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A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM REGARDING KNOWLEDGE AND PRACTICE ON GLASGOW COMA SCALE AMONG STAFF NURSES WORKING AT DHIRAJ HOSPITAL, IN ORDER TO DEVELOP A NURSING PROTOCOL ON NEUROLOGICAL ASSESSMENT

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ABSTRACT

Background: Nurses plays a vital role by having an array of varied roles and responsibilities in health care settings, especially in critical care settings. Critical care is an area where patients of altered consciousness with different etiological factors receive comprehensive nursing care. The Glasgow Coma Scale (GCS) is a neurological assessment scale that strives to provide a reliable, objective method of recording a person's conscious state for both initial and follow-up patient assessment. Research work reveals the poor knowledge of nurses in using GCS scale and it is necessary for them to up to date and equip with good knowledge and as well as in practice.

Aim: To evaluate the effectiveness of planned teaching program on knowledge and practice regarding the Glasgow coma scale among staff nurses.

Material and Method: An Evaluative research approach with Pre-experimental one group pre-test and post-test design was used to evaluate the effectiveness of planned teaching program on nurses' knowledge and practice about GCS. A total of 60 staff nurses working in critical care areas of Dhiraj Hospital were selected using Non-probability Consecutive sampling technique. After getting permission from ethical committee, the data was collected using a structured knowledge questionnaire and a practice checklist before and after administration of planned teaching program on GCS. The collected data was analysed using descriptive and inferential statistics.

Results: Regarding knowledge, the results revealed that in pretest majority 24(80%) had poor

knowledge and 6(20%) had average knowledge where as in posttest majority 24(80%) had good knowledge and 6(20%) had average knowledge regarding Glasgow coma scale among staff nurses. Regarding practice the results revealed that in pretest half of staff nurses 15(50%) had poor practice and 15(50%) had moderate practice where as in posttest majority 28(93.3%) had good practice and 2(6.7%) had moderate practice regarding Glasgow coma scale among staff nurses.

Conclusion: The findings indicate that planned teaching program was effective in improving the knowledge and practice on Glasgow coma scale among staff nurses and developing a protocol helps in universal application of the neurological assessment scale in practice.

Keywords: Effectiveness, Staff Nurse, Planned Teaching program, Glasgow Coma Scale Protocol, Neurological nursing assessment, Knowledge, Practice

INTRODUCTION

The GCS scale was initially developed by Teasdale and Jennet in 1974 with the intention of standardizing the evaluation of the level of awareness in brain injured patients [1, 3]. It has mostly been used to assess prognosis, evaluate various patient populations, and track neurological condition [4]. Over time, more clinical specialties and research groups have used it to gauge consciousness [5].

Best eye-opening, best verbal response, and best motor response are the three components of GCS [6]. The scale is numerical, with a total score ranging from 3 to 15 [7]. The total score is used to categorize brain injuries into three categories: mild, moderate, and severe [8]. GCS evaluation, which is regarded as a core nursing duty, may be required in situations involving any type of neurologic disease for nurses caring for seriously ill patients [9]. Failure to measure GCS is a frequent cause of avoidable mortality and morbidity after a head injury because of delays in the diagnosis and management of issues [10]. On the front lines of medical care, nurses interact with patients [11]. They should therefore be knowledgeable about the GCS assessment and assured of their skills [12]. However, numerous studies evaluating the GCS knowledge of nurses and other professionals have shown a lack of comprehension and incorrect implementation of this crucial tool [13].

The use of GCS requires previous knowledge and skills. This scale applied carefully and systematically is fundamental for assessment and establishment measures of the patient in order to guarantee reliability – which is critical to follow-up the progress of such patients [14-20].

MATERIALS AND METHODS:

An Evaluative research approach with Pre-experimental one group pre-test and post-test design was used to evaluate the effectiveness of planned teaching program

on nurses' knowledge and practice about GCS. A total of 60 staff nurses working in critical care areas of Dhiraj Hospital were selected using Non-probabilityConsecutive sampling technique. The data collection tool was developed and checked for validity and reliability. After getting permission from ethical committee, the data was collected using a structured knowledge questionnaire and a practice checklist before and after administration of planned teaching program on GCS. The collected data was analysed using descriptive and inferential statistics.

DATA ANALYSIS:

The collected data was fed in a Microsoft Excel coding sheet. Descriptive and inferential statistics was used to analysis the data.

Table 1: Frequency and Percentage Distribution of Demographic Variables (N=30)

S. No	Demographic Variables	frequency	Percentage
1	**Age in years**		
	a. 21-25 years	4	13.3
	b. 26-30 years	17	56.7
	c. 31-40 years	7	23.3
	d. 41 years and above	2	6.7
2	**Gender**		
	a. Male	4	13.3
	b. Female	26	86.7
3	**Educational qualification**		
	a. ANM/GNM	7	23.3
	b. Post B.Sc Nursing	2	6.7
	a. B.Sc Nursing	20	66.7
	b. M.SC Nursing	1	3.3
4	**Years of experience**		
	a. 0-5 years	26	86.7
	b. 6-10 years	4	13.3
	c. 11-15 years	0	0
	c. 16 and Above	0	0
5	**Monthly income (in Rupees)**		
	a. 6,000 – 10,000	0	0
	b. 11,000 – 15,000	20	66.7
	c. 16,000 – 20,000	10	33.3
	d. Above 21,000	0	0
6	**Current ward allotted**		
	a. Special	5	16.7
	b. ICU	8	26.7
	c. OT	3	10
	d. Other	14	46.6

Table 2: Pre-test and post-test level of knowledge regarding Glasgow coma scale among staff nurses (N=30)

LEVEL OF KNOWLEDGE	Pre-Test		Post-Test	
	f	%	f	%
Poor knowledge	24	80	0	0
Average knowledge	6	20	6	20
Good knowledge	0	0	24	80

Table 3: Pre-test and post-test level of practice regarding Glasgow coma scale among staff nurses (N=30)

LEVEL OF PRACTICE	Pre-Test		Post-Test	
	f	%	f	%
Poor practice	15	50	0	0
Moderate practice	15	50	2	6.7
Good practice	0	0	28	93.3

Table 4: Effectiveness of planned teaching program regarding Knowledge and practice on Glasgow coma scale among staff nurses (N=30)

Effectiveness	Pre-test Mean (SD)	Post-test Mean (SD)	Mean D	t value	df	P value
Knowledge	4.33 (1.76)	11.70 (1.62)	7.37	19.92	29	0.001*
Practice	3.67 (0.88)	7.77 (0.74)	4.10	22.57	29	0.001*

*p<0.05 level of significance

Table 5: Association between pre-test Knowledge on Glasgow coma scale among staff nurses with their selected demographic variables (N=30)

S. No.	Demographic Variables	Pre-test knowledge		χ2 value	df	p value
		Poor	Average			
1	Age in years a. 21-25 years b. 26-30 years c. 31-40 years d. 41 years and above	3 13 7 1	1 4 0 1	3.070	3	0.381[NS]
2	Gender a. Male b. Female	3 21	1 5	0.072	1	0.788[NS]
3	Educational qualification a. ANM/GNM b. Post B.Sc Nursing c. B.Sc Nursing d. M.SC Nursing	3 2 18 1	4 0 2 0	8.036	3	0.045*
4	Years of experience a. 0-5 years b. 6-10 years c. 11-15 years d. 16 and Above	20 4 -- --	6 0 -- --	1.154	1	0.283[NS]
5	Monthly income (in Rupees) a. 6,000 – 10,000 b. 11,000 – 15,000 c. 16,000 – 20,000 d. Above 21,000	-- 15 9 --	-- 5 1 --	0.938	1	0.333[NS]
6	Current ward allotted a. Special b. ICU c. OT d. Other	3 7 3 11	2 1 0 3	2.299	3	0.513[NS]

*p value < 0.05 level of significance; NS-Non Significant

Table 6: Association between pre-test practices on Glasgow coma scale among staff nurses with their selected demographic variables (N=30)

S. No.	Demographic Variables	Pre-test practice		χ2 value	df	p value
		Poor	Moderate			
1	Age in years a. 21-25 years b. 26-30 years c. 31-40 years d. 41 years and above	2 8 3 2	2 9 4 0	2.202	3	0.532[NS]
2	Gender a. Male b. Female	4 11	0 15	2.615	1	0.232*
3	Educational qualification a. ANM/GNM b. Post B.Sc Nursing c. B.Sc Nursing d. M.SC Nursing	2 1 11 1	5 1 9 0	7.486	3	0.043*
4	Years of experience a. 0-5 years b. 6-10 years c. 11-15 years d. 16 and Above	12 3 -- --	14 1 -- --	1.154	1	0.283[NS]

5	Monthly income (in Rupees)			0.600	1	0.439[NS]
	a. 6,000 – 10,000	--	--			
	b. 11,000 – 15,000	9	11			
	c. 16,000 – 20,000	6	4			
	d. Above 21,000	--	--			
6	Current ward allotted			4.133	3	0.247[NS]
	a. Special	1	4			
	b. ICU	6	2			
	c. OT	1	2			
	d. Other	7	7			

*p value < 0.05 level of significance; NS-Non Significant

RESULTS

Results regarding knowledge showed that mean post-test knowledge score was 11.70±1.62 higher than mean pre-test knowledge score 4.33±1.76 with mean difference of 7.37 and obtained (t value=19.92, df=29, p=0.001) was found statistically highly significant at p<0.05 level. Results regarding practice showed that mean post-test knowledge score was 7.77±0.74 higher than mean pre-test practice score 3.67±0.88 with mean difference of 4.10 and obtained (t value=22.57, df=29, p=0.001) was found statistically highly significant at p<0.05 level. Findings indicate that planned teaching program was effective in improving the Knowledge and practice on Glasgow coma scale among staff nurses. It was revealed that educational qualification was found significant association at p<0.05 level but other demographic variables such as age, gender, years of experience, monthly income and current ward allotted were not found any significant association at p<0.05 level with pre-test knowledge regarding Glasgow coma scale among staff nurses.

DISCUSSION:

The frequency and percentage distribution of socio- demographic variables of staff nurses shows that According to their age, majority 17(56.7%) were in 26-30 years of age, 7(23.3%) were in 31-40 years of age, 4(13.3%) were in 21-25 years of age and 2(6.7%) were in 41 years of age and above. The pre-test and post-test level of knowledge regarding Glasgow coma scale among staff nurses reveals that in pretest majority 24(80%) had poor knowledge and 6(20%) had average knowledge where as in posttest majority 24(80%) had good knowledge and 6(20%) had average knowledge regarding Glasgow coma scale among staff nurses. The pre-test and post-test level of practice regarding Glasgow coma scale among staff nurses reveals that in pretest half of staff nurses 15(50%) had poor practice and 15(50%) had moderate practice where as in posttest majority 28(93.3%) had good practice and 2(6.7%) had moderate practice regarding Glasgow coma scale among staff nurses.

The association between pre-test knowledge regarding Glasgow coma scale among staff nurses with their selected demographic

variables which was tested by using chi-square test reveals that educational qualification was found significant association at $p<0.05$ level but other demographic variables such as age, gender, years of experience, monthly income and current ward allotted were not found any significant association at $p<0.05$ level with pre-test knowledge regarding Glasgow coma scale among staff nurses. The association between post-test knowledge regarding Glasgow coma scale among staff nurses with their selected demographic variables which was tested by using chi-square test reveals that gender and educational qualification was found significant association at $p<0.05$ level but other demographic variables were not found any significant association at $p<0.05$ level with pre-test knowledge regarding Glasgow coma scale among staff nurses.

CONCLUSION:

In this present study, among 30 staff nurses it was found that planned teaching program on GCS is effective in increasing the knowledge (80%) and practice (93.3%) of staff nurses working in critical care areas of Dhiraj hospital. In further implementation in day to day practice, a Nursing protocol on Nursing assessment was developed which can be universally followed by all staff nurses while managing neurological patients in emergency and critical care areas in the hospital.

CONFLICT OF INTEREST: No conflict of interests

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