“To assess the effectiveness of planned teaching programme regarding knowledge of Glasgow coma scale among Staff nurses working in Intensive Care Units and Emergency Departments”.

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Abstract

Introduction
Obstetric crises are medical conditions that put the lives of pregnant mothers and their newborns in jeopardy. From conception until birth, a severe problem affects around 15% of all pregnant women. Nurses must be able to combine competence, compassion, and critical thinking in order to be successful. Essential traits for caring for a woman with an obstetric crisis must be had by midwives, and they must be developed. Objectives of the study: 1. To assess the existing knowledge regarding Glasgow coma scale among Staff nurses working in Critical care units and Emergency departments. To assess the effectiveness of planned teaching program. To assess the post test score of knowledge regarding Glasgow coma scale among Staff nurses working in Intensive care units and Emergency departments. To compare the pretest and posttest associate the selected demographic variables with the knowledge on Glasgow coma scale among Staff nurses working in Intensive care units and Emergency departments. Methods The study was Quasi-experimental in nature. The research approach adopted for the study was Quantitative research approach. Sample consisted of 60 staff nurses working. Non probability simple random sampling technique was used for the collection of data. Results The outcome for demographic factors is as follows: With respect to the age, 34(56.6%) belongs to age less than 25 yrs., 15(25%) belongs to 25-30 years of age, 7(11.6%) belongs to 31-35 years of age, 4(6.6%) belongs to more than 35 years. In accordance with gender 12 (20%) are males and 48(80%) are females. By based on their religion 17(28.3%) of them are Christians, 39(65%) are Hindus, 3(5%) are Muslims and only 1 belongs to other religion. With regard to the course, most of them studied G.N.M. i.e. 31(51.6%), and remaining studied B.Sc.( N) & M.Sc.(N), i.e. 26.6% & 6.6% respectively. No one falls into others category. With respect to the ward in which they work,
most of them worked in general wards 21(35%), and remaining worked in specialized units, neuro-wards, other units, i.e. 20,14,5 respectively. **Conclusion** The conclusion drawn on the basis of the findings of the study shows that the structured teaching programme was effective in improving the level of knowledge of the staff nurses working in labour room, antenatal & postnatal wards. Furthermore, it is recommended that though there was improvement in the knowledge of staff nurses, more training programmes in service education on the effectiveness of planned teaching programme by comparing pretest and post-test mean and standard deviation of knowledge among staff nurses on Glasgow coma scale.

**Keywords:** Effectiveness, Glasgow Scale, Nurses, Knowledge,
variety of terms were used to describe the state of consciousness, e.g. awake, lethargic, stuporous, comatose which often meant different things to different people. 

The neurological assessment is a key component in the care of an unconscious patient. Neurological assessment is a set of standard observations which relate to the evaluation of the integrity of an individual’s nervous system. The neurological assessment is carried out to determine the site, nature of the neurological damage and to monitor the prognosis of the patient. The knowledge of neurological evaluation techniques will allow the nurse to gather accurate information of client’s medical condition and to prepare accurate plan of care. Neurological assessment is an essential component of early warning scores used to identify serious patients. There are numerous tools to determine the level of consciousness. The most common tool used to determine the level of consciousness is the Glasgow Coma Scale. The Glasgow Coma Scale is an internationally recognized tool which assesses the conscious level of a patient. It was used with ease and helped to standardize clinical observations of patients with impaired consciousness.

The Glasgow Coma Scale has been a part of neurologic practice for 35 years and has proved to be an objective and reproducible way to describe the patient’s level of consciousness and arousal. Administering the scale takes 3-5 minutes and requires no special equipment. External stimuli are given to a patient, and the tester rates 3 neurological aspects of the patient’s response: eye opening, limb movement, and vocalization. The GCS is often incorporated to give continuous monitoring under standard conditions. This leads to a determination of a trend in the patient’s condition, which can be more readily interpreted than by just using words and a description.

**Need of study**

The Glasgow coma scale is the corner stone of the neurological assessment of patients used by both nursing and medical staff. The Glasgow Coma Scale is a neurological scale that aims to give a reliable, objective way of recording the conscious state of a person for initial as well as subsequent assessment.
The Glasgow Coma Scale was introduced in 1974 aiming at standardizing assessment of level of consciousness in patients with head injury. Since its development in the 1970’s it has been used in a variety of clinical situations to monitor changes in a number of key neurological functions, including level of consciousness, pupil reaction and limb movement. The GCS is a key component of scoring systems, treatment protocols, and general clinical decision making for critically ill patients. Rapid and accurate GCS scoring is essential for the adequate assessment and treatment of the trauma patient. The GCS has proven robust for the assessment of early coma.

The Glasgow Coma Scale is the best measure of the overall brain dysfunction caused by traumatic brain injuries. Traumatic brain injuries caused by motor vehicle accidents, falls is recorded as a leading cause of death and lifelong disability for young adults. Whenever there is an acute brain insult, whether from head injury or non-traumatic events such as stroke or poisoning or there is an immediate need to assess the degree of brain dysfunction. This is done using a Glasgow Coma Scale that determines what interventions are needed and provides a baseline to judge progress towards recovery. The GCS score is one of the first things assessed at the time of injury and continues to be assessed throughout the course of treatment in TBI patients. Every year, millions of people succumb to Traumatic Brain Injuries. Traumatic brain injuries are a leading cause of morbidity, mortality, disability and socioeconomic losses around the world. As per WHO estimates, nearly 1.5 to 2 million persons are injured and 1 million succumb to death every year in India. Immediate trauma care is a neglected area in India.

The mortality rate due to brain injury at the global level is estimated to be 97/100,000 population per year. In India it is the seventh leading cause of mortality contributing to 11% of total deaths; 78% of cases are due to road traffic injuries alone. In the state of Karnataka, there were over 6,500 deaths on the roads in 2006 and nearly 50,000 injuries. Because of high levels of under reporting the true figures are likely to be much higher, particularly for the non-fatal crashes and less serious injuries. The World Health Organisation [WHO] estimates that 5 million deaths occurred in every year in Intensive Care Units.

In India approximately 3.2 million ICU admissions are occurring in which 80% patients are in coma stage and in that 48,000 deaths are occurring. It was said that many patients show
signs of physiological deterioration before admission to ICU, cardiac arrest and death. If timely and appropriate detection by medical and nursing staff of physiological deterioration is undertaken it is likely to benefit patients. The most common signs were hypotension and a fall in Glasgow Coma Scale, that is, consciousness levels36.

**Researcher own views regarding this study**

A proper neurological assessment using the Glasgow Coma Scale is the essential part of nursing care. Hence, it is very essential for the nurse to have knowledge and skills about neurological assessment and the Glasgow Coma Scale. Therefore, the investigator has chosen this as her study to improve the nursing knowledge and skills regarding Glasgow Coma Scale and thus improve the care of the patients in the Critical care units.

**Aim of the study**

To assess the existing knowledge regarding Glasgow coma scale among Staff nurses working in Critical care units and Emergency departments. Find out associate the selected demographic variables with the knowledge on Glasgow coma scale among Staff nurses working in Intensive care units and Emergency departments.

**Methodology:**

The research approach used in the study is quantitative approach. The research approach adopted for the study was Quantitative research approach. Sample consisted of 60 staff nurses & simple random sample technique was used for the collection of data. The tool consisted of 2 parts- 1. Demographic data, & 2. Self-structured questionnaires on knowledge regarding Glasgow coma scale

**Reliability**

The Karl Pearson co-efficient correlation was established by using raw scores method and deviation method. Based on pre-testing and suggestions from experts modification and rearrangements of few items were done and the final tool was constructed. Karl-Pearson’s co-efficient of correlation was, r=0.80 and hence the tool was found to be reliable.

**Pilot study**
After conducting the pilot study, it was found that the study was feasible and practical to conduct the main study. The concerned authority and the samples were found to be cooperative, the questionnaire was relevant and the time and cost for the study was within the limit.

**Result**

The outcome for demographic factors is as follows: With respect to the age, 34 (56.6%) belongs to age less than 25 yrs., 15 (25%) belongs to 25-30 years of age, 7 (11.6%) belongs to 31-35 years of age, 4 (6.6%) belongs to more than 35 years. In accordance with gender 12 (20%) are males and 48 (80%) are females. By based on their religion 17 (28.3%) of them are Christians, 39 (65%) are Hindus, 3 (5%) are Muslims and only 1 belongs to other religion. With regard to the course, most of them studied G.N.M. i.e. 31 (51.6%), and remaining studied B.Sc.(N) & M.Sc.(N), i.e. 26.6% & 6.6% respectively. No one falls into others category. With respect to the ward in which they work, most of them worked in general wards 21 (35%), and remaining worked in specialized units, neuro-wards, other units, i.e. 20, 14, 5 respectively.

**PRETEST LEVEL OF KNOWLEDGE REGARDING GLASGOW COMA SCALE AMONG STAFF NURSES.**

<table>
<thead>
<tr>
<th>Domain</th>
<th>In adequate</th>
<th>Moderate</th>
<th>Adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;50</td>
<td>50-75%</td>
<td>&gt;75</td>
</tr>
<tr>
<td>No</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Level of knowledge</td>
<td>40</td>
<td>66.66%</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>33.33%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Areawise description of mean, Shows the frequency and percentage distribution of level of pretest knowledge of staff nurses on Glasgow coma scale Association between pretest knowledge scores in relation to selected demographic variables The association between pretest knowledge scores and selected demographic variables was assessed using Chi square test. The
result shows that there is no association between any demographic variable with knowledge regarding obstetric emergencies in nurses.

**POST TEST LEVEL OF KNOWLEDGE REGARDING GLASGOW COMA SCALE AMONG STAFF NURSES.**

<table>
<thead>
<tr>
<th>Domain</th>
<th>In adequate</th>
<th>Moderate</th>
<th>Adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Level of knowledge</td>
<td>0</td>
<td>0%</td>
<td>11</td>
</tr>
</tbody>
</table>

After conducting the Planned Teaching Programme among Staff Nurses, none of them had inadequate knowledge. 18.33% (11 staff nurses) have acquired moderate knowledge and 81.66% (49 staff nurses) could come up with adequate knowledge.

**Association of pre-test level of knowledge with in which ward of the hospital they worked, have they assessed the neurological status using GCS anytime, years of experience.**

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Inadequate</th>
<th>Moderate</th>
<th>Adequate</th>
<th>Chi-Square value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;50%</td>
<td>50-75%</td>
<td>&gt;75%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>In which ward of the hospital they worked</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) General wards</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>18.1%</td>
</tr>
<tr>
<td>b) Specialized units</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>18.1%</td>
</tr>
<tr>
<td>c) Neuro wards</td>
<td>0</td>
<td>0%</td>
<td>6</td>
<td>54.5%</td>
</tr>
<tr>
<td>d) Other units</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>9.09%</td>
</tr>
<tr>
<td>Have they assessed the neurological status using GCS anytime</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0%</td>
<td>8</td>
<td>72.7%</td>
<td>20</td>
</tr>
</tbody>
</table>
The analysis revealed that there was no statistical significant association of post-test level of knowledge with in which ward of the hospital do they work, have they assessed the neurological status using GCS anytime, years of work experience

**Discussion**

Analysis revealed the comparison of pre and post-test level of knowledge among staff nurses. The mean value of pre-test was 10.3 with the standard deviation of 3.72. The mean value of post-test was 23.25 with the standard deviation of 3.01. The improved mean value was 13.22. The paired ‘t’ value was (-17.36) which shows statistically high significance at p <0.001 level. This proved that there was a statistically significant difference between pre-test and post-test level of knowledge on Glasgow coma scale

The post-test findings showed that 49(81.66%) staff nurses improved to adequate level of knowledge, 11(18.33%) of them exhibited moderately adequate level of knowledge and none of them fell towards inadequate level of knowledge. The overall mean in the post test was 23.25 and standard deviation was 3.01. This proved that there was a significant improvement in the level of knowledge after the instruction of planned teaching programme.
Conclusion

Based on the study's findings, the following conclusions have been drawn: The first objective was to assess the existing knowledge regarding Glasgow coma scale among staff nurses working in Critical care units and Emergency departments. The analysis on pretest level of knowledge among staff nurses regarding Glasgow coma scale revealed that, most of them had inadequate knowledge i.e. 41(66.66%), 20(33.33%) of them had moderate level of knowledge and none of them exhibited adequate level of knowledge. The mean score of knowledge was 10.3 and standard deviation was 3.72. This indicates that there was an improvement in the knowledge for those staff nurses with inadequate or moderate level of knowledge. The post-test findings showed that 49(81.66%) staff nurses improved to adequate level of knowledge, 11(18.33%) of them exhibited moderately adequate level of knowledge and none of them fell towards inadequate level of knowledge. The overall mean in the post test was 23.25 and standard deviation was 3.01. This proved that there was a significant improvement in the level of knowledge after the instruction of planned teaching programme. The analysis revealed that there was no statistical significant association of post-test level of knowledge with age, gender, religion, course studied, in which ward of the hospital they work, information on whether they previously assessed the neurological status using GCS.

Conflict of interest- The authors certify that they have no involvement in any entity with any financial/ non-financial interest in the subject matter or materials discussed in this paper.

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