

Compare the effect of video assisted teaching VS lecture method on knowledge regarding Glasgow coma scale (GCS) among nursing students

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Abstract-

INTRODUCTION

Glasgow Coma Scale was first published in the year 1974 at the University of Glasgow by Neurosurgery Professors Graham Teasdale and Bryan Jennett. The Glasgow Coma Scale (GCS) is being 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 main aspects of responsiveness: eye-opening, motor, and verbal responses. Reporting each of these separately provides a clear and communicable picture of a patient's state.

STATEMENT OF THE PROBLEM

A study on comparison of Video Assisted Teaching Vs Lecture Method on Knowledge regarding Glasgow Coma Scale (GCS) among Nursing Students

OBJECTIVES

1. To assess the pre-test knowledge on Glasgow coma scale among the nursing students.
2. To assess the effect of lecture teaching method on Glasgow coma scale in improving the knowledge among nursing students.
3. To assess the effect of video assisted teaching on Glasgow coma scale in improving the knowledge among nursing students.
4. To compare the effect of video assisted teaching and lecture teaching method on Glasgow coma scale in improving the knowledge among nursing students

METHODOLOGY

A Quasi- Experimental study was undertaken to compare the effectiveness of video assisted teaching vs lecture method on knowledge regarding Glasgow coma scale among nursing students. The study was conducted among 1st and 2nd year nursing students at College of Nursing, PIMS in the month of September 2019. 76 nursing students were selected randomly i.e. 38 in each group. Pre-test was conducted to assess the knowledge on GCS using self administered questionnaire. Then the two experimental groups were given interventions respectively. On the 8th day, post test was conducted for both experimental groups. The data was analyzed for frequency, percentage, mean and standard deviation. Paired t test was done for finding out the effectiveness of the interventions. Independent t test was done to compare both the interventions.

RESULTS OF THE STUDY

The result of analysis of data shows that in experimental group-I the pre-test mean was 7.47, post test 10.79 with a standard deviation of 2.69 and 1.65 respectively. In experimental group-2 the pre-test was 8.45 post-test was 13.76 with the standard deviation of 2.62 and 2.55 respectively. The mean difference in pre-test was 0.98 and post test was 2.97 with 't' value 1.600 and -6.037 respectively. There was statistical significant difference between the mean knowledge level of lecture teaching method and video assisted teaching in post test at $p < 0.001$ by using independent 't' test

CONCLUSION

The current study findings suggest that video assisted teaching is an effective teaching method compared to the traditional lecture teaching method, and it can be easily administered to the student nurses, which in turn will improve the knowledge level as well as retention of the knowledge which has been acquired from the teaching.

Key Words: Glasgow coma scale, lecture method, video assisted teaching.

CHAPTER -I INTRODUCTION

BACKGROUND OF THE STUDY

Glasgow Coma Scale was first published by Neurosurgery Professors Graham Teasdale and Bryan Jennett within the year 1974 at the University of Glasgow. The Glasgow Coma Scale (GCS) is been accustomed objectively describe the extent of impaired consciousness all told varieties of acute medical and trauma patients. The GCS assesses responsiveness: eye-opening, motor, and verbal responses. Reporting each of those scores separately provides a transparent and communicable picture of a patient's state¹. The findings in each component of the dimensions can aggregate into a complete Glasgow Coma scale score which supplies a less detailed description of the patient but can provide a useful summary of the condition.² The GCS score expressed is that the sum of the scores yet because the individual elements. For instance, a GCS score of 10 could be expressed as GCS10 = E3V4M3.

Use of the dimensions became widespread within the year 1980 when the primary edition of the Advanced Trauma and Life Support organization recommended its use all told trauma patients. The World Federation of Neurological Societies (WFNS) used it for grading for subarachnoid haemorrhage in 1988,³ the dimensions and its total score have since been incorporated in numerous clinical guidelines and scoring systems for victims of trauma and significant illness.⁴ It covers patients of all ages, including preverbal children. The Glasgow Coma Scale could be a required component of the NIH (National Institute of Health) Common Data Elements for studies associated with head injury and is employed in additional than 75 countries.⁵

Assessment of responsiveness with the Glasgow Coma Scale is widely accustomed guide early management of patients with head injury and other acute brain injury. Decisions in additional severe patients include emergency management like securing the airway and triage to see patient safety. Decisions in less severely impaired patients include the necessity for radio imaging, admission for observation and discharge.

The reliability of the GCS Scale has undergone several studies. Although its reliability has been questioned in small number of reports, these have proved to be exceptions. Hence, a scientific review of all 53 published reports in 2016 concluded that 85% of the findings in higher quality studies showed substantial reliability as judged by standard criterion of a kappa statistic (k) above 0.6 [15]. The reproducibility of the full GCS Score was also found to be high with kappa greater than 0.6 in 77 you look after observations. A transparent beneficial effect on reliability resulted from education yet as training. To push this initiative, a regular structured approach to assessment has been formed by Teasdale GM et al.³

Alternatives to the GCS Scale are illustrated. These typically are derived either by shortening components of the dimensions or by adding extra components. The Simplified Motor Scale recognizes only three levels of motor response, this might be sufficient to support only binary decisions, for instance about intubation, in prehospital care and hospital room but it's no advantage over the GCS Score in identifying early mortality.^{6,7} These contracted scales inevitably convey very less information and can't match the discrimination provided by the GCS or GCS-P (GCS pupils score) in stratifying patients across the complete spectrum of early severity, in monitoring changes during take care of the individual or in regarding the prognosis for various late outcomes.

Further more complex scales include the "Full Outline of Unresponsiveness" - FOUR developed in neurological medical care 8 additionally to eye and motor responses derived from GCS, FOUR incorporates two additional brain stem and respiratory components. These additional features were found to own lesser relations to the end result of the patient than the attention and motor scales. The 'brain stem' feature has its basis within the observations of pupil size, cornea, and cough responses. The worth of assessing pupil reactivity is well established, but the extra contribution of the opposite features isn't clearly established. The premise of the respiratory subscale is that the rhythm of breathing, but the reliability of the feature isn't very clear, the pattern of breathing may be variable, is influenced by extra cranial factors, by sedation and by the technique of ventilation.

A scientific review has not been yet reported on comparisons between the reliability and prognostic yield of the Four Score scale and also the GCS Score. Nevertheless, most studies haven't shown a major difference,⁹ and also the addition to the GCS information about pupil response will increase its performance relatively of the FOUR score.⁷

The Glasgow Coma Scale - PA charts combine the prognostic information from the GCS, the pupil response, imaging findings and also the patient's age during a simple way which is simple to know.⁸ They supply a user-friendly predictive tool that balances both the simplicity but limited information within the score and more precise but more complex calculations of multivariate models.

NEED FOR THE STUDY

Variety of scales are formed to explain patient's level of consciousness. However, the Glasgow Coma Scale (GCS) is one in every of the foremost universally accepted tool, which decreases the subjectivity and confusion related to the assessment of consciousness. The GCS has been used as a prognostic tool during immediate assessment in head injury. Lower the score, poorer the prognosis. The GCS provides practitioners with an internationally accepted format that assists communication, minimizes user interpretation, and rapidly detects changes within the patient's condition¹⁰

A population of 10,0230 patients registered with participating generally practices were followed prospectively for the onset of neurological disorders. Multiple methods were went to maintain accuracy. The age and sex related incidence rates of neurological disorders were calculated. Prevalence of neurological disorders in their lifetime was surveyed in 27, 658 of the patients.

Consistent with Brits statistics (2004) among patient get admitted annually with head injury and it accounts for nearly 1% of all deaths. India is one in every of the countries which has simple fraction of total number of auto within the world, and it accounts for six of road traffic accident, which is that the highest accident rate within the world.¹¹

15% of patients with disorder including head injury get admitted in K.L.E.S Hospital, Belgaum, by Tukaram (2004). A baseline assessment of central systema nervosum is of prime importance to spot the deviations. The nurse should use independent clinical judgment to assess the patient with neurological conditions, which should include important parameters like vital signs, Glasgow coma scale, Deep tendon reflexes and superficial reflexes.¹²

Study conducted by Crimlisk JT and Graude MM (1989) on neurological assessment skills among the acute medical surgical nurse showed that efficient neurological skills are history and symptom analysis for accurate care.¹³

An exploratory study was conducted in malasiya by Harvinderjit Kaur a/p Basauhra Singh (2016), to assess the knowledge and competence in GCS among staff nurses working within the Emergency and Outpatient Departments. Convenience sampling was accustomed select the samples. Data collected was analyzed using the Statistical Package of Social Sciences (SPSS) version 20. Descriptive and Pearson's chi square was used. Result showed that 55.56% of nurses had poor knowledge followed by 41.48% and 2.96% with satisfactory knowledge and good knowledge, respectively. There was also a big correlation between knowledge and cohort. Overall, this study supports that good knowledge and skill are important in assessing GCS level.¹⁴

The study was conducted by Marian Teles (2013) in Belgaum, India. to seek out the Effectiveness of Self Instructional Module on Knowledge and Skills Regarding Use of Glasgow Coma Scale in Neurological Assessment of Patients among Nurses Working in

Critical Care Units . A complete of 55 staff nurses the study revealed that in pre-test, 41(74.55%) of the staff nurses had average knowledge and 14(25.45%) had poor knowledge. After the administration of Self Instructional Module in post-test 38 (69.09%) of staff nurses had good knowledge and 17(30.91%) had average knowledge. This proved that SIM is a good method to extend the knowledge and skill of the staff nurses working in critical care units.¹⁵

Investigator's self experience during the clinical postings came to grasp that several nursing students are having difficulties while practicing and using Glasgow coma scale in assessment of unconscious patients and studies revealed that teaching programme and directions improves the knowledge and practices, hence this study was undertaken mainly to seek out which method of teaching was simpler within the retention of information regarding GCS..

STATEMENT OF THE PROBLEM

A study to Compare the Effect of Video Assisted Teaching Vs Lecture Method on Knowledge regarding Glasgow Coma Scale (GCS)among Nursing Students

OBJECTIVES

1. To assess the pre-test knowledge on Glasgow coma scale among the nursing students.
2. To assess the effect of lecture method on Glasgow coma scale in improving the knowledge among nursing students.
3. To assess the effect of video assisted teaching on Glasgow coma scale in improving the knowledge among nursing students.
4. To compare the effect of video assisted teaching and lecture method on Glasgow coma scale in improving the knowledge among nursing students

OPERATIONAL DEFINITIONS

- **Effect of Video assisted teaching:** It means imparting knowledge to nursing students regarding the meaning, uses, components and assessment of Glasgow coma scale(GCS) for 20 minutes duration by using recorded computer disc, laptop and LCD projector and evaluated by using self administered questionnaire.
- **Effect of Lecture method:** It means imparting knowledge to nursing students regarding the meaning, uses, components and assessment of Glasgow coma scale(GCS) for 20 minutes duration by lecture and evaluated by using self administered questionnaire.
- **Knowledge on GCS:**It means understanding about meaning, uses, 3 main components like eye, motor and verbal response and the assessment of GCS.
- **Nursing Students:** In this study it refers to the 1st and 2nd year B.Sc Nursing students of both male and female at College of Nursing ,PIMS.

HYPOTHESES

- H₁-There will be significant difference in knowledge regarding Glasgow coma scale before and after lecture method among nursing students.
- H₂ There will be significant difference in knowledge regarding Glasgow coma scale before and after video assisted teaching among nursing students.
- H₃- There will be a significant difference in knowledge regarding Glasgow coma scale between video assisted teaching and lecture method among the nursing students.

DELIMITATION

This study is delimited to
Both male and female nursing students from 1st and 2nd year B.Sc Nursing at College of Nursing, PIMS.

SCOPE OF THE STUDY

This study will improve the level of knowledge about Glasgow coma scale among nursing students as they are one of the members of the health care and they play a vital role in caring for neurological patients and this will also help them to develop skill and knowledge in their clinical area by following the most effective method of teaching.

CHAPTER -II REVIEW OF LITERATURE

This chapter consists of literature relevant to this study and conceptual framework based on the literature support.

Review of literature is an essential step in the process of research. Review of literature refers to an extensive, comprehensive and orderly examination of published literatures pertinent to the research study.

Literature review is a process that involves findings, reading, understanding and forming conclusions about the published research and theory on a particular topic. Research related and non research related literatures are revived to broaden the understanding and gain insight into the selected problem under study. The overall process of review of literature is to develop a strong knowledge base to carry out a research and other scholarly educational and clinical practice activities.

The literature review for the present study is organized under the following headings:

SECTION I-Literatures related to knowledge on Glasgow coma scale

SECTION II-Literatures related to effectiveness of teaching methods on knowledge regarding GCS among nursing students.

SECTION I- Literatures related to knowledge on Glasgow coma scale

A descriptive study was conducted to see Nurses' Knowledge and skills in neurological assessment of patients with medulla spinalis injury in Turkey. The investigator had selected neurology, orthopaedics, and medical care units of three hospitals & self administered questionnaire was developed and provided to nurses who consented to participate within the study; the nurses completed the forms within the presence of the investigator. Significant correlations were found between the share of correct answers and level of nursing education. The investigator concluded that the nurses within the study cared-for lack sufficient knowledge in neurological assessment of patients with medulla spinalis injury.¹³

Clinical tests Study Conducted on Glasgow Coma Scale among registered Nurses (RNs) in Critical care settings, in USA. GCS was used as an assessment tool to live the amount of consciousness in coma patients. they chose the final medical care, neurological medical care, coronary care ER and post anaesthetic hospital room. 75 RNs viewed each of the GCS assessments and rated each patient on the scoring sheet. Study shows that supported comparison with export innumerable the 75 participants, 38 responded correctly to eye opening responses, only 26 responded correctly to the motor response ratings. However, a more robust accuracy was achieved within the verbal response category with 67 participants responded correctly to the questions. The study result shows, neurological experience were statically less relation to the nurse's accuracy of GCS assessment.¹⁶

A study was conducted on analysis of inaccuracy and misjudged factors of Glasgow Coma Scale scores .When assessed by inexperienced physicians in Keio University School of drugs, Tokyo. GCS eye, verbal, and motor response (EVM) scoring profiles conducted to postgraduate year 1 junior residents (n=94). GCS assessment was tested employing a video simulation that portrayed mock patients with eight different levels of consciousness that are frequently encountered in trauma patients. Results found that, on average, 26±18% of examinees didn't provide the proper EVM profiles for the eight selected scenario. Primary misjudged GCS factors belonged to 2 categories, the assessment of confused conversation (V4) and also the assessment of withdrawal motor response (M4). Further study concludes that additional instruction regarding the precise misjudged factors identified during this study may help inexperienced medical personnel improve the reliability of GCS score assignment.¹⁷

A study was conducted on knowledge of Glasgow coma scale by air-rescue physicians in Switzerland. Prospective anonymous observational method with a specially designed self administered questionnaire was used. Uses of the GCS during a clinical case were assessed. Results found, the clinical case was wrongly scored by 38 participants (36.9%). Incorrect evaluation of the motor component occurred in 28 questionnaires (27.2%), and 19 errors were made for the verbal score (18.5%). Errors were made most often by registrars (47.5%, p = 0.09), followed by fellows (31.6%, p = 0.67) and personal practitioners (18.4%, p = 1.00). Study recommends although the theoretical knowledge of the GCS by out-of-hospital physicians is correct, significant errors were made in scoring a clinical case. Further emphasis on teaching the GCS is mandatory.¹⁸

A study was conducted on specific aspects of neurosurgical assessment using the Glasgow Coma Scale in UK 2004. This study compared the assessment findings of Registered General Nurses (RGNs), Enrolled Nurses and Student Nurses after viewing videotaped neuro-assessments of patients during a high dependency unit. The criterion for judging the accuracy of subject assessments was established by a panel of subject experts. RGNs had the best proportion of correct assessments and students the smallest amount. Further study concludes that subjects were identified as having difficulty in determining the relative amounts of weakness that a patient exhibited, and in correctly distinguishing between flexion and extension.¹⁹

A study was conducted on Glasgow Coma Score, A predictor of perfect outcome in asystole patients treated with therapeutic hypothermia. A prospective observational method used on 72 comatose patients admitted to medical aid unit after asystole. in the end patients were treated for hypothermia and sedation stopped and also the Glasgow coma scale (GCS) was recorded until day 4. Results of the study revealed that 61% were discharged with a favourable neurological outcome (CPC 1+2). GCS was significantly higher in patients with good outcome compared to patients with unfavourable outcome (p=0.001). The worth for prediction of fine outcome with the very best accuracy was a GCS-4 at the primary day after sedation stop (sensitivity 61%, PPV 90% and AUC 0.808) and GCS-6 within the following days (sensitivity 84%, PPV 92.5% and AUC 0.921 at day 4). Study indicates that GCS monitoring remains a strong tool to predict outcome of patients treated for therapeutic hypothermia.²⁰

A study was conducted on Limitations of the Glasgow Coma Scale find outcome in children with traumatic brain injury. A Retrospective, observational, cross-sectional study was used. Glasgow outcome Scale score, and also the results of neuropsychological tests were analyzed. Of 79 children, 70 (89%) survived. Although the mortality was higher among patients with Glasgow Coma Scale countless 3 to five, 14 (64%) of twenty-two of those children survived. aside from two patients who had prolonged hypoxemia, all children, including those with Glasgow Coma Scale countless 3to 5, had a satisfactory outcome (Glasgow Outcome Scale countless 4 or 5). Study concluded that a coffee Glasgow Coma Scale score doesn't always perfectly predict the result of severe traumatic brain injury; within the absence of hypoxic-ischemic injury, children with traumatic brain injury.²¹

A study was conducted on Glasgow Coma Scale score within the evaluation of prognosis within the medical aid unit in Washington, a prospective cohort analysis of adult medical-surgical patients from a nationally sampling of 40 U.S. hospitals was done. results of the study was the connection between the Glasgow Coma Scale score and outcome for 2 high mortality medical diagnoses (post-cardiac arrest and sepsis) were also examined and compared to the connection found in patients with head trauma. The Glasgow Coma Scale score on ICU admission had a statistical significant ($r^2 = .922$, $p = .0001$) but nonlinear relationship with subsequent outcome in ICU patients without trauma. Further study concluded that the Glasgow Coma Scale score is also accustomed stratify and predict mortality risk normally medical aid patients, but lack of sensitivity within the intermediate range of Glasgow Coma Scale Score should be noted.²²

A study on Minor head injuries in children - an approach to management conducted, objective of the study was to outlines the management of mild head injuries in children. results shows that an honest history including time of injury, the mechanism of injury, and any loss of consciousness or seizure activity; an intensive examination including a Glasgow Coma Scale (GCS) score; and

observation should be appropriate for many of the patients. Only a very low number of injuries require further examination with computed tomography, further study suggests that regular follow from patient and good practice of Glasgow coma scale in assessment of consciousness is mandatory, with clear guidelines for stepwise resumption of physical activity.²³

An experimental study was conducted to look at the effect of Sensory stimulation program (SSP) on recovery in unconscious patients after brain injury in Thailand. Forty unconscious patients admitted in hospitals were divided into control and experimental groups respectively. Response to stimulation was assessed using the modified Sensory Modality Assessment and Rehabilitation Technique score and also the Glasgow Coma Scale score. The finding showed that mean modified Sensory Modality Assessment and Rehabilitation Technique scores after commencing the SSP within the experimental group were significantly over those within the control group. Mean Glasgow Coma Scale scores after commencing the SSP within the experimental group was significantly over those within the control group. The results indicated that the SSP can enhance brain recovery in unconscious patients.²⁴

An experimental study was undertaken in Philadelphia to gauge the possible therapeutic benefits of intense multi-sensory stimulation (IMS) within the management of profound coma. 2 hundred hospitalized patients with Glasgow Coma Scale (GCS) scores of 6 or less were selected, outcome results are compared with 33 patients (controls) who didn't receive IMS; 34.5% of the IMS group made a moderate to good recovery supported Glasgow Outcome Scores (GOS), 9% have remained in PVS, 56.5% are still severely disabled with marked psychomotor deficits, but are out of coma and a few are continuing to point out progress. A complete of 91% are out of coma; 33 patients within the control group (100%) remain in coma. The results show that the prognosis in acute and chronic coma conditions will be markedly influenced by IMS.²⁵

A study was undertaken by Bilgin Te et.al on the comparison of the reliability of rating system in organophosphate poisoning in Turkey. The aim of this study was to gauge the impact of the Glasgow coma scale (GCS). Acute Physiology And Chronic Health Evaluation (APACHE) –II and Simplified Acute Physiology Score (SAPS) –II scoring systems for organophosphate poisoning (OPP) in an medical care unit (ICU) was compared with one another GCS 0.900 +/-0.059, APACHE II 0.929+/-0.045 and SAPS II 0.891+/-0.057. The GCS system has superiority over the opposite systems in being easy to perform and doesn't require complex physiologic parameters and laboratory methods²⁶

A cross-sectional analytical study was conducted by Wesley Cajaiba Santos et.al they included 127 nurses of critical units at university hospital. They used structured interview with 12 inquiries to evaluate the nurse's knowledge about the Glasgow coma scale. Association of data with professionals' socio demographic variables were verified by the Fisher-test, χ^2 and likelihood ratio. Within the assessment of best score possible for Glasgow scale (question 3) nurses who had graduated over 5 years ago presented a lower percentage success rate ($p=0.0476$). However, within the question 7, which evaluated what interval of the dimensions indicated moderate severity of brain trauma injury, those with more years of experience had higher percentage of correct answers ($p=0.0251$). Additionally, nurses from emergency service had more correct answers than nurses from medical care unit ($p=0.0143$) within the same question. Graduated nurses for over 5 years ago had a lower percentage of correct answers in question 7 ($p=0.0161$). Nurses with more work experience had a much better score ($p=0.0119$) to spot how assessment of motor response should be started.²⁷

A study was undertaken by Harvinderjit Kaur Basauhra Singh Department of Nursing, University Malaya Medical Centre, Malaysia to explore the knowledge and competence in assessing the GCS among staff nurses working within the Emergency and Outpatient Departments. This was a quantitative descriptive cross-sectional study design. Convenience sampling method was used. Nurses within these Departments were asked to partake in the survey. Data was collected by using the GCS Knowledge Questionnaire and was analyzed by using the Statistical Package of Social Sciences (SPSS) version 20. Descriptive and Pearson's chi square was used. Findings showed that 55.56% of nurses had poor knowledge followed by 41.48% and 2.96% with satisfactory knowledge and good knowledge, respectively. The results on the association between knowledge and education level showed a big association between the 2 variables. There was also a big correlation between knowledge and cohort Overall, this study supports that good knowledge and skill are vital in assessing GCS level.²⁸

A retrospective study was conducted by Georgios K. Matis among 60 patients with a head injury who had been admitted to a tertiary care hospital medical care unit was conducted to explore the possible correlations between the Glasgow Coma Scale (GCS) and outcome. The correlation among the GCS, GCS eye (GCS-E), GCS verbal (GCS-V), and GCS motor (GCS-M) components and outcome (survival or death) was assessed by constructing contingency Tables and performing the Pearson χ^2 and likelihood ratio tests. The statistical significance was set at a P value of 0.05. The mean total GCS score was 6.39+/-0.554 (6.81+/-0.983 for survivors and 5.55+/-0.706 for nonsurvivors). The foremost frequent GCS score, which was 3 (61.67%), was followed by scores of 15 and 14 (10% and 6.7%, respectively). No correlation was found between outcome and therefore the GCS, GCS-E, GCS-V, or GCS-M components. The findings suggest that the GCS encompasses a limited predictive value of outcome in patients with a head injury, particularly if used as sole predictor or in patients with a mild-to-moderately severe injury.²⁹

SECTION II- Literatures related to effectiveness of teaching methods on knowledge regarding GCS among nursing students.

A Quasi experimental study was undertaken by Dr. S. Aruna & Mrs. P. Thenmozhi Saveetha College of Nursing, Saveetha University, Tamilnadu, India to match the amount of data of lecture method of learning versus Computer assisted learning among B.Sc(N) III year students. A complete of 25 samples in each group were selected by using convenient sampling technique. Self administered questionnaire was used to collect the information by using structured Multiple Choice Questions after obtaining consent from study participants. Collected data were analyzed by using descriptive and inferential statistics. The finding of the study revealed that there was an improvement within the knowledge gained in both groups however there was no significant difference between the 2 groups.³⁰

A study was undertaken by Shoqirat N in Faculty of Health and Social Sciences, University College, Edinburgh. Nurse Stand to explore third year nursing student's understanding of the Glasgow Coma Scale (GCS). An explorative survey employing a semi-structured questionnaire was used. A convenience sample of 65 third year nursing students was selected from a university faculty of nursing in Scotland. Results of the study found most respondents (n= 24, 62 per cent) weren't confident in practical use of the GCS. However, they wanted to boost their theoretical knowledge still as their practical skills. Further study concludes that a brief training course is required to create sure that students are ready to use the GCS effectively while minimizing errors.³¹

A study was conducted by Lane PL, Báez AA, Brabson T, Burmeister DD, Kelly JJ on Effectiveness of instructional video on Glasgow Coma Scale for EMS providers in physicist middle,USA. Design of the study was Before-and-after single (Phase I) and parallel Cohort (Phase II). Proportions of correct scores were compared using chi-square, and relative risk was calculated to live the strength of the association. Results found that 75 participants were included in clinical trial. In clinical trial, 46 participants participated in an exceedingly parallel cohort design. Before observing the educational video, only 14.7% score all of the scenarios correctly, whereas after viewing the video, 64.0% scenarios results were observed after viewing the video for those that used the GCS cards ($p = 0.001$; $RR = 2.0$; $95\% CI = 1.29$ to 3.10) compared with those not using the cards is ($p = 0.0001$; $RR = 10.0$; $95\% CI = 2.60$ to 38.50). Further study concludes that Post-video scores were better than those observed before the video presentation.³²

A quasi experimental study was conducted on 30 undergraduate nursing students who were randomly assigned to 2 groups. Blood group attended a lecture cum demonstration method and type B underwent video based teaching on neurological assessment. Learning level of both the groups was compared by using independent 't' test. Results: In both the groups the post test scores were significantly on top of the pretest scores, but there was no statistically significant difference between blood group and B. Hence both the teaching methods were found to be equally effective in improving the knowledge and skill of undergraduate nursing students on neurological assessment.³³

A study conducted by Samaneh Alizadeh et.al, for Comparing two methods of electronic and teacher-based education on nursing students' level of data in taking care of trauma patients during this study, the participants were randomly assigned into 2 educational groups of electronic (experimental group) and teacher-based (control group) method. All participants took a pre-test. Then each group attended the identical course in an exceedingly different method. Finally, post-test was taken by the participants and data were analyzed. A comparison of the mean knowledge score of both groups showed that electronic education was more practical than teacher-based education. The electronic training will end in more practical learning as compared to teacher-based method and may be applied as an appropriate and efficient method of education.³⁴

CONCEPTUAL FRAME WORK

Conceptual framework is an analogous to frame of a house, just as the foundation support a house. In this study the investigators has incorporated general system theory model Ludwig von Bertalanffy (1968)

According to this theory, a system can be open or closed. All living systems are open and there is a continuous exchange of matter, energy and information. Open system have varying degree of interaction with environment from which the system receives input and gives to the form of matter, energy and information. The system returns output to the environment in an altered stage, affecting the environment .The feedback is the environment response of the system. The system may be positive, negative or neutral.

The components of theory are:

1. Input
2. Throughput
3. Output
4. feedback

INPUT

It is the information needed by the system. In this study input is the B.Sc Nursing students from 1st and 2nd year in College of Nursing PIMS. It also includes their age, gender, year of study and previous awareness and knowledge on Glasgow coma scale before the intervention in both the groups.

THROUGH PUT

Through put is the activity phase. In this study video assisted teaching was used to one group using laptop and projector regarding the meaning ,uses, components and the assessment of Glasgow coma scale for 20minutes and lecture teaching method was given to another group regarding the meaning , uses, components and the assessment of Glasgow coma scale for 20minutes.

OUTPUT

In this study output refers to the change in the level of knowledge on Glasgow coma scale i.e. adequate knowledge, moderately adequate knowledge and inadequate knowledge on Glasgow coma scale among both the groups after the intervention.

FEEDBACK

In this study feedback refers to the change in level of knowledge on Glasgow coma scale among the video assisted teaching group and lecture teaching method group and comparing the effect of both the methods and finding the best method of teaching for improving the knowledge of Glasgow coma scale among the nursing students

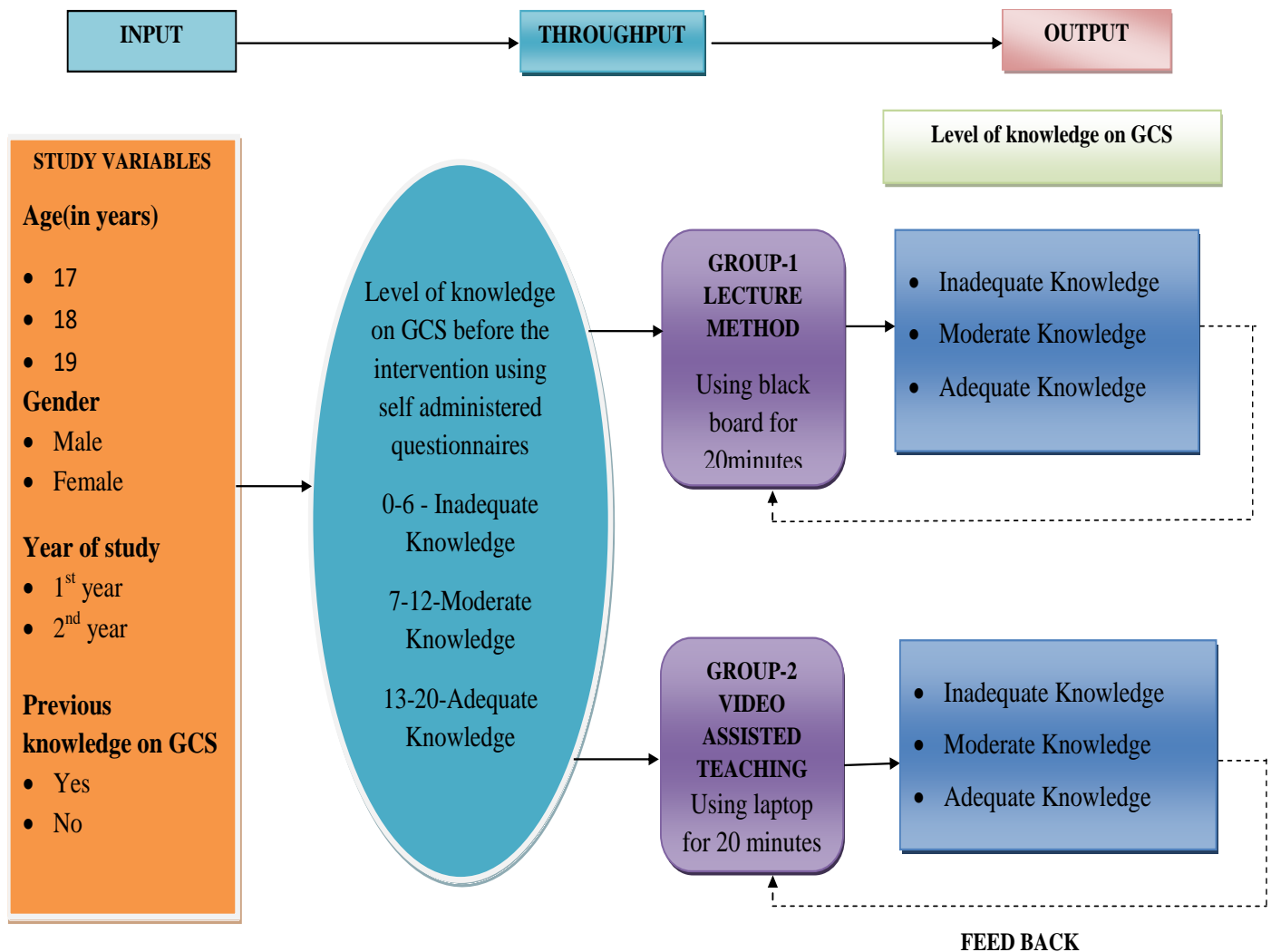


Fig1: Conceptual Framework-modified based on **General System Theory** by **Ludig Von Bertalanffy** -1968

CHAPTER - III RESEARCH METHODOLOGY

This chapter presents the methodology followed in the study, including research approach, research design, setting of the study, population of the study, sampling techniques, development and description of the tool, scoring key, content validity, pilot study, reliability, process of data collection and data analysis methods.

RESEARCH APPROACH

Research approach is the umbrella that covers the basic procedure for conducting research. The approach used in this study is quantitative approach to compare the effect of video assisted teaching and lecture method on knowledge regarding Glasgow coma scale among nursing students.

RESEARCH DESIGN

Research design provides overall plan or blueprint to carry out a study. Quasi experimental research design was used in this study.

SETTING OF THE STUDY

Setting of this study was College of Nursing, PIMS which was started in the year 2005. It is situated in Ganapathichettikulam 14 kms away from Puducherry. It is affiliated to Pondicherry University. It offers courses like B.Sc Nursing, Post Basic Nursing, M.Sc Nursing with specialties like OBG nursing, Child Health Nursing, Community Health Nursing, Medical Surgical Nursing, Mental Health Nursing and Ph.D nursing.

The college was selected on the bases of feasibility for conducting the study and the availability of samples. The study participants were selected from the classes of 1st and 2nd year B.Sc Nursing programme at College of Nursing.

VARIABLES

The study consists of two independent variables, that is video assisted teaching and lecture teaching method. The dependent variable is the knowledge on Glasgow coma scale among the nursing students.

Demographic variables like age, gender, class and previous knowledge on Glasgow coma scale are included in this study.

POPULATION OF THE STUDY

In this study, population refers to all the B.Sc Nursing Students.

SAMPLE

The sample of this study was the B.Sc Nursing students from 1st and 2nd year at College of Nursing, PIMS.

SAMPLE SIZE

The sample size of this study was 76 i.e 38 in each group was estimated using 10% precision, 90% confidence level including 10% attrition.

SAMPLING CRITERIA

Inclusion criteria

- Both male and female nursing students from 1st and 2nd year B.Sc Nursing.
- Students who were not taught about Glasgow coma scale.

Exclusion criteria

- Nursing students who are not willing to participate in the study.

SAMPLING TECHNIQUE

In this study samples were selected using simple random (lottery method)

INSTRUMENTS AND TOOLS USED

- Part1: Demographic data such as age ,gender, class and previous knowledge on Glasgow coma scale
- Part2: Self-administered questionnaire to assess the level of knowledge in Glasgow coma scale before and after video assisted teaching and lecture method of teaching.

SCORE INTERPRETATION

The investigator will score “1” for the correct answers and "0" for wrong answers. Maximum of “20” will be scored if the participant gives all answers correctly.

Score	Percentage	Interpretation
18-20	86-100%	Adequate knowledge
11-17	51-85%	Moderately adequate knowledge
0-10	0-50%	Inadequate knowledge

VALIDITY OF THE TOOL

Content validity of the tool was established with 5 experts. The suggestions given by the experts were incorporated in the tool.

ETHICAL CONSIDERATION

- Approval from Institutional Review Board was obtained.
- The researcher had taken formal permission from Dean, College Of Nursing
- Informed consent was obtained from the study participants.
- Assent form was obtained from participants below 18yrs
- Confidentiality of the information was maintained.

PILOT STUDY

After obtaining permission from Dean, College of Nursing, participants were selected by Random Sampling method. Pilot study was conducted from 12.8.19-18.8.19 among 20 students from 3rd year B.Sc Nursing. Informed consent was obtained from the participants prior to the study.

The collected data was analyzed to see the reliability of the tool and it was $r = 0.74$.The tool was found feasible and practicable. No further changes were made in the tool after pilot study.

RELIABILITY OF THE TOOL

The reliability of the research instrument is defined as the extent to which the instrument yields the same result on repeated measures. It is then concerned with consistency, accuracy, precision, stability, equivalence, and homogeneity. The reliability of the tool was assessed by split half method and the r-value was 0.74. So the tool designed to assess the level of knowledge on Glasgow coma scale was found to be reliable and can be used on nursing students.

DATA COLLECTION PLAN

- Data collection process was done from 2.9.19-29.9.19.
- Formal administrative permission and approval from institutional review board was obtained.
- The nature and purpose of the study was explained by the researcher to the study participants and individual consent form and assent form was obtained from participants below 18 years.
- Study samples were selected randomly using lottery method as a total of 78 i.e. 38 in each group.
- The study samples were split into 2 groups as group- 1(lecture method) and group -2(video assessed teaching)

- Before teaching about Glasgow coma scale to the study participants ,pre test was conducted for both the groups using self administered questionnaires containing 20 questions to assess the level of knowledge on GCS and 30 minutes was given for the participants to answer and the researcher collected the filled questionnaires and compiled it for data analysis.
- On the 1st day Lecture was given to the experimental group-1(n=38) for 20 minutes regarding Glasgow coma scale.
- On the same day video assessed teaching was given to experimental group-2(n=38) for 20 minutes regarding Glasgow coma scale using laptop and projector.
- Post test was conducted on the 8th day using the same questionnaire for both the groups and it was compiled for data analysis.

DATA ANALYSIS PLAN

Descriptive statistics- Mean and standard deviation was used to assess the knowledge level of the nursing students regarding Glasgow coma scale.

Inferential statistics- Independent t- test was used to compare the effect of video assisted teaching and lecture method on Glasgow coma scale.

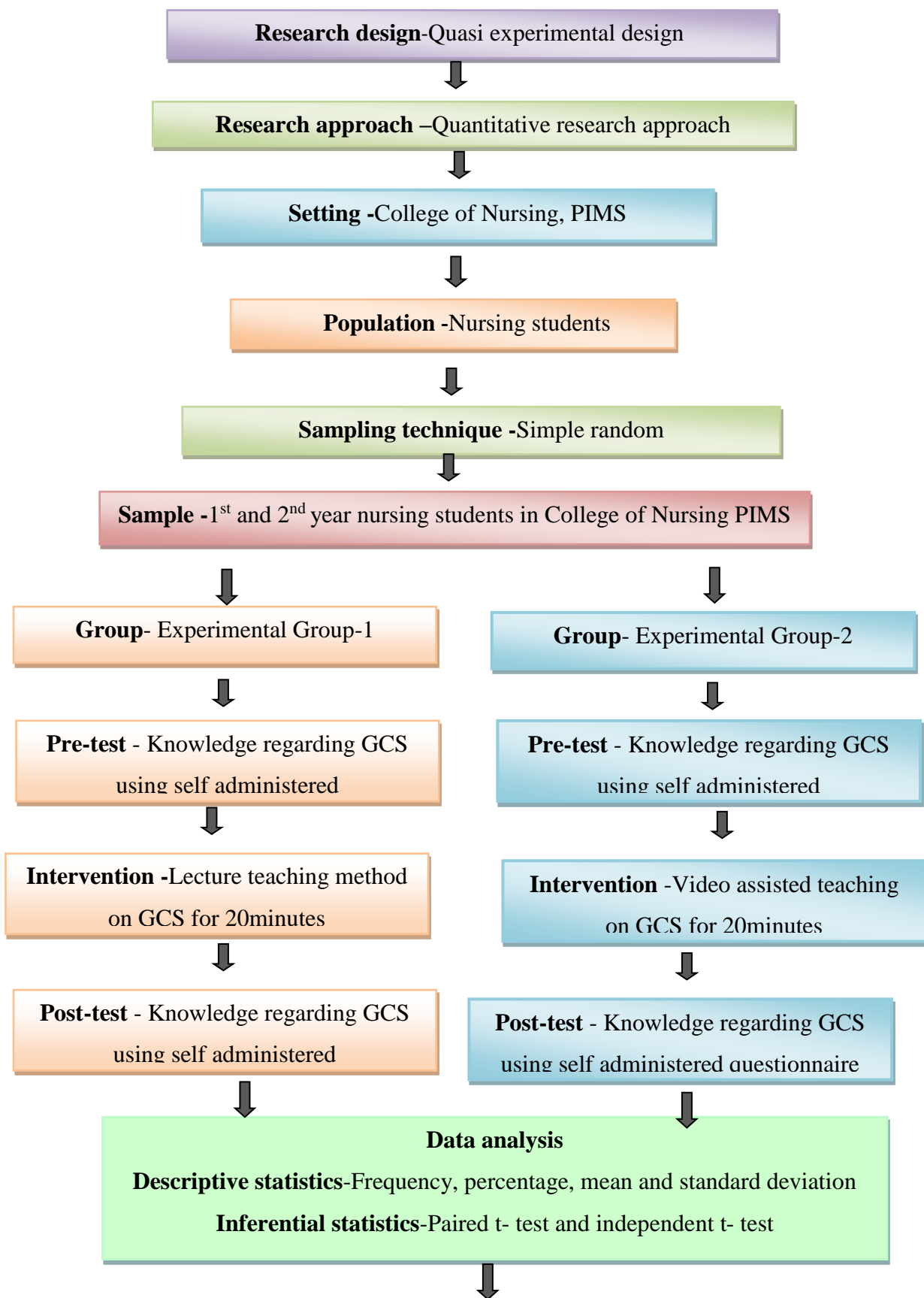


Fig:2 Schematic Representation Of Methodology

**CHAPTER-IV
CHAPTER-IV
ANALYSIS AND INTERPRETATION**

This chapter deals with analysis and interpretation of data collected to compare the effect of video assisted teaching vs lecture method on knowledge regarding Glasgow coma scale among the nursing students.

ORGANIZATION AND INTERPRETATION OF DATA

The data collected was organized and presented under the following headings

Section I: Distribution of participants according to demographic variables.

Section II: Pre-test level of knowledge on Glasgow coma scale among both the groups.

Section III: Post-test level of knowledge on Glasgow coma scale among both the groups.

Section IV: Comparison of level of knowledge on GCS before and after lecture teaching method in experimental group- 1

Section V: Comparison of level of knowledge on GCS before and after video assisted teaching in experimental group- 2

Section VI: Comparison of level of knowledge on GCS between experimental group-1 and experimental group -2

Section I: Distribution of participants according to demographic variables in both groups.

Table 1: Frequency and percentage distribution of the study participants according to age, gender, year of study and previous knowledge.

S.no	Study variables	Experimental group-1 (lecture method) n=38		Experimental group-2 (Video assisted teaching) n=38	
		Frequency	(%)	Frequency	(%)
1.	Age(in years)				
	a) 17	30	79	0	0
	b) 18	8	21	12	32
	c) 19	0	0	26	68
2.	Gender				
	a) Male	9	24	6	16
	b) Female	29	76	32	84
3.	Year of study				
	a) 1 st year	38	100	0	0
	b) 2 nd year	0	0	38	100
4.	Previous knowledge on GCS				
	a) No	38	100	38	100

n=76

Table 1 shows the percentage distribution of demographic variables of participants in both the group.. With regard to age 30(79%) of them belongs to the age of 17 yrs, 8(21%)of them belongs to the age of 18 yrs from the experimental group-1. 12(32%)of them belongs to the age of 18 yrs and 26(68%) of them belongs to the age of 19 yrs from experimental group-2. Male 9(24%) and female 29(76%) were in experimental group-1 .Male 6(16%) and female 32(84%) were in experimental group-2. With regard to year of study 1st year 38 members in experimental group-1 and 2nd year 38 members in experimental group-2 were selected. No participants had previous knowledge on GCS.

Section II: Pre-test level of knowledge on Glasgow coma scale among both the groups

n=76

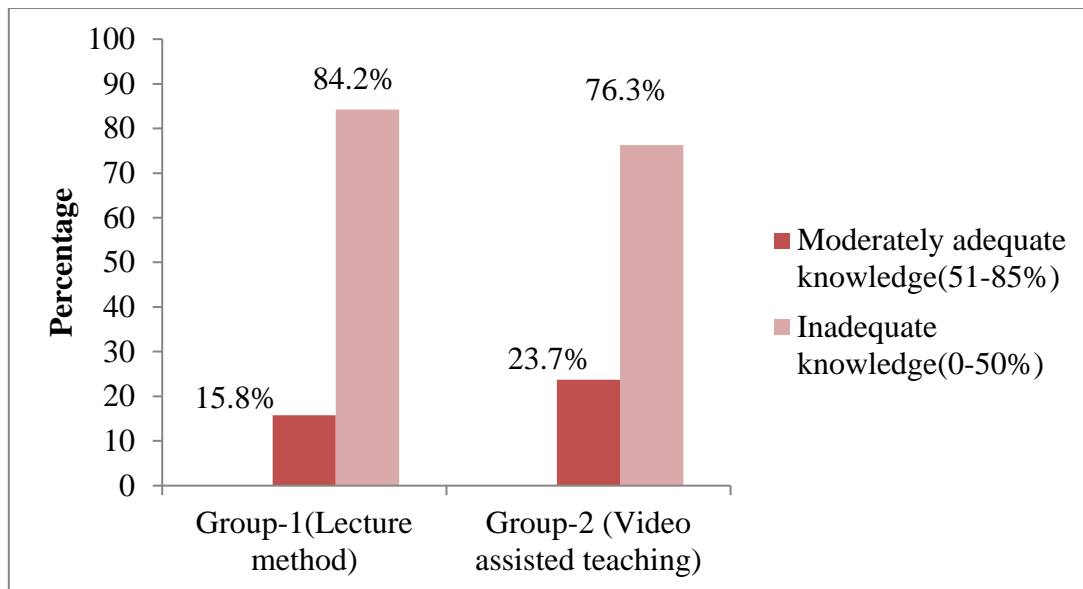


Fig 3:Pre-Test Level of knowledge on Glasgow coma scale among both the groups

Figure 3 indicates that in Group-1(Lecture method) out of 38 participants 6(15.8%) of them had moderately adequate knowledge, 32(84.2%) of them had Inadequate knowledge and none of them had adequate knowledge regarding Glasgow coma scale. In Group-2 (Video assisted teaching) out of 38 participants 9(23.7%) of them had moderately adequate knowledge, 29(76.3%) of them had Inadequate knowledge and none of them had adequate knowledge regarding Glasgow coma scale.

Section III: Post-test level of knowledge on Glasgow coma scale among both the groups

n=76

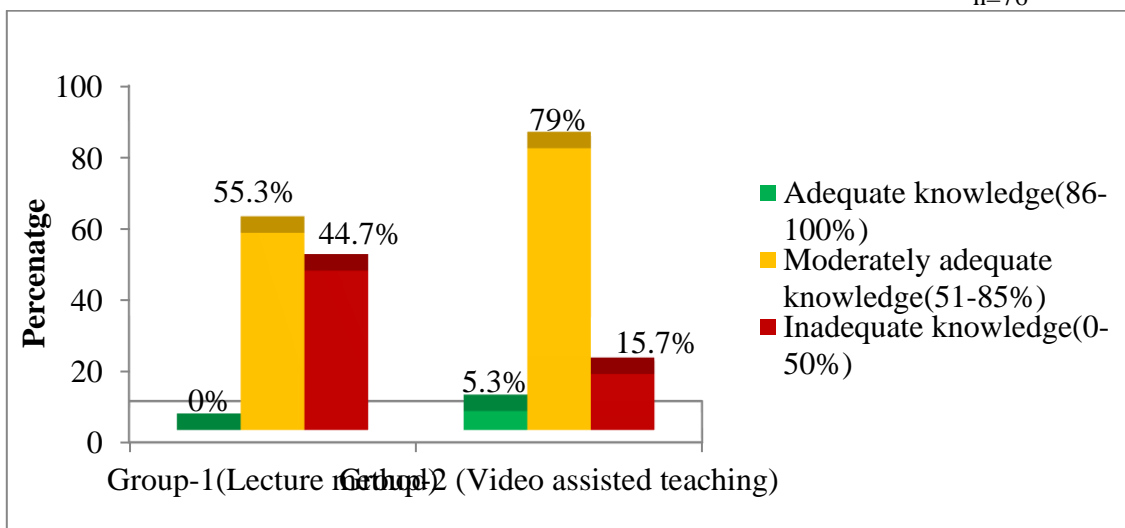


Fig 3: Level of knowledge on Glasgow coma scale among both the groups

Figure 3 indicates that in Experimental Group-1 (Lecture method) out of 38 participants none of them had adequate knowledge, 21(55.3%) of them had moderately adequate knowledge, 17(44.7%) of them had Inadequate knowledge regarding Glasgow coma scale.

In Experimental Group-2 (Video assisted teaching) out of 38 participants 2(5.3%) had adequate knowledge, 30(79%) of them had moderately adequate knowledge, 6(15.7%) of them had Inadequate knowledge regarding Glasgow coma scale.

Section IV: Comparison of level of knowledge on GCS before and after lecture teaching method in experimental group- 1

Table 2:Comparison of level of knowledge on GCS before and after lecture teaching method in experimental group 1

n=38

Experimental Group 1 (lecture method)	Level of knowledge		Mean difference	't' value	P value
	Mean	SD			
Before lecture teaching	7.47	2.69	3.32	-7.592	< 0.001*

After lecture teaching	10.79	1.65			
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*statistically significant

Table 2 shows that in experimental group-1 before the intervention of teaching by lecture method, the mean was 7.47 and standard deviation 2.69 and after the intervention the mean was 10.79 and standard deviation 1.65 with mean difference of 3.32, 't' value -7.592. There was statistical significant difference between the mean knowledge level before and after intervention, $p < 0.001$, in experimental group-1 by using paired 't' test.

Section V: Comparison of level of knowledge on GCS before and after video assisted teaching in experimental group- 2

Table 3: Comparison of level of knowledge on GCS before and after video assisted teaching in experimental group- 2

n=38

Experimental Group 2 (video assisted teaching)	Level of knowledge		Mean difference	't' value	P value
	Mean	SD			
Before video assisted teaching	8.45	2.62	5.31	-8.790	< 0.001*
After video assisted teaching	13.76	2.55			

*statistically significant

Table 3 shows that in experimental group-2 before the intervention of teaching by video assisted method the mean was 8.45 and standard deviation 2.62 and after the intervention the mean was 13.76 and standard deviation 2.55 with mean difference of 5.31, 't' value -8.790. There was statistical significant difference between the mean knowledge level before and after the intervention, $p < 0.001$, in experimental group-2 by using paired 't' test.

Section VI: Comparison of level of knowledge on GCS between experimental group-1 and experimental group -2

Table 4: Comparison of level of knowledge on GCS between experimental group-1 and experimental group -2

n=76

Group	Experimental group-1 Mean \pm SD	Experimental group-2 Mean \pm SD	Mean Difference*	t value	p value
Before intervention	7.47 \pm 2.69	8.45 \pm 2.62	0.98	-1.600	0.114
After intervention	10.79 \pm 1.65	13.76 \pm 2.55	2.97	-6.037	< 0.001

*After Intervention –Before Intervention

Table 4 shows that in experimental group -1 mean was 7.47 and standard deviation 2.69 during pre test and the mean was 10.79 and standard deviation 1.65 during post test. In experimental group-2 mean was 8.45 and standard deviation 2.62 during pre-test and mean was 13.76 and standard deviation 2.55 in the post test .The mean difference in pre-test was 0.98 and in post test 2.97. The 't' value pre-test -1.600 and post-test -6.037. There is no statistical difference between the mean knowledge level of both the experimental group in pre test $p = 0.114$ and significant in post test $p < 0.001$ by using independent 't' test. Thus video assisted teaching is proved to be the best method of teaching compared to lecture method.

CHAPTER-V

DISCUSSION, SUMMARY, IMPLICATIONS, RECOMMENDATION AND CONCLUSION

This chapter provides a brief account of the present study, discussing the findings in accordance with the objectives of the study including summary of the findings, limitations of the study, implications, recommendations and conclusion.

Glasgow coma scale is the standardized and reliable scale which is used to measure the conscious level of patient with acute medical conditions and neurological conditions. Glasgow coma scale contains mainly three components i.e. eye response, motor response and verbal response. With the use of Glasgow coma scale in the beginning and the progressive stages of patients with neurological conditions, the improvement of the conscious level of the patient can be identified.

Demographic variables of the study participants

In the Experimental group -I(lecture method) out of 38 participants 30(79%) of them belongs to the age of 17 yrs, 8(21%)of them belongs to the age of 18 yrs from the experimental group-1. 12(32%)of them belongs to the age of 18 yrs and 26(68%) of them belongs to the age of 19 yrs from experimental group-2 (video assisted teaching). Male 9(24%) and female 29(79%) were in experimental group-1.Male 6(16%) and female 32(84%) were in experimental group-2. With regard to year of study 1st year 38 members in experimental group-1 and 2nd year 38 members in experimental group-2. No participants had previous knowledge on GCS.

The first objective was to assess the pre-test knowledge on Glasgow coma scale among the nursing students.

In Experimental group-I the pre-test knowledge was assessed using self administered questionnaires related to GCS and the result showed out of 38 participants 15.8% had moderately adequate knowledge, 84.2% had inadequate knowledge, and none of them had adequate knowledge on GCS.

In Experimental group -II the pre-test knowledge was assessed using self administered questionnaires related to GCS and the result showed out of 38 participants 23.7% had moderately adequate knowledge, 76.3% had inadequate knowledge and none of them had adequate knowledge on GCS.

Similar study was done by Sushma Prabhu in 2013 showed that in Experimental group-I (lecture method) the pre-test knowledge was 26.6% had moderately adequate knowledge and 73.3% had inadequate knowledge .None of them had adequate knowledge.

In Expt. group -II (video assisted teaching) the pre-test knowledge was 60% had moderately adequate knowledge and 40% had inadequate knowledge. None of them had adequate knowledge.

The second objective was to assess the effect of lecture teaching method on Glasgow coma scale in improving the knowledge among nursing students.

In Experimental group -I after the lecture teaching method was given regarding GCS the post test mean was 10.79 and the standard deviation was 1.65 with a mean difference of 3.32 and 't' value of-7.592. There was a statistical significant difference between the mean knowledge level before and after intervention at $p < 0.001$ in lecture teaching group by using paired 't' test.

Similar study was done by Sushma Prabhu in 2013 showed that in Experimental group -I after the lecture teaching method was given regarding neurological assessment the post test mean was 11.93 and the standard deviation difference was 3.32 with a mean difference of 5.6 and 't' value 6.82. There was a statistical significant difference between the mean knowledge level before and after intervention at $p < 0.05$ in lecture teaching group by using paired 't' test.

H₁-There was a significant difference in knowledge regarding Glasgow coma scale before and after lecture teaching among nursing students. Thus H₁was supported.

The third objective was to assess the effect of video assisted teaching on Glasgow coma scale in improving the knowledge among nursing students.

In Experimental group -II after the video assisted teaching was given regarding GCS the post test mean was 13.76 , standard deviation was 2.55 with a mean difference of 5.31 and't' value -8.790There was a statistical significant difference between the mean knowledge level before and after intervention at $p < 0.001$ in video assisted teaching group by using paired't' test.

Similar study was done by Sushma Prabhu in 2013 showed that in Experimental. group -II after the video assisted teaching was given the post test mean was 13.4 , the standard deviation difference was 4.77 with a mean difference of 5.8 and 't' value 4.71. There was a statistical significant difference between the mean knowledge level before and after intervention at $p < 0.05$ in video assisted teaching group by using paired't' test.

H₂. There was significant difference in knowledge regarding Glasgow coma scale before and after video assisted teaching among nursing students. Thus H₂was supported

The fourth objective was to compare the effect of video assisted teaching and lecture teaching method on Glasgow coma scale in improving the knowledge among nursing students

In experimental group-I (lecture method) the mean of pre-test knowledge was 7.47 post test 10.79 with a standard deviation of 2.69 and 1.65 respectively. In experimental group-2(video assisted teaching) the mean of pre-test knowledge was 8.45post-test was 13.76 with the standard deviation of 2.62 and 2.55 respectively .The mean difference in pre-test was 0.98 and post test 2.97 with 't' value 1.600 and -6.037respectively .There was statistical significant difference between the mean knowledge level of lecture teaching method and video assisted teaching in post test at $p < 0.001$ by using independent 't' test

There is no relevant literatures available regarding comparison of effect of video assisted teaching and lecture teaching method on Glasgow coma scale in improving the knowledge among nursing students.

H₃- There was a significant difference in knowledge regarding Glasgow coma scale between video assisted teaching and lecture method among the nursing students. Thus H₃ was supported.

Summary

The present study was aimed to compare the effect of Video Assisted Teaching Vs Lecture Method on Knowledge regarding Glasgow Coma Scale (GCS) among Nursing Students. The study was conducted using an experimental design. The conceptual frame work was modified based on the General System Theory by Ludwig Von Bertalanffy. The structured questionnaire was validated by experts from the consent field. Pilot study was conducted to determine the feasibility of the study and no changes were made in the tool and method of data collection for the main study. The data was collected for a period of four weeks and it was analyzed by using the descriptive and inferential statistics and results were disseminated.

LIMITATIONS

Students could have been exposed to Glasgow coma scale assessment during their postings in clinical area.

NURSING IMPLICATIONS

The result of the study revealed that participants of video assisted teaching had better retention of knowledge compared to the traditional lecture method. In other words in order to improve the quality of health care as a central mission of nursing education, we could develop video assisted teaching as the main stem of education in health system. Therefore this study has important implications in

1. Nursing practice
2. Nursing education
3. Nursing administration
4. Nursing research

Nursing practice

- The student nurses who are posted in the clinical area can be guided by their clinical instructors in teaching the procedures using video assisted teaching method for the easy understanding of the students.
- Video assisted teaching saves the time as it gives the detailed explanation about the procedure, this method can also be used for giving health education to the patients to make them understand more clearly and effectively about the health talk taught by the student nurses

Nursing education

- Teachers of the present and future generation should make wise decisions about the use of videos in teaching to enhance quality of student learning and to maximize teaching and learning tool.
- Electronic based learning can be inculcated in the teaching process of the students by the teachers to make the concepts more interesting and innovative rather than the monotonous traditional method.

Nursing administration

- Nurse as administrator should bring out policy to inculcate video based teaching for nurses.
- Nurse administrators should aid in the promotion of E-learning facilities and computer facilities in the library.

Nursing research

- This study makes reference for the future researcher.
- So future studies need to be conducted regarding the effect of video assisted teaching on varies other areas of nursing.

Recommendations

- Replication of the study could be done with a larger sample to validate and generalize the findings
- Comparative study to find the effectiveness of video assisted method with other methods of teaching should be done.
- Future researchers should undertake researches to determine the effectiveness of various types of computer assisted teaching for various subject areas and at different levels.

Conclusion

The current study findings suggest that video assisted teaching is an effective teaching method compared to the traditional lecture teaching method, and it can be easily administered to the student nurses, which in turn will improve the knowledge level as well as retention of the knowledge which has been acquired from the teaching.

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**APPENDIX- 4
LIST OF EXPERTS**

S.No.	Name of Experts	Designation
1.	Dr. Thiagarajan	Professor&HOD Department Of Neurosurgery Pondicherry Institute Of Medical Sciences puducherry
2.	Dr.Sridevy	Associate Professor Medical – Surgical Nursing Mother Theresa Post Graduate &Research Institute Of Health Sciences puducherry
3.	Mrs. Sunitha Theresa	Professor cum HOD Medical – Surgical Nursing Indirani College Of Nursing Ariyur
4.	Dr. Amirtha santhi.s	Deputy Nursing Superintendent Pondicherry Institute of Medical Sciences. Ganapaticettikulam. Kalapet, Puducherry.-14
5.	Mrs .Shanmugapriya	Tutor Department of Medical Surgical Nursing College Of Nursing JIPMER

**APPENDIX- 5
LESSON PLAN
ON
GLASGOW COMA SCALE**

NAME OF STUDENT TEACHER : Larance Marie
 TOPIC : Glasgow coma scale
 DATE :16.9.19
 DURATION: 20 mts
 CLASS : BSc nursing
 VENUE: 1st year B.Sc nursing class room
 NO.OF STUDENT: 38

TEACHING METHOD : Lecture cum discussion

TEACHING AID : White Board

GENERAL OBJECTIVE:

The students will be able to gain knowledge and attitude on Glasgow coma scale and will be able to practice the acquired knowledge in clinical setting.

SPECIFIC OBJECTIVE:

At the end of the class the students will be able to

1. Describe the meaning if Glasgow coma scale
2. Enlist the uses of Glasgow coma scale
3. Explain about the method of scoring in Glasgow coma scale
4. Describe the interpretations of Glasgow coma scale
5. Enlist the main considerations of Glasgow coma scale

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHER'S ACTIVITY	STUDENT ACTIVITY																																				
1	2mts	Describe the meaning of Glasgow coma scale.	<p align="center"><u>MEANING</u></p> <p>The Glasgow Coma Scale (GCS) is a neurological scale which aims to give a reliable and objective way of recording the state of a person's consciousness for initial as well as subsequent assessment. A person is assessed against the criteria of the scale, and the resulting points give a person's score between 3-15</p>	Lecture cum discussion	Listening asking do																																				
2	3mts	Enlist the uses of Glasgow coma scale	<p align="center"><u>USES</u></p> <ul style="list-style-type: none"> • GCS was initially used to assess a person's level of consciousness after a head injury • It is used by emergency medical services, nurses, and physicians as being applicable to all acute medical and trauma patients. 	Lecture cum discussion	Listening asking do																																				
3	10mts	Explain about the method of scoring in Glasgow coma scale	<p align="center"><u>METHOD OF SCORING</u></p> <p>There are three main components in the assessment of Glasgow coma scale ,they are</p> <p align="center"><u>EYE RESPONSE</u></p> <table border="1"> <tr> <td>1.No opening of the eye</td> <td>E₁</td> </tr> <tr> <td>2. Eye opening in response to pain stimulus.</td> <td>E₂</td> </tr> <tr> <td> <ul style="list-style-type: none"> • A peripheral pain stimulus, such as squeezing the supra orbital region to assess the response </td> <td></td> </tr> <tr> <td>3. Eye opening to speech.</td> <td>E₃</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Patient opens his eyes when his name is called </td> <td></td> </tr> <tr> <td>4.Eyes opening spontaneously</td> <td>E₄</td> </tr> <tr> <td align="center" colspan="2"><u>VERBAL RESPONSE</u></td> </tr> <tr> <td>1.No verbal response</td> <td>V₁</td> </tr> <tr> <td>2. Incomprehensible sounds.</td> <td>V₂</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Moaning but no words </td> <td></td> </tr> <tr> <td>3. Inappropriate words.</td> <td>V₃</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Random or exclamatory articulated speech, but no conversational exchange. Speaks words but no sentences </td> <td></td> </tr> <tr> <td>4. Confused.</td> <td>V₄</td> </tr> <tr> <td> <ul style="list-style-type: none"> • The person responds to questions coherently but there is some disorientation and confusion </td> <td></td> </tr> <tr> <td>5.Oriented</td> <td>V₅</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Person responds coherently and appropriately to questions such as the person's name and age, where they are and why, the year, month, etc </td> <td></td> </tr> <tr> <td align="center" colspan="2"><u>MOTOR RESPONSE</u></td> </tr> <tr> <td>1.No motor response</td> <td>M₁</td> </tr> </table>	1.No opening of the eye	E ₁	2. Eye opening in response to pain stimulus.	E ₂	<ul style="list-style-type: none"> • A peripheral pain stimulus, such as squeezing the supra orbital region to assess the response 		3. Eye opening to speech.	E ₃	<ul style="list-style-type: none"> • Patient opens his eyes when his name is called 		4.Eyes opening spontaneously	E ₄	<u>VERBAL RESPONSE</u>		1.No verbal response	V ₁	2. Incomprehensible sounds.	V ₂	<ul style="list-style-type: none"> • Moaning but no words 		3. Inappropriate words.	V ₃	<ul style="list-style-type: none"> • Random or exclamatory articulated speech, but no conversational exchange. Speaks words but no sentences 		4. Confused.	V ₄	<ul style="list-style-type: none"> • The person responds to questions coherently but there is some disorientation and confusion 		5.Oriented	V ₅	<ul style="list-style-type: none"> • Person responds coherently and appropriately to questions such as the person's name and age, where they are and why, the year, month, etc 		<u>MOTOR RESPONSE</u>		1.No motor response	M ₁	Lecture cum discussion	Listening asking do
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			<p>2.Decerebrate posturing-accentuated by pain</p> <ul style="list-style-type: none"> Extensor: adduction of arm, internal rotation of shoulder, pronation of forearm and extension at elbow, flexion of wrist and fingers, leg, extension plantar flexion of foot 	M ₂										
			<p>3.Decorticate posturing -accentuated by pain</p> <ul style="list-style-type: none"> Flexor : internal rotation of shoulder, flexion of forearm and wrist with clenched fist, leg extension, plantar flexion of foot 	M ₃										
			<p>4.Non localizing pain</p> <ul style="list-style-type: none"> Absence of abnormal posturing; unable to lift hand past chin with supraorbital pain but does pull away when nail bed is pinched 	M ₄										
			<p>5.Localizes to pain</p> <ul style="list-style-type: none"> Purposeful movements towards painful stimuli; e.g., brings hand up beyond chin when supraorbital pressure applied 	M ₅										
			<p>6.Obeying commands</p> <ul style="list-style-type: none"> Patient is oriented to time ,place and person and obeys simple commands 	M ₆										
4.	2mts	Describe the interpretations of Glasgow coma scale	<p><u>INTERPRETATIONS</u></p> <p>Generally, brain injury is classified as:</p> <ul style="list-style-type: none"> Severe, GCS < 9 Moderate, GCS 9–12 Minor, GCS ≥ 13. <p>Glasgow coma scale is interpreted as GCS=E₄V₅M₆</p> <p>In case of patients with tracheotomy and intubation, who are unable to give verbal response GCS is interpreted as</p> <table border="1"> <tr> <td>Tracheostomy</td> <td>VT</td> </tr> <tr> <td>Intubation</td> <td>VT</td> </tr> <tr> <td>Unable to test the eye response due to swelling</td> <td>E_C</td> </tr> <tr> <td>Unable to test motor response due to spinal injury</td> <td>NT</td> </tr> </table>	Tracheostomy	VT	Intubation	VT	Unable to test the eye response due to swelling	E _C	Unable to test motor response due to spinal injury	NT		Lecture cum discussion	Listening asking d
Tracheostomy	VT													
Intubation	VT													
Unable to test the eye response due to swelling	E _C													
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5	3mts	Enlist the main considerations of Glasgow coma scale	<p>➤ <u>MAIN CONSIDERATIONS</u></p> <p>➤ Pain stimuli is given in the supra orbital region ,nail bed and by trapezium squeeze</p> <p>➤ In case of decreased GCS compared to the previous score the nurse has to immediately notify the patient to the medical officer</p> <p>➤ GCS is assessed hourly for the patient with neurological condition.</p> <p>➤ For a patient who is brought dead to the causality the GCS is E₁V₁M₁</p>		Lecture cum discussion	Listening asking d								

SUMMARY

So far we have seen about Glasgow coma scale its meaning, uses, method of scoring, interpretations and main consideration.

CONCLUSIONS

Glasgow coma scale is one of the standardised scales for measuring the conscious level of the patient, however with proper acquisition of knowledge about Glasgow coma scale we will be able to practice in the clinical setup.

REFERENCE

- Green S. M. (2011). "Cheerio, Laddie! Bidding Farewell to the Glasgow Coma Scale". Annals of Emergency Medicine. **58** (5): 427–430.
- Gill M, Windemuth R, Steele R, Green SM (2005). "A comparison of the Glasgow Coma Scale score to simplified alternative scores for the prediction of traumatic brain injury outcomes". Ann Emerg Med. 45 (1): 37–42.

APPENDIX-6

TOOL

SECTION -A: DEMOGRAPHIC DATA

Instructions:

✓ Fill the questions given as appropriate

1. Year of study

2. Age
 3. Gender
 4. Do you know about Glasgow coma scale? (Yes/no)
 5. If yes, then from where have you acquired information regarding Glasgow coma scale?
-

SECTION-B

SELF ADMINISTERED QUESTIONNAIRES REGARDING KNOWLEDGE ON GLASGOW COMA SCALE

Instructions

➤ Kindly circle near the respective answers.

1. What is the use of Glasgow coma scale?
 - a) For assessing nerve conduction
 - b) To assess the consciousness level
 - c) To assess the emotional status
2. What possible sequence of responses is assessed in the eyes?
 - a) Spontaneous ,to sound ,to pain ,no response
 - b) Spontaneous , no response ,to pain ,to sound
 - c) To pain , no response ,to sound ,spontaneous
3. When you approach the patient he is awake and looking at you, how would you record this on the Glasgow coma scale?
 - a) Spontaneous eye opening (E₄)
 - b) Oriented
 - c) Obeying commands (M₆)
4. What is the eye response score for a patient who opens his eyes for pain stimuli?
 - a) E₂
 - b) E₄
 - c) E₅
5. How much verbal response score will you give for a patient who is oriented to time, place and person?
 - a) V₃
 - b) V₄
 - c) V₅
6. What GCS score will you give to a patient who talks in a confused manner?
 - a) V₄
 - b) V₃
 - c) V₅
7. You are giving pain stimuli for a patient but the patient has no verbal response .how will you interpret this in the verbal response?
 - a) V₀
 - b) V₁
 - c) V₂
- 8 . How much motor score will you give if the patient obeys commands?
 - a) M₁
 - b) M₂
 - c) M₆
9. What motor score will you give for a patient who does not localize pain?
 - a) M₅
 - b) M₄
 - c) M₃
10. Where will you give pain for the patient while assessing Glasgow coma scale?
 - a) Chin
 - b) Hand
 - c) Supra orbital region
11. What will you do when you find sudden decrease in the GCS of a patient compared to the previous GCS?
 - a) Wait for 1hour

- b) Assume the patient must be sleeping
 - c) Inform the doctor immediately
12. What are the three components of the Glasgow coma scale?
- a) Eye ,motor ,memory responses
 - b) Eye, motor ,pain responses
 - c) Eye, verbal, motor responses
13. A neurological patient opens his eyes when you call him .How will you record it in Glasgow coma scale?
- a) E₂
 - b) E₃
 - c) E₄
14. What is the eye response score for a patient who has no response for pain stimuli?
- a) E₂
 - b) E₃
 - c) E₁
15. A patient gives incomprehensible sounds as verbal response, how will you score it GCS?
- a) V₁
 - b) V₂
 - c) V₃
16. A patient talks inappropriate words .How will u score the patient using Glasgow coma scale?
- a) V₁
 - b) V₂
 - c) V₃
17. How much will you score in GCS if you notice a patient has no motor response to pain stimuli?
- a) M₀
 - b) M₆
 - c) M₁
18. What score will you give for a patient who brings his hand towards the area were the pain is given?
- a) M₄
 - b) M₅
 - c) M₆
- 19 .What is the GCS score for the patient having decortications?
- a) M₃
 - b) M₄
 - c) M₂
20. What is the verbal score for a patient with tracheostomy?
- a) E_C
 - b) V_T
 - c) NT

APPENDIX- 7**PARTICIPANT'S INFORMATION SHEET**

TITLE: Comparison of Video Assisted Teaching Vs Lecture Method on Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students

PRINCIPLE INVESTIGATOR AND CONTACT DETAILS:

Ms.Larance Marie
M.Sc. Nursing 1st Year
Medical and surgical nursing
College of nursing
Pondicherry institute of medical science.Ph.8220277316

PURPOSE OF THE RESEARCH STUDY:

The purpose of doing this study is to compare the effect of video assisted teaching vs lecture method in improving the Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students. .

It is important that you take enough time to read and understand the information provided in this sheet. The study will be explained to you before you take part in the research study and you will be given the chance to ask question. After you are satisfied that you have understood about the study, and that you wish to take part in this study, you must sign the informed consent form, you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can withdraw your participation at any time and your refusal will not cause any impact. You will be given a copy of the consent form.

POSSIBLE BENEFITS:

There will be no harm in participating in the study. However, your participation will play a vital role to compare the effect of video assisted teaching vs lecture method in improving the Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students. No compensation/honorarium will be provided to participant in this study.

PROCEDURES FOLLOWED IN THIS STUDY

A self-administered questionnaire will be given to the study participants regarding Glasgow coma scale and video assisted teaching will be given for 1st group and lecture method for 2nd group will be given after the pre test and then the post test will be conducted. The data collected will be recorded and analyzed to rule out the results.

RISK OF BEING IN THE STUDY

There is no risk associated with this study. Only the level of knowledge on Glasgow coma scale and effect of video assisted teaching and lecture method will be assessed.

BENEFITS OF BEING IN THE STUDY

Effect of Video Assisted Teaching Vs Lecture Method on Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students can be identified.

CONFIDENTIALITY AND PRIVACY PROTECTIONS

- Confidentiality of the data will be maintained
- Your data will be kept by a number instead of a name

Signature of the Investigator

**APPENDIX-8
CONSENT FORM**

TITLE: Compare the effect of Video Assisted Teaching Vs Lecture Method on Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students

PRINCIPLE INVESTIGATOR AND CONTACT DETAILS:

Ms.Larance Marie
M.Sc. Nursing 1st Year
Medical and surgical nursing
College of nursing
Pondicherry institute of medical science.Ph.8220277316

I voluntarily consent to take part in this study. I have fully discussed and understood the purpose and the procedures of the study. This study has been explained to me in the way I understand. I have been given enough time to ask any question that I have about the study, and all my question have been answered to my satisfaction. I can withdraw from the research at any time if I am not interested. I know that no compensation/honorarium will be provided to participate in this study.

Name of the Participant _____

Signature _____

Date _____

WITNESS STATEMENT:

I, the undersigned, certify to the best of my knowledge that the participant signing this informed consent form had the study fully explained in a language that understood by him/her and clearly understand the nature, risk and benefits of his/her participation in this study.

Name of the Witness _____ Signature _____ Date _____

Name Of The Investigator Signature Date

APPENDIX-9
ASSENT FORM

Title: Compare the Effect of Video Assisted Teaching Vs Lecture Method on Knowledge Regarding Glasgow Coma Scale (GCS) among Nursing Students

I _____, with my choice, hereby give my consent for participation in the above entitled study. I have been informed to my satisfaction by the Investigator, about the purpose of the study and the method of intervention. I am aware that my parents/guardians do not have to bear the expenses of the study which is related to this study. I am also aware of right to opt out of the study at any time during the course of the study, without having to give reasons for doing so.

Name and Signature of the study participantDate:

Name and Signature of the parent/guardianDate:

Name and Signature of the InvestigatorDate:

Witness Statement

I, the undersigned, certify to the best of my knowledge that the participant signing this informed consent form had the study fully explained in a language that understood by him / her and clearly understood the nature, risk and benefits of his / her participation in the study.

Name of the witness Signature Date

Name of the Investigator Signature Date

APPENDIX- 10
PHOTOGRAPHS
GROUP-1 (LECTURE
TEACHING METHOD)

PRE-TEST



INTERVENTION



POST TEST

**GROUP-2(VIDEO ASSISTED TEACHING)
PRE-TEST**



INTERVENTION



POST-TEST

APPENDIX -11

PLAGIARISM CERTIFICATE
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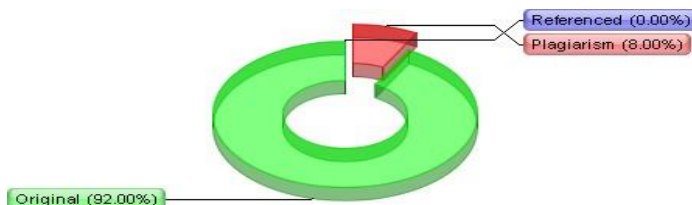
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