association was seen among understanding of injury to the brain and its care and demographic factors of age, sex, spirituality, number of background, household types, along with the data source.

Implications of the Study

The findings of the study have implications for Research and administration. Based on the study results, the nurses can organize awareness campaign through different media to increase the awareness regarding Traumatic Brain injury and its management. Nursing professionals can make significant contribution to health promotion.

Recommendations

On the basis of the findings of the study, the following recommendations have been made for further study:

1) The study can be conducted on a larger sample.

2) A comparative study can be conducted to find out the effectiveness of Information booklet between other staff nurses.

3) An evaluatory study can be conducted to find out the effectiveness of Information booklet among two different groups.

Declarations

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Informed Consent: The authors have obtained student consent and were asked to sign the consent form. All data collected were kept strictly confidential.

Ethical Approval: The proposal for the study was approved by the Institutional Review Board of the Pragathi College of Nursing Bangalore.

Author Contributions: All authors contributed to the conception and design of the work, drafted the manuscript, revised it critically for important intellectual content, gave final approval of the version to be published and agreed to be accountable for all aspects of the work.

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