

EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING GLASGOW COMA SCALE AMONG THE STAFF NURSES WORKING IN THE INTENSIVE CARE UNIT

Vaibhav Sharma¹, Jitendra Pujari²

¹M. Sc (N) II year student. Venkateshwar College of Nursing, Umarda, Udaipur.

²Vice Principal Venkateshwar College of Nursing, Umarda, Udaipur.

Corresponding Author:

Vaibhav Sharma

M. Sc (N) II year student. Venkateshwar College of Nursing, Umarda, Udaipur.

Email : sharmavaibhav856@gmail.com

Received 2022 July 22, Accepted 2022 July 23, Published - 2022 August 09

ABSTRACT:-

The Glasgow coma scale (GCS) is a tool medical professionals use to objectively evaluate the degree to which a person is conscious comatose. The accuracy of the assessment data and the nurses critical thinking skill to identify the change, interpret its significance and take appropriate action from the foundation of neuroscience nursing practice. Nurses need to acquire a wide range of theoretical and practical knowledge in order to provide the appropriate level of care for patients. Present study aims to assess the effectiveness of planned teaching programme on knowledge regarding Glasgow coma scale among the staff nurses working in the intensive care unit in selected hospitals at Udaipur. The sample size for the study was 60 staff nurses was selected using Non Probability Convenient Sampling technique. Tool consists of socio-demographic variables and Self structured knowledge questionnaire on GCS scale was administered to collect the data. Data was analyzed using descriptive and inferential statistics. Findings showed that during pre-test majority 48(80%) of the sample had moderately adequate knowledge followed by 8(13.3%) had inadequate knowledge and 4(6.7%) had adequate knowledge regarding Glasgow coma scale but after administration of planned teaching programme, majority 54(90%) had adequate knowledge and only 6(10%) had moderately adequate knowledge Glasgow coma scale. Mean post-test knowledge score 16.68 ± 1.76 was higher than pre-test mean knowledge of staff nurses were 9.76 ± 2.45 with mean difference of 9.62 with obtained t value 12.93 at $df=59$ was statistically highly significant at $p<0.05$ level. Study results concluded that planned teaching programme was effective in improving the knowledge of staff nurses regarding GCS scale. Study suggests that there should be provision for in-service education for nursing personnel to update their knowledge, so that they can impart it to the patient care routinely because GCS is a reliable and valid tool to measure the level of consciousness. Nursing professionals are responsible for ongoing monitoring and identification of altered consciousness level in patients.

Keywords: Effectiveness; Planned Teaching Programme; Glasgow COMA Scale

INTRODUCTION:

Neurological assessment usually depends on the condition of the person and the urgency of the situation. Assessment of mental status, level of consciousness, language and speech, perceptual status and sensory status are vital. The purpose of neurological assessment for the advanced practice nurse functioning in an expanded role is: To identify the presence of nervous system dysfunction. To determine the effects of nervous system dysfunction on activities of daily living and independent function. To detect life threatening situations. To establish neurological database for the patient. To provide database upon which nursing diagnosis will be based¹.

The Neurological Examination is a systemic process that includes a variety of clinical tests, observations, and assessments designed to evaluate a complex system. It divided into five components: Cerebral function, Cranial nerves, Motor system, Sensory system, and Reflexes to determine whether the Nervous System is Impaired. It is the foundational database for the nursing students to use in making nursing diagnosis, planning care implementing interventions and evaluating care for the patient².

The accuracy of the assessment data and the nurses critical thinking skill to identify the change, interpret its significance and take appropriate action from the foundation of neuroscience nursing practice. The neurological assessment is a key component in the care of the neurological patient. It can help the Staff Nurses to detect the presence of neurological disease or injury and monitor its progression, determine the type of care and gauge the patients' response to intervention. To perform neurological assessment, nurses should have specialized knowledge and skill, which will enable them to assess the patient and diagnose the condition.³

The use of GCS requires previous knowledge and skills. This scale applied carefully and systematically is fundamental for assessment and establishment measure of the patient in order to guarantee reliability –which is critical to follow –up the progress of such patients. To assess level of consciousness is part of health professional's routine, mainly those working at critical care units .i.e., emergency services (ES) and intensive care units (ICU), whom are well trained and more experienced in the use of GCS with higher levels of reliability and precision⁴

Nursing is a dynamic and evolving profession, in which knowledge is central to its accountability. Nurses need to acquire a wide range of theoretical and practical knowledge in order to provide the appropriate level of care for patients. Nurses are responsible to continuously assess patients. One of the major challenging that nurses find during assessment is the neurological dysfunctions; especially in patients with coma.⁵ The most important assessment of neurological examination in the clinical setting is assessing level of consciousness (LOC) which is considered the first step. Rapid and correct assessment will minimize the neurological complications, unnecessary and incorrect diagnostic procedures, mortality and morbidity. The basic requirements for any assessment to be effective are the availability of an objective, valid, reliable and accurate tools. The first neurological tool used to assess patients' level of consciousness is the Glasgow Coma Scale (GCS). It is considered as the most common less subjective coma assessment tool.⁶

Each one of the staff nurses working in hospital must learn the skills in neurological assessment. Data suggests that incorrect neurological assessment can be reduced by 80% just by learning and practicing the neurological assessment.⁷ The investigator while working in critical Care unit that there is lack of knowledge regarding Glasgow coma scale through her clinical experience the investigator observed that most of the deaths among the neuro patient occur due to mismanagement and lack of knowledge among the health professional regarding Glasgow coma scale. So the researcher felt that the staff nurses must be skilled about Glasgow coma scale so as to reduce mortality and morbidity among patient of brain injury. Keeping in view the above fact, the investigator planned to assess and compare the knowledge regarding neurological assessment among staff nurses working in selected hospitals.

STATEMENT PROBLEM:

A Study To Assess The Effectiveness Of Planned Teaching Programme On Knowledge Regarding Glasgow Coma Scale Among The Staff Nurses Working In The Intensive Care Unit In Selected Hospitals At Udaipur.

Aim of study:

To evaluate the effectiveness of planned teaching programme on knowledge regarding glasgow coma scale among the staff nurses working in the intensive care unit

Objectives:

1. To assess the pre test knowledge score of staff nurses working in intensive care unit regarding Glasgow coma scale.
2. To assess the post test knowledge score of staff nurses working in intensive care unit regarding Glasgow coma scale.
3. To evaluate the effectiveness of planned teaching programme on knowledge regarding Glasgow coma scale among the staff nurses working in the intensive care unit
4. To find out association between pre test knowledge score regarding Glasgow coma scale among the staff nurses working in the intensive care unit and selected demographic variables.

METHODOLOGY:

Research Approach

For the present study quantitative research approach was adopted to assess the effectiveness of planned teaching programme on knowledge regarding Glasgow coma scale among the staff nurses working in the intensive care unit.

Research Design

Pre-experimental study design (One group pre-test post-test design) was adopted to accomplish the objectives of the study

Research Setting

The present study was conducted at selected Hospital, Udaipur.

Variables under study

Dependent variable: Knowledge regarding Glasgow coma scale among the staff nurses working in intensive care unit.

Independent variables: Planned teaching programme on knowledge on Glasgow coma scale

Population

The population of the present study was staff nurses working in intensive care unit.

Sample size and Sampling technique:

The sample size for the study was 60 staff nurses was selected using Non Probability Convenient Sampling technique.

Description of tool:

Part- A: Socio demographic profile of staff nurses. Socio demographic data includes age, gender, religion, type of family, educational qualification, monthly income, place of residence and source of knowledge.

Part- B: Self structured knowledge questionnaire on GCS scale which includes 25 items related to meaning, indication, purpose, components and assessment of GCS scale.

Reliability:

The reliability for the knowledge questionnaire was measured by Spearman's brown prophecy formula and was found to be (0.83) hence the tool was found to be highly reliable.

Ethical Consideration:

Formal approval was obtained from ethical committee of the institution and permission was obtained from concerned authority of the hospital, Udaipur. Written informed consent was obtained from all the participants and anonymity was maintained.

Results and Discussion: Table 1: Frequency and percentage distribution of demographic variables

N=60

S. No	Demographic variables	Frequency	Percentage
1	Age in years		
	a. 20-25 years	31	51.7
	b. 26-30 years	12	20
	c. 31-35 years	8	13.3
	d. Above 35 years	9	15
2	Gender		
	a. Male	47	78.3
	b. Female	13	21.7
3	Religion		
	a. Hindu	47	78.4
	b. Christian	8	13.3
	c. Muslim	5	8.3

4	Type of family a. Nuclear b. Joint	41 19	68.3 31.7
5	Educational qualification a. GNM b. B. Sc or PB.B.Sc Nursing c. M. Sc Nursing	29 28 3	48.3 46.7 5
6	Monthly income a. Below 5,000 b. 5,001-10,000 c. 10,001-15,000 d. Above 15,000	0 5 37 18	0 8.3 61.7 30
7	Place of residence a. Urban b. Rural	21 39	35 65

Table 1 depicts that according to their age (51.67%) of staff nurses were in the age group of 20-25 years and least (20%) were in the age group of 26-30 years, (13.33%) were in the age group of 31-35 years and (15%) were in the age above 35 years. Regarding gender, (78.33%) of the respondents belongs to male and (21.67%) of the respondents were female gender. With regard to religion (78.33%) were Hindus followed by (13.33%) Christian and rest of the respondents (8.33%) were Muslims. As per type of family (68.33%) of the respondents belongs to nuclear family and (31.67%) of the respondents were living with joint family. According to educational qualification (48.33%) had G.N.M and (46.67%) had B.Sc. N. & P.B. B.Sc. N. (5%) had M.Sc. Nursing education qualification. About monthly income, (8.33%) staff nurses were 5001/- to 10000/- per month salary and (61.67%) staff nurses were 10001/- to 15000/- per month salary and only (30%) staff nurses more than 15000/- per month salary. Regarding residency (35%) of the respondents residing in urban area and (65%) of the respondents were residing in rural areas.

Table -2. Frequency and percentage distribution of knowledge of staff nurses regarding GCS scale
N=60

Level of knowledge	Pre-test		Post-test	
	f	%	f	%
Inadequate knowledge	8	13.3	0	0
Moderately Adequate knowledge	48	80	6	10
Adequate knowledge	4	6.7	54	90

Data in Table-2 shows that during pre-test majority 48(80%) of the sample had moderately adequate knowledge followed by 8(13.3%) had inadequate knowledge and 4(6.7%) had adequate knowledge regarding Glasgow coma scale but after administration of planned teaching programme, majority 54(90%) had adequate knowledge and only 6(10%) had moderately adequate knowledge Glasgow coma scale. Study was supported by **Anitha Jaya kumar (2016)** conducted a study to assess the knowledge of staff on GCS scale revealed that 65% had average knowledge and 35% had good knowledge. Another study was similar conducted by **Berlin Thomas (2015)** to assess the effect of educational programme on GCS scale among staff nurses stated that during pre-test 56% had average knowledge, 25% had good knowledge and 19% had poor knowledge while after administration of educational programme 92% had good knowledge and 8% had average knowledge on GCS scale.

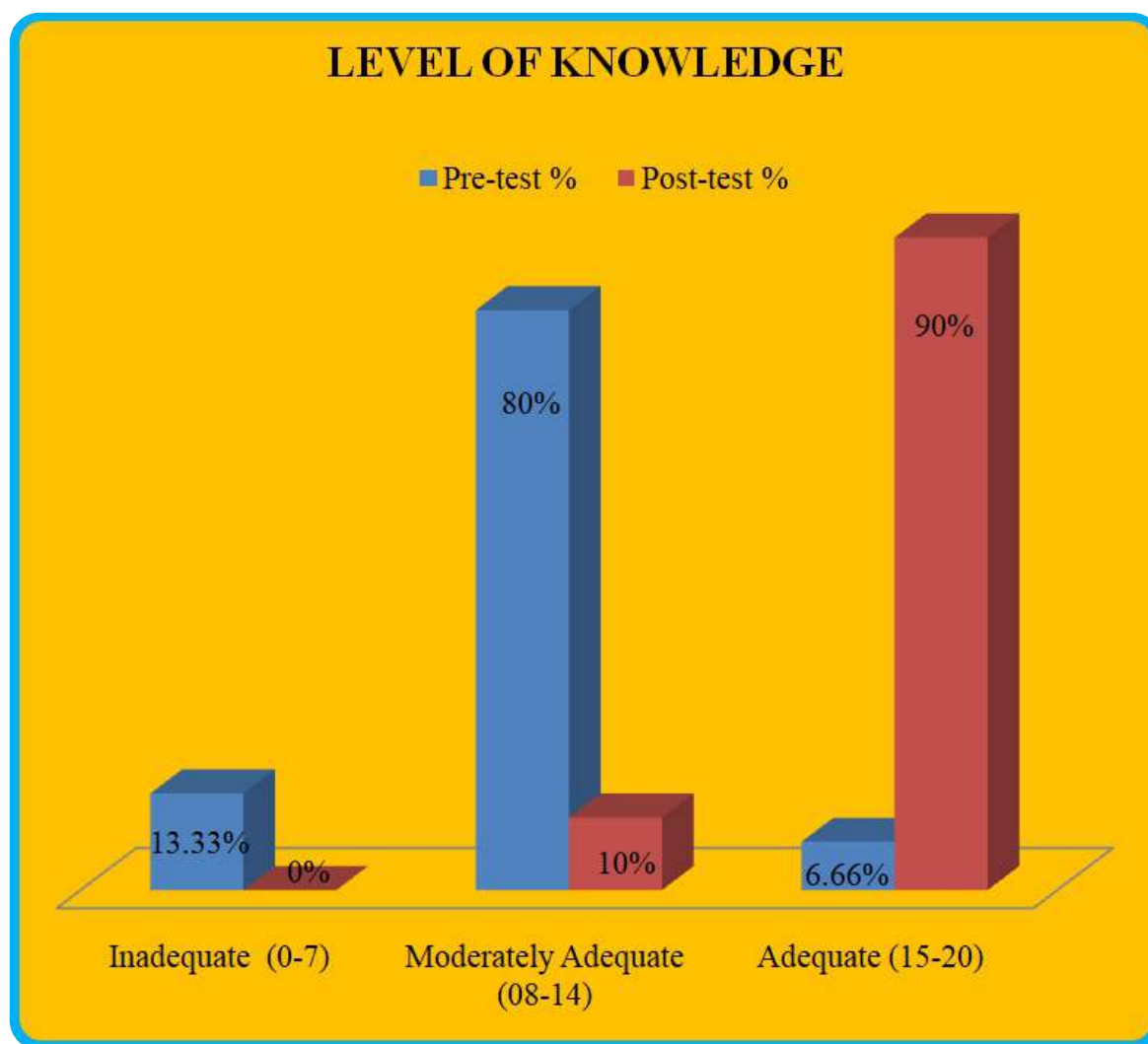


Figure-1: Distribution of pre-test and post-test level of knowledge regarding Glasgow coma scale among staff nurses

Table 3: Effectiveness of planned teaching programme on knowledge regarding glasgow coma scale among the staff nurses working in the intensive care unit

Comparison	Mean	Mean %	Standard deviation	Mean difference	't' value
Pre-test	9.76	48.8	2.45	9.62	12.93**
Post-test	16.68	83.4	1.76		

Table 3 illustrates that mean post-test knowledge score 16.68 ± 1.76 was higher than pre-test mean knowledge of staff nurses were 9.76 ± 2.45 with mean difference of 9.62 with obtained t value 12.93 at $df=59$ was statistically highly significant at $p < 0.05$ level. Findings conclude that planned teaching programme was effective in improving the knowledge of staff nurses regarding GCS scale. Study results were congruent with **Kaur M, Singh R (2017)** conducted a study to assess the effectiveness of structured teaching programme on knowledge on GCS scale among nurses revealed that mean pre-test score was 8.45 and in post-test was 15.90 with $t=11.35$ was found statistically significant. **Manohar H, Kulkarni R (2014)** conducted a study on effect on teaching programme on GCS scale among nurses stated that teaching programme was effective in increasing the knowledge and practice of staff nurses on GCS scale.

Table 4: Association between pre-test knowledge regarding GCS scale among staff nurses with their selected socio-demographic variables.

S.N.	Demographic Variables	Pre-test Knowledge			Chi square test	d.f.	Tab. value
		In adequate	Moderately Adequate	Adequate			
1	Age in years						
	A) 20-25 years	5	26	0	3.62	6	12.59
	B) 26-35 years	1	10	1			
	C) 36-45 years	1	5	2			
	D) Above 45 years	1	7	1			
2	Gender						
	A) Male	5	41	1	10.88*	2	5.99
	B) Female	3	7	3			
3	Religion						
	A) Hindu	4	41	2	7.06	6	12.59
	B) Christian	2	5	1			
	C) Muslim	2	2	1			
	D) Any others	0	0	0			
4	Type of family						
	A) Nuclear	4	34	3	7.12*	2	5.99
	B) Joint	4	14	1			
5	Educational qualification						
	A) G.N.M.	5	22	2	3.82	4	9.48
	B) B.Sc. N. OR P.B. B.Sc. N.	2	25	1			
	C) M.Sc. Nursing	1	1	1			
6	Monthly income						
	A) Below 5,000	0	0	0	14.26*	6	12.59
	B) 5,001 – 10,000	0	3	2			
	C) 10,001 – 15,000	3	33	1			
	D) Above 15,000	5	12	1			
7	Place of Residence						
	A) Urban	2	16	3	28.79*	2	5.99
	B) Rural	6	32	1			

*p<0.05 level of significant.

Table-4 depicts the association between the pre test level of knowledge and socio demographic variable using Chi-square test. The Chi-square value shows that there was significance association between the pre test knowledge with demographic variables such as Gender, type of family, monthly income and place of residence but age, religion and educational qualification were found statistically non significant at p<0.05 level. Study results were similar conducted by **Muthu K Selvam (2015)** stated that gender was found significant association with knowledge of staff nurses. Another study was carried by **Milan K, Kulal R (2016)** revealed that age and educational qualification of nurses were non significant with knowledge regarding GCS scale among staff nurses.

NURSING IMPLICATIONS

The findings of this study can be utilized in all the domains of nursing i.e. nursing practice, nursing education, nursing research and nursing administration, the implications are:

NURSING PRACTICE

- Nurse should have efficiency in assessing the patients consciousness.
- Nurses must have adequate knowledge and skill to perform an assessment of Glasgow coma scale among patients with neurological problems.
- Nurses must be aware of the consciousness of the patient which could be better for providing the quality of care for the patients.
- Nurses should have adequate practice on using glasgow coma scale to enhance the patients with neurological problems and to monitor their level of conscious.

NURSING EDUCATION

- The nurses should be trained on assessment of patients conscious by using glasgow coma scale.
- The nurses should be educated about appropriate use of GCS scale among patients with neurological problems.
- The nurses should have training sessions about recent changes in evidence based practices and to ensure update of their knowledge and practice.
- Educate the nurses students about use of GCS scale and make them to perform among the patients with altered level of conscious.

NURSING ADMINISTRATION

- The nurse administrator should plan for an in service education for nursing personnel regarding performance of GCS scale.
- Nurse administrator should implement strict protocol on use of GCS scale among the neurological patients.
- Nurse administrator should plan for periodic evaluation of nurses on use of GCS scale and their practice/performance in the clinical setting.
- Nurse administrator should implement in-service education/continuing education on GCS scale and its practice.
- Nurse administrator should plan for implementation of GCS scale by the nursing students in clinical setting with adequate practice.

NURSING RESEARCH

- The nursing research has to be carried to evaluate the knowledge and practice among nurses on GCS scale.
- Nursing research helps the nursing personnel to apply evidence based practices into clinical practice on providing efficient care to the patients with neurological problems.
- Nursing research to be conducted to assess the performance of nurses on use of GCS scale among patients with altered consciousness.
- Nursing research to be conducted to evaluation of nurses and their performance on use of GCS scale in clinical settings.

CONCLUSION:

Findings of the study concluded that majority of the staff nurses were lacking knowledge on GCS assessment and planned teaching programme was effective in improving the knowledge of staff nurses regarding GCS scale. Study suggests that there should be provision for in-service education for nursing personnel to update their knowledge, so that they can impart it to the patient care routinely because GCS is a reliable and valid tool to measure the level of consciousness. Nursing professionals are responsible for ongoing monitoring and identification of altered consciousness level in patients.

REFERENCES:

1. Emejulu, J., Nkwerem, S. Assessment of physicians' knowledge of Glasgow coma score. *Nigerian Journal of Clinical Practice*. 2014; 17 (6): 729-734.
2. Ellis A, Cavanagh S J. Aspects of neuro surgical assessment using the Glasgow Coma Scale. *Intensive Crit Care Nurs*1992; 8(2):94-9.
3. Williams, L. and Hopper, P.: *Understanding Medical Surgical Nursing*, 3rd ed., Philadelphia: F. A. Davis Company, 2007; 1110-1112.
4. Heim, C., Schoettker, P., Gilliard, N., and Spahn, D. R. Knowledge of Glasgow coma scale by air rescue physicians. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*. 2009; 17 (39): 1-6.
5. Palmer R, and Knight J. Assessment of altered conscious level in clinical practice. *Br J Nurs*2016; 15: 1255-1259.
6. Nguyen, T.H.,and Sun-Mi C.T. Accuracy of Glasgow Coma Scale Knowledge and Performance among Vietnamese Nurses, *Perspectives in Nursing Science* 2011; 8(1): 54-61.
7. Gabbe, Belinda J, Cameron, Peter A. The status of the Glasgow Coma Scale. *Journal of Emergency Medicine*. 2003; 15: 353-360.
8. Anitha Jaya kumar. A study to assess the knowledge of staff nurses on GCS scale. *Manipal Journal of Nursing and Health Sciences*. 2016; 5(2): 11-16.
9. Berlin Thomas. Effect of educational programme on GCS scale among staff nurses. *Journal of neuroscience nursing*. 2015; 17(6): 234-239.
10. Kaur M, Singh R. A study to assess the effectiveness of structured teaching programme on knowledge on GCS scale among nurses. *International journal of nursing education*. 2017; 9(2): 45-52.
11. Manohar H, Kulkarni R. Effect of teaching programme on GCS scale among nurses. *International Journal of Novel Research in Healthcare and Nursing*. 2014; 3(2): 210-211.
12. Muthu K Selvam. A study on GCS scale among nurses. **Journal of clinical review. 2015; 3(5): 1-5.**
13. Milan K, Kulal R. GCS assessment among nurses working in intensive care units. [Africa Journal of Nursing and Midwifery](#). 2016; 18(2):74-86.