

Research Article



Effectiveness of Self Instructional Module (SIM) on Knowledge Regarding Care of Head Injury Patients among Staff Nurses Working in Selected Hospitals, Punjab.

*Mr. Satish Kumar

Department of Medical Surgical Nursing, Silver Oaks College of Nursing, Abhipur, Mohali, India.

*Corresponding author's E-mail: satishkumar081@outlook.com

Accepted on: 30-10-2015; Finalized on: 30-11-2015.

ABSTRACT

As an important part of health care team the role of nurse is very essential in care of head injury or traumatic brain injury patients in order to provide treatment safely and competently. Head injury can lead to alterations in vital centers present in the brain i.e. cardio-inhibitory center which regulates the heart rate, respiratory center which regulates the basic rhythm of breathing and vasomotor center which regulates the diameter of blood vessels. To prevent further complications, disabilities and death, adequate nursing assessment and management during emergency condition is required. The study was undertaken to assess the effectiveness of self-instructional module (SIM) on knowledge regarding care of head injury patients among staff nurses working in selected hospitals, Punjab. Quantitative evaluative research approach and Pre-experimental one group pre-test post-test design was adopted. Sample size comprised of 50 staff nurses, nonprobability convenience sampling technique was used for sample selection. Structured questionnaire was used to assess the knowledge of staff nurses regarding care of head injury patients. The study findings revealed that mean pre-test knowledge score was 13.16 with SD 2.333 and mean post-test knowledge score was 24.04 with SD 2.657 with calculated t-value 29.151 which indicates that there was statistically significant increase in the post knowledge score ($p < 0.001$). Findings of the study also indicated that there was no statistical significant relationship between post-test knowledge score of staff nurses with selected socio-demographic variables ($p < 0.05$). Hence, it was concluded that Self-instructional module (SIM) was effective in the enhancement of knowledge regarding care of head injury patients among staff nurses.

Keywords: Head injury, Self-instructional module (SIM) and Staff nurses.

INTRODUCTION

Head is the most vulnerable part of the body to receive injury which is mostly associated with skull fracture and includes the injury to the brain or spinal cord.¹ The brain is the central unit that controls all the functions of our body and any trauma to it can be life threatening as it may result in major physical and psychological dysfunction and can alter the client's life completely.²

There are approximately 2 million Traumatic Brain Injuries that occur each year (one every 15 seconds) and 500,000 of these injuries require hospitalization. Every 5 minutes someone dies from a head injury. Over half of the deaths occur at the time of the incident or within two hours of hospitalization. Every 5 minutes someone becomes permanently disabled due to head injury. About 70,000 - 90,000 of those who survive will have lifelong disabilities. More than 2,000 will live in a persistent vegetative state.³ It is estimated that in India nearly 1.5 to 2 million persons are injured and 1 million succumb to death every year due to head injury.⁴

Nurses play an important role in providing care to the head injury patients beginning from the assessment which includes assessment of the level of consciousness with the help of Glasgow Coma Scale, monitoring of vital signs and signs of increased ICP, assessing the motor functions and various other aspects.

Each setup demands specialized skills and knowledge to

effectively carryout the care. Regular nursing education program helps to meet the additional demands of emergency assessment and management of patients with head injury. Hence short term orientation or educational interventions are necessary for nurses to equip with their work efficiently in emergency conditions.⁵

Trends in nursing care are changing with the scientific and technological growth. Nurses must acquaint themselves with the changing trends. They have major responsibility as a teacher and an educator. Self-instructional module (SIM) is an auto instructional device which presents information in such a way that the learner can acquire it without the teachers help. Written self-directed learning material is very useful and valuable teaching aid as it encourages the learner to learn and also it is used as a tool for the future.⁶

MATERIALS AND METHODS

Study Design and Sample: An evaluative approach with one group pre-test post-test design was adopted for the study. Fifty staff nurses, both male and female, from Adesh Group of Medical Institutes, Bathinda and Sri Muktsar Sahib, Punjab were selected for the study. Non probability convenience sampling technique was used to select the samples.

Prior to the study formal written permission was taken from the staff nurses selected for the study. Ethical clearance was obtained from ethics committee of the hospitals.



Methodology: In the first phase of the study, a demographic proforma, a knowledge questionnaire and self-instructional module (SIM) was prepared. Self-instructional module contained information regarding definition, causes, risk factors, mechanism, types, assessment and diagnostic findings, medical, surgical and nursing management of patient with head injury. Second phase of the study consisted of pre-test, followed by administration of self-instructional module. Prior to pre-test purpose of the study was explained to the staff nurses and consent was taken. Post-test was conducted after seven days of pre-test. In third phase, data analysis, hypothesis testing and interpretation of the result were done.

RESULTS

Table 1 revealed that mean pre-test knowledge score was 13.16 with SD 2.333 and mean post-test knowledge score was 24.04 with SD 2.657. Paired t test was applied to compare pre-test and post-test mean knowledge score, the results indicated that there was statistically significant increase in mean post-test knowledge score ($p < 0.001$).

Table 1: Comparison of mean pre-test and mean post-test knowledge score and SD regarding care of head injury patients among staff nurses. (n=50)

Knowledge	Mean	Standard deviation	df	t-value	p-value
Pre-test	13.16	2.33	49	29.15*	(p < 0.001)
Post-test	24.04	2.65			

* Significant

The findings indicated that self-instructional module was effective.

Table 2 revealed that in Pre-test out of 50 staff nurses, i.e. 31 (62%) were having average knowledge followed by 16 (32%) were having below average knowledge, least 3 (6%) were having good knowledge regarding care of patient with head injury patients and none of the staff nurses were in excellent and poor category.

In Post-test, 28 (56%) were having good knowledge followed by 17 (34%) were having excellent knowledge, least 5 (10%) were having average knowledge regarding care of head injury patients and none of the staff nurses were in below average and poor knowledge category. The result shows that in post-test there is increase in knowledge.

Table 3 revealed that there was no statistically significant association of the post-test knowledge scores among staff nurses with socio demographic variables such as age, gender, religion, professional qualification, marital status, residence, area of work, years of experience and exposure to in-service education ($p < 0.05$).

Table 2: Frequency and percentage distribution of staff nurses according to their pre-test and post-test knowledge scores regarding care of head injury patients. (n=50)

Levels of Knowledge	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Excellent (Above 80%)	00	00%	17	34%
Good (61-80%)	03	06%	28	56%
Average (41-60%)	31	62%	05	10%
Below Average (21-40%)	16	32%	00	00%
Poor (0- 20%)	00	00%	00	00%
Total	50	100%	50	100%



Table 3: Association of post-test mean knowledge scores regarding care of head injury patients among staff nurses with their selected socio demographic variables. (n=50)

S. No.	Socio-demographic variables	No. of samples	Level of Knowledge Score					Chi square	df
			Excellent	Good	Average	Below Average	Poor		
1.	Age (in years)								
	a) 21-25	41	16	22	03	00	00	3.554 NS	2
b) 26-30	09	01	06	02	00	00			
2.	Gender								
	a) Male	02	01	01	00	00	00	0.379 NS	2
b) Female	48	16	27	05	00	00			
3.	Religion								
	a) Sikh	41	13	25	03	00	00	5.101 NS	4
	b) Hindu	08	04	02	02	00	00		
c) Christian	01	00	01	00	00	00			
4.	Professional Qualification								
	a) GNM	38	13	22	03	00	00	1.502 NS	4
	b) B. Sc. Post Basic (N)	07	03	03	01	00	00		
c) B. Sc. (N)	05	01	03	01	00	00			
5.	Marital Status								
	a) Married	11	04	04	03	00	00	5.202 NS	2
b) Unmarried	39	13	24	02	00	00			
6.	Residence								
	a) Urban	23	08	11	04	00	00	2.843 NS	2
b) Rural	27	09	17	01	00	00			
7.	Area of Work								
	a) Casualty/ Emergency Ward	13	02	08	03	00	00	5.566 NS	4
	b) Intensive Care Unit	20	07	12	01	00	00		
c) General Ward	17	08	08	01	00	00			
8.	Years of Experience								
	a) < 1 Year	35	10	22	03	00	00	3.794 NS	4
	b) 2-4 Years	14	07	05	02	00	00		
c) 5-8 Years	01	00	01	00	00	00			
9.	Exposure to In-service Education								
	a) Yes	33	12	18	03	00	00	0.276 NS	2
b) No	17	05	10	02	00	00			

(p<0.05) NS= Non-significant

DISCUSSION

The present study revealed that there is significant increase in mean post-test knowledge score after the administration of self-instructional module i.e. mean pre-test knowledge score was 13.16 and mean post-test knowledge score was 24.04.

Findings of the present study were supported another study done by Marian Teles, Preeti Bhupali, Milka Madhale, KLES Dr. Prabhakar Kore Hospital and Medical Research Center (2012) which was carried out to find the effectiveness of self-instructional module on knowledge regarding Glasgow coma scale in which there were 55 staff nurses and during pre-test, 41 (74.55%) of the staff

nurses had average knowledge and 14 (25.45%) had poor knowledge. After the administration of Self-Instructional Module in post-test 38 (69.09%) of staff nurses had good knowledge and 17 (30.91%) had average knowledge. Hence the self-instructional was an effective educational intervention for the improvement of the knowledge of the staff nurses.⁷

Findings of the present study were also supported another study done Cook. In order to find out the effectiveness of educational intervention regarding knowledge, degree of confidence and perceived change in practice following mild traumatic brain injury on 25 staff nurses and the results revealed that there was



significant improvement in knowledge (mean pretest: 33.6% vs. mean posttest score: 79.2%; $t = 9.368$; $p < 0.001$). Findings revealed that educational intervention effectively increased staff nurses' knowledge.⁸

CONCLUSION

The present study concluded that in pre-test most of the staff nurses were in average, below average knowledge level and least in good knowledge level category but after the administration of self-instructional module (SIM) in post-test most of the staff nurses were in good, excellent knowledge level and least in average knowledge level category.

Hence it was concluded that self-instructional module is an effective educational intervention for increasing the knowledge of staff nurses.

REFERENCES

1. Smeltzer SC, Barre BG, Brunner and Suddharth, Text Book of Medical-Surgical Nursing, 10th ed., Lippincott Williams and Wilkins, 2004, 1911-1924.
2. Sebastian V. Head injury. Neuroscience nursing, Dec 2012, Available from <http://neurosciencenursing.blogspot.in/2012/12/head-injury.html>. [Reviewed on April 2013].
3. Louis S. Brain injury statistics, Available from <http://www.headinjuryctr-stl.org/statistics.html>. [Reviewed on July 2013].
4. Gururaj G. Epidemiology of traumatic brain injuries: Indian scenario. Neurological Research, Jan 2002, 24-28.
5. Pangilinan PH. Department of Physical Medicine and Rehabilitation: University of Michigan Health System, 2008, 114-4.
6. Martis K.H. Self-directed learning portion for nursing education "NURSE OUT LOOK". 29(4), May 1991, 472-473.
7. Teles M, Bhupali P, Madhale M. Effectiveness of Self Instructional Module on Knowledge and Skills Regarding Use of Glasgow Coma Scale in Neurological Assessment of Patients among Nurses Working in Critical Care Units of KLE Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum. Journal of Krishna Institute of Medical Sciences University. Karnataka, 2(1), Jan-June 2013, 98-104.
8. Cook RS, Gillespie GL, Kronk R, Daugherty MC, Moody SM, Allen LJ. Effect of an educational intervention on nursing staff knowledge, confidence, and practice in the care of children with mild traumatic brain injury. Journal Neuroscience Nurse, 45(2), April 2013, 108-18.

Source of Support: Nil, Conflict of Interest: None.

