Research Article

Assess the Effects of Planned Teaching Programme on Knowledge regarding Glasgow Coma Scale among Staff Nurses Working in Selected Hospital at Bhopal

N Kumar[1], Neha Dubey[2]

[1]Department of Nursing, Sarvapalli Radha krishnan University, Bhopal, Madhya Pradesh, India.
[2]Professor & Vice-Principal, RKDF College of Nursing, Bhopal, Madhya Pradesh, India.
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Abstract

The present study was conducted to assess the effect of Planned teaching Programme on knowledge regarding Glass coma Scale among staff nurses working in selected hospital at Bhopal. An experimental design was chosen with pre-test and post-test of experimental and control group. The sample size was 60 Staff Nurses divided into two groups as 30 in experimental and 30 in control group. The tools used for conducting the study included demographic data, self structured questionnaire to assess knowledge of experimental and control group. The experimental group was given Planned teaching Programme as an intervention and the control group was used for comparison only without interventions. The data were analyzed with statistics and unpaired t-test was done. The study clearly shows that there was a significant gain in knowledge of Staff Nurses in experimental group with PTP which emphasizes that Teaching Staff Nurses on Glass Coma Scale improves Nursing Care of Unconscious patients. Therefore the Staff Nurses can be benefited with PTP to improve knowledge and practice on Unconscious patients.

Keywords: Glass Coma Scale, PTP, Staff Nurses and Nursing Care

Introduction

The Glasgow Coma Scale (GCS) is the most common scoring system used to describe the level of consciousness in a person following a traumatic brain injury. Basically, it is used to help gauge the severity of an acute brain injury.[1]

The Glasgow Coma Scale was first published in 1974 at the University of Glasgow by neurosurgery professors Graham Teasdale and Bryan Jennett. The Glasgow Coma Scale (GCS) is used to objectively describe the extent of impaired consciousness in all types of acute medical and trauma patients. The scale assesses patients according to three aspects of responsiveness: eye-opening, motor, and verbal responses. Reporting each of these separately provides a clear, communicable picture of a patient's state.[2]

The findings in each component of the scale can aggregate into a total Glasgow Coma Score which gives a less detailed description but can provide a useful 'shorthand' summary of the overall severity. The score expression is the sum of the scores as well as the individual elements. For example, a score of 10 might be expressed as GCS10=E3V4M3.[3]

The Glasgow Coma Scale divides into three parameters: best eye response (E), best verbal response (V) and best motor response (M). The levels of response in the components of the Glasgow Coma Scale are 'scored' from 1, for no response, up to normal values of 4 (Eye-opening response) 5 (Verbal response) and 6 (Motor response).[4]

The total Coma Score thus has values between three and 15, three being the worst and 15 being the highest. [4]

Corresponding Author: Neha Dubey, RKDF College of Nursing, Bhopal, Madhya Pradesh, India.
E-mail Id: dneha155@gmail.com
Orcid Id: https://orcid.org/0000-0002-9994-7231
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Eye-opening (E)

- 4=spontaneous
- 3=tosound
- 2=topressure
- 1=none
- NT=nottestable

Verbal Response (V)

- 5=orientated
- 4=confused
- 3=words,butnotcoherent
- 2=sounds,butnowords
- 1=none
- NT=nottestable

Motor Response (M)

- 6=obeyscommand
- 5=localizing
- 4=normalflexion
- 3=abnormalflexion
- 2=extension
- 1=none
- NT=nottestable

Problem Statement

Anexperimental study to assess the effectiveness of planned teaching programme onknowledge regarding Glasgow coma scale among staff nurses working in selected Hospital at Bhopal.

Objectives of the Study

The objectives of the study were:

- Assess the level of knowledge regarding Glasgow coma scale among staff Nurses working in selected hospital.
- Assess the effectiveness of planned teaching programme regarding Glasgow Coma scale among staff nurses by comparing pre and post intervention Knowledge.
- Compare the knowledge of experimental and control group regarding Glasgow Coma Scale with planned teaching programme.
- Associate the pre interventional level of knowledge of experimental and control group regarding Glasgow coma scale with selected demographic variables.

Null Hypothesis

H_1: There will be no significant Association between pre-test knowledge score regarding Glasgow Coma Scale with selected demographic variables.

H_2: There will be no significant Association between post-test knowledge score regarding Glasgow Coma Scale with selected demographic variables.

H_3: There will be no significant association between the pre-test and post-test Knowledge Score Regarding Glasgow Coma Scale among Staff Nurses.

Materials and Method

The study was conducted at RKDF Medical College, Hospital & Research Center, Bhopal. It is one of the teaching hospitals of Bhopal district in Madhya Pradesh. The hospital consists of 730 beds in total. The duration of the study was 06 weeks.

The research approach adopted in the study was evaluative approach to assess the effectiveness of Planned Teaching Program among staff nurses. This teaching programme will help staff nurses to assess the level of unconsciousness by Glasgow coma scale which will help the patient to get better quality of patient care. It will also improve nursing practice and standard of patient care.

True experimental research design with pre-test and post-test of experimental and control group was used in the study. Because the study ful filled the criteria of a true experimental research deign because it has manipulation, control group and randomization needed for true experimental research deign.

A sample is a portion of the study that has been selected to represent the population of interest.

The samples were 60 staff nurses who fulfilled the inclusive criteria out of that 30 were taken in the experimental group & 30 were taken as control group. The study was limited to six weeks and availability of willing staff nurses to participate in the study within our medical setup.

The purpose of using a sampling technique is to increase representativeness and to decrease bias and sampling error.

In this study, a total of 60 staff nurses were selected by Simple random technique during 6 weeks.

Variable Sunder Study

Independent Variable

The Planned Teaching Programme on Glasgow Coma Scale.

Dependent Variable

Knowledge is independent variable which is dependent on Planned Teaching Programme.

Demographic Variables

Age, Educational qualification, professional experience, clinical experience in ICU & Neurowards, previous exposure on GCS among staff nurses.

Criteria for Sample Selection

Inclusion Criteria

- Staff nurses present at the time of data collection.
- Staff nurses working in the selected hospitals.
- Staff nurses willing to participate in the study.

Exclusion Criteria

- Staff nurses who were not willing to participate in the study.
- Staff nurses with postgraduate degree in Medical-Surgical nursing department.
- Auxiliary Nurse and mid wives are not included.

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Development and description of the tool

The investigator used the following steps for preparation of the tools for the study.

- Consultation with experts from the field of study.
- Extensive review of literature.
- The investigator did an extensive review of related literature from books, journals, manuals; reports published researches, newspapers and internet to develop study instruments.
- Preparation of the final draft of the tools.
- Editing of the tools.

Section A

Demographic variables.

Section B

Self constructed Questionnaire with thirty items to assess knowledge of staff nurses on GCS.

Section C

Preparation of Planned Teaching Programme on GCS for Intervention on experiment al group.

Scoring Procedure

Each question had 4 options from which the sample has to choose 01 correct answer. The right answer was scored as 01 and the wrong option was scored as zero. The scoring was interpreted as below:

- Inadequate knowledge-score less than1-49%
- Moderate knowledge-score between 50-75%
- Adequate knowledge-more than 75%

We have modified the scoring system as above and 50% in medical field is accepted as pass. Moderate and adequate knowledge have interval of 25 marks.

Intervention

The Planned Teaching Programme of 45 minutes duration was given to staff nurses of the experimental group.

Method of Data Collection

An informed written consent was taken from the samples and the permission to conduct the study was obtained from the authorities. Reliability and validity of the tool was establish before the data collection. The data was collected in the following phases.

Phase 1: The structured questionnaire consisting of 30 items was administered on staff nurses of experimental and control group to assess the pre-test knowledge score GCS.

Phase 2: The Planned Teaching Programme session of 45 minutes was carried out for staff nurses of the experimental group while the samples in the control group continued with the normal routine of the hospital.

Phase 3: The same questionnaire was administered on seventh day for both experimental and control group.

Plan for Data Analysis

The plan for data analysis was as follows:

- Organization of data then the information was analyzed in terms of frequency and percentage.
- The knowledge on GCS, analyzed in terms of frequency, percentage, mean and standard deviation.
- Unpaired test issued to test the significant difference in the knowledge between the experimental and the control group.

Result

The result showing that there was a significant gain in knowledge of Staff Nurses in experimental group with PTP which emphasizes that Teaching Staff Nurses on Glass Coma Scale improves Nursing Care of Unconscious patients.

A similar study was conducted by Sonal Patel & Ravindra H.N., on staff nurses with the title to evaluate the Effectiveness of Planned Teaching Programme Regarding Knowledge of Glasgow Coma Scale among Staff Nurses. The results revealed that there is a great need for the staff nurses to update their knowledge regarding Glasgow coma scale. The results revealed that there is a great need for the staff nurses to update their knowledge regarding Glasgow coma scale. The study reveals that PTP could be used as an effective teaching strategy.[5]

The demographic variables of staff nurses GCS are given below:

Table1.Frequency and Percentage distribution of subjects as per age, religion, professional experience in year, educational qualification, socio-economic status, source of knowledge (N=60) (Experimental 30 and Control 30)

Characteristics	Category	Subjects group			
		Experimental		Control	
		N	%	N	%
Age group (in years)	21-30	14	46.67	13	43.34
	31-40	11	36.67	12	40
	41-50	03	10	04	13.34
	51-60	02	6.67	01	3.34
Gender	Male	09	30	08	26.67
	Female	21	70	22	73.33

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Professional experience (in years)	Below 1 year	19	19.3	21	70
	1-5 years	06	20	05	16.67
	6-10 years	03	10	03	10
	11-15 years and above	02	6.67	1	3.34
Educational qualification	Diploma in nursing	12	40	12	40
	B.Sc. nursing or PBBSc nursing	10	33.34	11	36.67
	M.Sc.nursing	08	26.67	07	23.33
Institution where experience gained	Govt. hospital	03	10	02	6.67
	Private hospital	27	90	28	93.33
	Community primary health centers	00	00	00	00
Source of knowledge	Newspapers & magazines	25	83.33	25	83.33
	Relatives	05	16.67	05	16.67
	CNE on GCS	00	00	00	00

It is observed from the result as shown in Table 1, that in experimental group a majority of staff nurses 14 (46.67%) belongs to 21-30 years of age, than 11 (36.67%) staff nurses were between 31-40 year of age, 3 (10%) of staff nurses belongs to 41-50 years of age group and 2 (6.67%) of staff nurses belongs to 51-60 years of age group. In control group a majority of staff nurses 13 (43.34%) belongs to 21-30 years of age, then 12 (40%) staff nurses were between 31-40 year of age, 4 (13.34%) of staff nurses belongs to 41-50 years of age group and 1 (3.34%) of staff nurses belongs to 51-60 years of age group.

In professional experience of experimental group, majority of staff nurses that is 19 (19.3%) had below 1 year of professional experience, 06 (20%) staff nurse shad 1-5 years of experience, 03 (10%) of staff nurses had 6-10 years and 02 (6.67%) of staff nurses had 11-15 years and above of professional experience. In control group, majority of staff nurses 21 (70%) had below 1 year of professional experience, 05 (16.67%) staff nurses had 1-5 years of professional experience, 03 (10%) of staff nurses had 6-10 years of professional experience and 01 (3.34%) of staff nurses had 11-15 years and above of professional experience.

On considering educational qualification majority of staff nurses 12 (40%) were Diploma in nursing, 10 (33.34%) staff nurses were B.Sc. nursing/ Post-basic B.Sc. nursing and 08 (26.67%) of staff nurses were M.Sc. nursing in experimental group. In control group, majority of staff nurses 12 (40%) were Diploma in nursing, 11 (36.67%) staff nurses were B.Sc. nursing/ Post Basic B.Sc. nursing and 07 (23.33%) of staff nurses were M.Sc. nursing.

Regarding institution where experience gained, majority of staff nurses 27 (90%) were trained in private hospital and 03 (10%) staff nurses were trained from government hospital in experimental group & in the control group 02 (6.67%) staff nurses were trained from government hospital and a majority of staff nurses thatis 28 (93.33%) were trained from private hospitals.

The source of knowledge for a majority of staff nurses was newspaper and magazines i.e. 25(33.33%) in experimental group and the same was found in control group. Besides 05(16.67%) staff nurses acquired knowledge on GCS the same percentage was applicable to control group staff nurses also.

With regards to the experimental group. A majority of staff nurses in pre-test that is 23 (77%) had in adequate knowledge and 07 (23.33%) of the mhad moderate knowledge but in post-test 11 (27.5%) of the mhad moderate knowledge and 26 (87%) of the mhad adequate knowledge.

Table 2.Frequency and percentage distribution of overall knowledge score of experimental and control group (N=60)
(Experimental 30 and Control 30)

S. No.	Level of knowledge	Experimental group				Control group			
		Pre-test		Post-test		Pre-test		Post-test	
		f	%	f	%	f	%	f	%
1.	In adequate (1-49%)	23	77	-	-	24	80	22	73.33
2.	Moderate (50-75%)	07	23.33	04	13.33	06	20	08	27
3.	Adequate (>75%)	-	-	26	87	-	-	-	-

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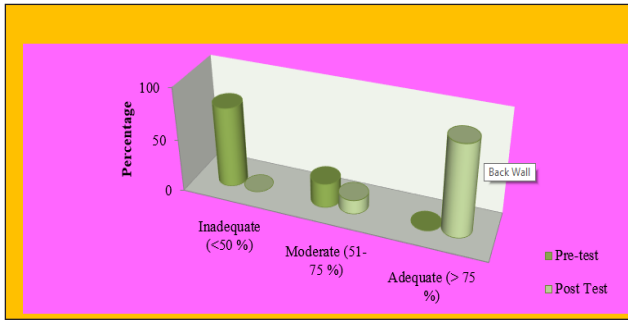*Ind. J. Holist. Nurs. 2018; 9(4)*

Figure 1.Bar graph showing the level of knowledge of the experiment al group

With regards to the control group, majority of staff nurses in pre-test that is 24(80%) had in adequate knowledge and 06(20%) of the mhad moderate knowledge. In post-test 22(73.33%) of the mhad in adequate knowledge and 08(27%) of the mhad moderate knowledge (51-75%).
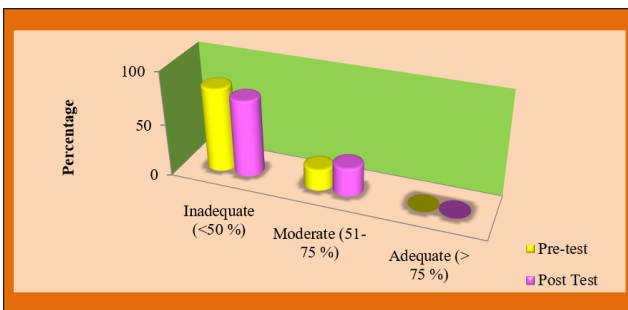

Figure 2.Bar graph showing the level of knowledge of control group

Table 3, shows post-test mean of experiment al group is 22.133 with standard deviation 1.6 where as in control group the post-test mean is 12.033 and standard deviation is 1.1. The obtained value is 1.2. Since the Calculated Value (CV) is more than Table Value(TV) at the 0.005 level sand at 29 degree offered or therefor the nulll hypothesis is rejected that infers that there is a significant difference with Planned Teaching Programme on knowledge gained among staff nurses of the experiment al group.

Figure 3.Bar graph showing the comparison of overall pre-test and post-test mean, standard deviation between experimental and control group

Discussions

Assessment of Knowledge Score

The overall percentage of knowledge in experiment al group for pre-test was in adequate i.e. 77% staff nurses and the level of knowledge score was moderate in 23.33% of staff nurses and the post-test knowledge score increased after video assisted teaching to 13.33% as moderate knowledge and 87% of staff nurses showed the knowledge score as adequate. Where as in Pre-test of control group 80% of staff nurses showed in adequate knowledge and 20% staff nurses showed moderate knowledge and 0% as adequate knowledge against in post-test of control group showed 73.33% in adequate knowledge score for staff nurses and 27% as moderate knowledge score and 0% staff nurses were in adequate knowledge score.

The comparison of overall pre-test and post-test mean, standard deviation, mean difference and paired t-value shows post-test mean of experiment al group is 22.133 with standard deviation 1.6 where as in control group the post-test mean is 12.033 and standard deviation is 1.1. The obtained t value is 1.2. Since the Calculated Value (CV) is more than Table Value (TV) at the 0.005 levels and at 29 degree of free do m therefore the null hypothesis is rejected that infers that there is a significant difference with planned teaching programme on knowledge gained among staff nurses of the experiment al group.

Table3.Comparison of overall pre-test and post-test mean, standard deviation, mean difference and paired-'t' value between experimental and control group (N=60) (Experimental 30 & Control30)

S. No.	Group	Mean		Standard deviation		Mean difference	Paired t-test
		Pre-test	Post-test	Pre-test	Post-test		
1.	Experimental	11.833	22.133	1.2332	1.6	10.3003	1.2 df-29
2.	Control	11.733	12.033	1.4	1.1	0.3	0.46818 df-29

Association of Post-test Knowledge of Experimental and Control with Selected Demographic Variables

Association of post test knowledge of experimental and control group with their selected demographic variables was done using chi-square test. Out of many variables for association, age, experience and the training institutes were associated in contribution towards knowledge.
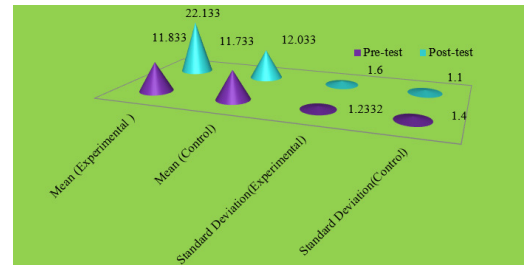
Conclusion

The study showed an increase in knowledge score on GCS had increased after video assisted teaching on the subject. Hence, we should include planned teaching programme to promote knowledge on the subject among staff nurses.

Confidentiality of Data

The feed back forms obtained from staff nurses are kept

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confidentially. Only the principal investigator has the access to these documents.

Conflict of Interest: None

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