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Evaluate the Effectiveness of Planned Teaching Programme on Management of Head Injury Patients in Terms of Knowledge and Expressed Practices among Caregivers of Head Injury Patients

Siji Varghese[1], Daisy Thomas[2], Sarita Shokanda[2]

[1]M.Sc. Nursing 2nd Year Student, Rajkumari Amrit Kaur College of Nursing, New Delhi.
[2]Assistant Professor, Rajkumari Amrit Kaur College of Nursing, New Delhi.

Corresponding Author: Siji Varghese

ABSTRACT

Topic: A study to develop and evaluate the effectiveness of planned teaching programme on "Management Of Head injury Patients" in terms of knowledge and practices among caregivers of patients with head injury in Safdarjung hospital of New Delhi.
Objectives: The objectives of the study were to (i) Develop a planned teaching programme for caregivers of head injury patients on "Management of Head injury patients." (ii) Assess and evaluate the knowledge and practices of caregivers related to "Management of Head injury patients" before and after administration of planned teaching programme. (iii) Determine the relationship between knowledge and practices after the administration of planned teaching programme on "Management of Head Injury Patients" among caregivers of head injury patients in experimental group. (iv) Determine the association between the post- test knowledge score of caregivers of head injury patients with variables (v) Determine the association between post- test practice scores of caregivers of head injury patients with selected variables.
Methodology: A quasi experimental research with pre-test post-test control group design was adopted for the study. The study was conducted in Neurosurgery ward of the Safdarjung Hospital. The sample comprised of 60 caregivers of head injury patients,30 in each experimental and in control group. Purposive sampling technique was used to select the sample and the samples were assigned to the group according to the purpose. Planned teaching programme on management of head injury patients which includes teaching, demonstration and posters was the independent variable and the dependent variable were knowledge and practice regarding the management of head injury patients of caregivers. The tools used were structured knowledge questionnaire& structured practice rating scale. After review of research and non-research articles the tool was developed and the content validity of the tools and teaching content was established by 11 experts. Reliability of the structured knowledge and practice rating scale KR 20 (0.8137) and Crohn Bach's Alpha (0.834) is used. The collected data were analyzed by using both descriptive and inferential statistics in terms of frequencies, mean, median, standard deviation, 't' value and 'Chi' square.
Results: The major findings of the study revealed that there was knowledge& practice deficit existed among caregivers regarding management of head injury patients as evident from the pre-test knowledge& practice rating scale scores. The participants were unaware the basic knowledge regarding management of head injury patients. The planned teaching programme was effective to increase their knowledge &practice regarding the management of head injury patients.
Conclusion: The present study identified deficit in knowledge and practices among caregivers of head injury patients. The planned teaching programme on management of head injury patients was effective to enhance the knowledge and practice of caregivers of head injury patients.

Key words: Head injury, Planned teaching program, knowledge, practices, caregivers, effectiveness.

INTRODUCTION

Health, as defined by the World Health Organization (WHO), is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This definition has been subject to controversy, as it may have limited value for implementation. Health may be defined as the ability to adapt and manage physical, mental and social challenges throughout life.

A century ago, Hippocrates predicted, "No head injury is too severe to despair of, nor too trivial to ignore." Globally, 10 million people suffer traumatic brain injury (TBI) per year to become the third most important cause of mortality and disability by the year 2020, and injury is likely to outshine other non-communicable diseases by the next decade.

Death from road traffic accidents (RTA) and in particular Motor vehicle Traffic Accidents have been characterized worldwide as a hidden epidemic which affects all sectors of society. It accounts for 2.1% of global mortality. A retrospective study of fatal cases of RTA was conducted at Department of Forensic Medicine and Toxicology, Jawaharlal Nehru Medical College, Belgaum, Karnataka, India between 1-1-2004 to 31-12-2009. The majority of victims belonged to the age group 31-40 years (145 cases; 28.7%). Female were less involved than men with ratio of 1: 3.3.[1]

Objectives of the study:

1. To develop a planned teaching programme for caregivers of head injury patients on "Management of Head injury patients."
2. To assess and evaluate the knowledge of caregivers related to "Management of Head injury patients" before and after administration of planned teaching programme.
3. To assess and evaluate the practices of caregivers related to "Management of Head injury patients" before and after administration of planned teaching programme.
4. To determine the relationship between knowledge and practices after the administration of planned teaching programme on "Management of Head Injury Patients" among caregivers of head injury patients in experimental group.
5. To determine the association between the post -test knowledge score of caregivers of head injury patients with the selected variables:-

- Age
- Gender
- Occupation
- Education status
- Religion
- Income
- Relationship
- Previous experience in taking care of patient.

6. To determine the association between post-test practice scores of caregivers of head injury patients with selected variables :-

- Age
- Gender
- Occupation
- Education status
- Religion
- Income
- Relationship
- Previous experience in taking care of patient.

MATERIALS AND METHODS

Research Approach: Quantitative experimental research approach

Research Design: Pre-test post-test control group design

Variables of the study:

Independent variable- The planned teaching programme for caregivers on management of head injury patients.

Dependent variable:

1. Knowledge of care givers on management of head injury patients.

2. Expressed Practices of caregivers on management of head injury patients.

Extraneous variables: In the present study extraneous variables are age, gender, Occupation, education status, religion, income, relationship and previous experience in taking care of the patient.

Setting of the study: Safdarjung Hospital, New Delhi.

Population: The population comprised caregivers of head injury patients in neurosurgery ward.

Sample: 60 caregivers of head injury patients.(30 experimental group and 30 in the control group.) admitted in neurosurgery ward of Safdarjung Hospital.

Sampling technique: Purposive sampling technique is used to select the subject for the study, as per the availability of the sample and keeping in the mind the objective of the study experimental and control group were selected. 30 caregivers of head injury patients in the experimental group and 30 in the control group.

Procedure:

- Ethical permission was taken from the Institutional Ethical Committee of Rajkumari Amrit Kaur College of Nursing, New Delhi to conduct the research study.
- Permission was obtained, to conduct the research study, from the Medical Superintendent of Safdarjung Hospital, New Delhi.
- The technique of data collection was a questionnaire on sample characteristics, structured knowledge questionnaire, structured practice rating scale were used for data collection. Paper and pencil was used to administer the tool.
- This contains 30 knowledge items of multiple-choice questions. Every correct answer is scored with one point and every wrong answer scores zero score. Thus, the maximum score is 30.
- A structured expressed practice check list was prepared to assess the practice of caregivers. It is composed of 20 items to assess the effectiveness of practices of caregivers in management of head injury patients. Each item has got three options, in which the first option with a score of 1, second one with 2and the third option is with 3.the maximum possible score was 60. The caregivers of head injury patients those do not have Ryle's tube are excluded from Ryle's tube related practice questions and scored out of 36.
- The developed structured knowledge questionnaire, expressed practice checklist and content was given to 9 experts in the field of nursing and medical (5Nursing experts and 4 Doctors) for assuring the content validity of the tool.
- In order to establish reliability of the tool the technique called KR 20 is used in knowledge questionnaire was found to be 0.81and Crohn Bach's Alpha is used in practice checklist was found to be 0.834.
- Formal administrative approval was obtained from the concerned authority to conduct the final study.
- Final study was conducted from 17th December to 6th January 2019 at the neurosurgery ward of Safdarjung Hospital, New Delhi.
- The purpose of the study was explained to the participants. After obtaining their willingness to participate in the study the data were collected from the sample subjects.

STATISTICAL ANALYSIS

- The data was analyzed using descriptive and inferential statistics.
- Demographic Data Analysis By Using Frequencies' And Percentage Of Experimental& Control Group.
- Mean, median, standard deviation of pre-test and posttest knowledge and practice scores of experimental group and control group.
- Computing "t" value to find out the significance of mean difference between pre-test and post-test knowledge and practice scores of experimental group.

- Computing the "t" value to find out the significance of mean difference between post-test knowledge and practice scores of experimental group and control group.
- Karl Pearson coefficient of correlation between posttest knowledge and post test practice scores of experimental group.
- Chi square test to seek association of selected factors to the post test knowledge and practice scores of experimental group.

RESULTS

TABLE 4.1 Frequency and percentage distribution of caregivers of head injury patients by age, gender, education, relationship with patient, occupation, religion, income and previous experience in taking care of head injury patients. N=60

SNO	SAMPLE CHARACTERISTICS	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE	Total	Total
		EXPERIMENTAL n=30		CONTROL n=30			60
1	AGE						
	25-35yr	13	43%	10	33%	23	38%
	36-45yr	10	34%	11	37%	21	35%
	46-55yr	4	13%	6	20%	10	17%
	56-65yr	3	10%	3	10%	6	10%
2	GENDER						
	Male	19	64%	18	60%	37	62%
	Female	11	36%	12	40%	23	38%
3.	EDUCATION STATUS						
	Primary	6	20%	4	13%	10	17%
	10th Std	8	27%	10	33%	18	30%
	12th Std	6	20%	11	37%	17	28%
	Graduate &above	10	33%	5	17%	15	25%
4.	Relationship with patient						
	Mother	5	17%	2	7%	7	12%
	Father	5	17%	4	13%	9	16%
	Husband	4	13%	4	13%	8	13%
	Wife	2	7%	6	20%	8	13%
	Brother	8	27%	9	30%	17	28%
	Sister	4	13%	3	10%	7	12%
	Son	1	3%	1	3%	2	3%
	Daughter	1	3%	1	4%	2	3%
5.	Occupation						
	Employed	23	77%	19	64%	42	70%
	Unemployed	6	20%	10	33%	16	27%
	Business	1	3%	1	3%	2	3%
6.	Religion						
	Hindu	24	80%	18	60%	42	70%
	Christian	2	7%	7	23%	9	15%
	Muslim	1	3%	3	10%	4	7%
	Other	3	10%	2	7%	5	8%
7.	Income						
	<5000	11	36%	6	20%	17	28%
	5001-10000	7	23%	11	37%	18	30%
	10001-15000	5	17%	4	13%	9	15%
	15001-20000	5	17%	7	23%	12	20%
	>20000	2	7%	2	7%	4	7%
8.	Previous experience in taking care of Head injury patients						
	Yes	2	7%	1	4%	3	5%
	No	28%	93%	29	96%	57	95%

Table 2 Mean, Median, Standard Deviation of Pre-Test and Post-Test Scores of Experimental and Control Group N=60

GROUP	Knowledge test	Mean	Median	Standard deviation
Experimental Group(n=30)	Pre-test	14.1	14	1.88
	Post- test	23.3	23.5	2.21
Control Group (n=30)	Pre-test	14	14	1.5
	Post test	13	13	2.5

Table -3 Mean, Mean difference, Standard deviation difference, Standard error of mean difference and 't' value of pretest and post -test knowledge scores of caregivers in experimental group regarding management of head injury patients.

Knowledge Test	Mean	Mean D	SDD	SEMD	t value
Pre- test	14.1				
Post test	23.3	9.2	0.33	0.922	9.97*

n=30

*** t value for df (29) level=1.70, P<0.05= significant at 0.05 level**

The data presented in table 3 indicates that the mean post -test knowledge score of experimental group (23.3) was higher than their pre-test knowledge score (14.1) with a mean difference of 9.2. The obtained mean difference was statistically significant as evident from 't' value of 9.97 for df (29) at0.05 level. Thus, it established that the differences obtained in mean pre-test and post-test knowledge score was a true difference not by chance.

Table 4 Mean, Mean Difference, Standard Deviation, Standard Error of Mean difference and 't' value of post -test knowledge scores of experimental and control group of caregivers regarding management of head injury patients. N =60

GROUP	Knowledge score	MEAN	Mean difference (MD)	SD_D	SE_{MD}	't' value
Experimental Group	Post test	23.3	10.3	0.29	0.729	14.12*
Control group	Post test	13				

***t value for df (58) level=1.67, P<0.05= significant at 0.05 level**

The data presented in table 4 indicates that the mean post- test knowledge score of experimental group (23.3) was higher than the pre-test knowledge score of control group (13) with a mean difference of 10.3. The obtained mean difference was found to be statistically significant as evident from 't' value of 14.12for df (58)at 0.05 level. Thus, it is established that the difference obtained in mean pre-test and post -test knowledge scores was a true difference and not by chance.

Table 5 Mean, Median, Standard Deviation of Pre-Test and Post-Test Practice Scores of Experimental and Control Group N=60

GROUP	Practice Score	Mean	Median	Standard deviation
Experimental Group(n=30)	Pre-test	57.8	59.2	6.99
	Post- test	82.8	83.3	6.56
Control Group (n=30)	Pre-test	60.8	60.6	6.14
	Post test	59.6	59.7	6.64

Table 6 Mean, Mean difference, Standard deviation, Standard Error of Mean Difference and 't'value of pre-test and post-test practice scores of caregivers in the experimental group regarding management of head injury patients. N=30

Practice Scores	Mean	Mean difference	SD_D	SE_{MD}	't' Value
Pre-Test	57.8				
Post-test	82.8	25	14.30	2.62	9.54*

***t value for df (29) level=1.70, P<0.05= significant at 0.05 level**

Table-7 Mean, Mean Difference, Standard Deviation Of Difference, Standard Error Of Mean Difference And 't' Value Of Post-Test Practice Scores Of Experimental And Control Group Of Caregivers On Management Of Head Injury Patients. N=60

Practice Scores	Mean	Mean difference	SD_D	SE_{MD}	't' Value
Experimental group	82.8				
Control group	57.8	25.0	13.40	1.73	14.45*

*** t value for df (58) level=1.67, P<0.05= significant at 0.05 level**

Table 8 Karl Pearson Co-Efficient Of Correlation Between Post-Test Knowledge Scores & Post-Test Practice Scores Of Care Givers In The Experimental Group N=30

Variables	Mean	SD	'r'
Knowledge Score	23.3	2.21	.670*
Practice Score	82.8	6.56	

***r value for df (28) 'r'=0.381, significant at 0.05 level**

Table 9 CHI SQUARE VALUES SHOWING ASSOCIATION BETWEEN SELECTED FACTORS AND POST TEST KNOWLEDGE SCORES OF CARE GIVERS. N=30

SNO	Post- test Knowledge Score		No of patients		Chi Square value (X^2)		DF
			Below median	Above median	Obtained Value	Table Value	
A.	Age in years	25-35	4	9	3.64	7.82	3
		36-45	6	4			
		46-55	3	1			
		56-65	2	1			
B	Gender	Male	9	10	0.6	3.84	1
		Female	6	5			
C	Level of Education	Primary	3	3	4.1	7.82	3
		10	6	2			
		12	1	5			
		Graduate& above	5	5			
D	Relationship	Mother	2	3	6.583	14.07	7
		Father	2	3			
		Brother	4	4			
		Sister	3	1			
		Son	0	1			
		Daughter	0	1			
		Wife	2	0			
		Husband	1	3			
E	Occupation	Employed	11	12	1.04	5.9	2
		Unemployed	3	3			
		Business	1	0			
F	Religion	Hindu	12	12	3.18	7.82	3
		Christian	0	1			
		Muslim	1	1			
		Other	1	2			
7.	Income	<5000	3	8	10.51	9.49	4
		5001-10000	2	5			
		10001-15000	5	0			
		15001-20000	3	2			
		>20000	2	0			
8.	Previous experience in taking care of Head injury patients				0	3.84	1
		Yes	1	1			
		No	14	14			

This indicates that knowledge did not depend on the selected factors. The knowledge is independent and not influenced by selected factors.

Table 10 CHI SQUARE VALUES SHOWING ASSOCIATION BETWEEN SELECTED FACTORS AND POST TEST PRACTICE SCORES OF CARE GIVERS. N=30

SNO	Post- test Expressed Practice Score		No of patients		Chi Square value (X^2)		DF
			Above median	Below median	Obtained Value	Table Value	
A.	**Age in years**	**25-35**	**5**	**8**	**4.16**	**7.82**	**3**
		36-45	**8**	**2**			
		46-55	**2**	**2**			
		56-65	**2**	**1**			
B	**Gender**	**Male**	**11**	**8**	**0.03**	**3.84**	**1**
		Female	**6**	**5**			
C	**Level of Education**	**Primary**	**4**	**2**	**0.64**	**7.82**	**3**
		10	**5**	**3**			
		12	**3**	**3**			
		Graduate& above	**5**	**5**			
D	**Relationship**	**Mother**	**4**	**1**	**2.38**	**14.07**	**7**
		Father	**2**	**3**			
		Brother	**5**	**3**			
		Sister	**1**	**3**			
		Son	**0**	**1**			
		Daughter	**0**	**1**			
		Wife	**2**	**0**			
		Husband	**3**	**1**			
		Employed	**15**	**8**			

E	**Occupation**	**Unemployed**	**2**	**4**	**2.93**	**5.9**	**2**
		Business	**0**	**1**			
F	**Religion**	**Hindu**	**12**	**12**	**0.63**	**7.82**	**3**
		Christian	**1**	**0**			
		Muslim	**2**	**0**			
		Other	**2**	**1**			
G	**Income**	**<5000**	**6**	**5**	**0.79**	**9.49**	**4**
		5001-10000	**5**	**2**			
		10001-15000	**3**	**3**			
		15001-20000	**3**	**2**			
		>20000	**1**	**1**			
H	**Previous experience in taking care of Head injury patients**				**0.07**	**3.84**	**1**
		Yes	**1**	**1**			
		No	**16**	**12**			

This shows that the practice is independent on its own and not influenced by the selected factors.

DISCUSSIONS

In this section, major findings of the present study have been discussed with the result obtained by other researches on management of head injury patients.

❖ Knowledge and practices of the caregivers on management of head injury patients

Findings of the present study indicated that there is deficit in the knowledge with mean difference (10.3)and practice mean difference(25) of the caregivers on management of head injury patients. These findings consistent with another studies [(2),(3),(4)] concluding that the knowledge deficit present among caregivers before planned teaching programme.

❖ Effectiveness of planned teaching programme on management of head injury patients

The present study findings revealed that the planned teaching programme was effective to improve the knowledge and practices of caregivers with 90% increase in the knowledge and practices of caregivers. This study is concurrent with the findings of different types of educational activities like planned teaching programme [(5),(6),(7)] structured teaching programme[(8)]which showing that the planned teaching programme regarding management of head injury patients is effective to increase the knowledge &practices of caregivers.

Limitations

The study was limited to one of the major public sector hospital of the capital, where the head injury patients admitted.

Recommendations

On the basis of the findings of the study, the following recommendations are offered for further research:

1.The study can be replicated on a large sample to validate the findings and make generalizations.

2.Furthur studies must be focused on outcomes in prognosis of head injury patients.

3.The similar studies can be conducted using more effective strategies with the help of health care packages like videos and multimedia.

4.The study can be replicated in nursing personnel and student nurses.

5.The study can be conducted in assessing the level of anxiety and coping mechanism of caregivers of head injury patient.

CONCLUSIONS

On the basis of the findings the following conclusions were drawn:

1. There is a knowledge deficit existed among caregivers regarding management of head injury patients as evident from pre-test knowledge score.
2. Education and counseling on different aspects of management of head injury patients was not provided to all caregivers.

3. Respondents knowledge on management of head injury patients was very low.
4. The present study identified poor comprehensive knowledge and practices of management of head injury patients in the study area in general.
5. The planned teaching programme was effective to increase the care givers knowledge regarding management of head injury patients.
6. The planned teaching programme was effective to increase the care givers practices in management of head injury patients.
7. The planned teaching programme helped the care givers to maintain confidence in management of head injury patients.

Implications Of The Study

The findings of the present study have implications for nursing practice, nursing administration, nursing education and nursing research.

Nursing practice

Modern society demands a greater accountability and increased efficiency and effectiveness from health care organizations. Nursing care is no more only task oriented, fragmented care, it demands holistic and comprehensive care for the well-being of client and their family members. The modern philosophy of nursing giving the importance of meeting the total needs of patients through the holistic nursing care.

The nurses should take responsibility in educating the caregivers regarding management of head injury patients.

- Findings of the study revealed that caregivers had knowledge deficit about management of head injury patients. So it is the responsibility of the nurses to improve their knowledge and practices through various interventions like teachings, demonstrations etc.
- Nurses should be accountable to provide information and counseling services to the caregivers to cope up with the head injury patients.

Nursing Education

Nursing education must supply the nation with Registered Nurses prepared for a wide range of roles and responsibilities: providing direct care to patients in hospitals, nursing homes, and patients' homes; helping to safeguard the health of community and school populations; assisting with ambulatory care of individuals and families; performing clinical nurse specialist services; administering nursing services at both middle and top management levels; conducting nursing research; and providing professional and educational leadership to the profession. Therefore, in order to ensure nursing students to capable of giving education and counseling to care givers attention to be given to nursing education in the training period as it is the student life can be molded and helped to develop a sense of responsibility and accountability towards the profession.

- The nursing curriculum should emphasis the education of caregivers regarding management of head injury patients since it is very helpful in prognosis of head injury patients and helps in prevention of complications.
- Nurse educators should motivate the students to give emphasis on educations of caregivers of head injury patients during their hospital stay.
- Students must be provided enough theoretical and practical information regarding management of head injury patients.

Nursing Administration

The advancement in world make it necessary for nurses to increase their competencies and skills concerning in many aspects of caring the patients. Nurses must acquire this skills and knowledge by active participation in learning classes and continuing education. So that the possible care can be provided to patients and education to their caregivers. The modifications in the nursing administrative level should be brought from national level to unit level administration where the

individual care is provided. The present study has important implications for the nursing administration, because without the administrational support no changes can be brought out in the nursing profession.

- Nurse administrator should find out the capable nursing personnel in giving the education for the caregivers and their ability to be promoted.
- Staff development programme should be organized and motivated to staff to update their knowledge and skills.
- To improve the capability of caregivers the skilled person should be present for strengthening counseling services.
- There has to be efficient supervision by nurse administrators to ensure systematic services provided.

Nursing Research

Research is the essential component of any profession. Evidence based care and Research is essential to develop body of knowledge to test strategies, to ensure that its action makes a difference. Research should be promoted to render quality and cost-effective care to the patients. As compared to the developed countries the research in the nursing field is very less in our country for evidence- based practice.

- There is a scarcity of literature related to the teaching regarding management of head injury patients globally and specially in India the research to be conducted more in this area to ensure evidence-based practice.
- Even though some surveys are conducted in the incidence of head injury patients, more interventional studies to be conducted in this area in our country.

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