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"A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME REGARDING NEUROLOGICAL ASSESSMENT ON KNOWLEDGE AMONG STAFF NURSES WORKING IN SELECTED HOSPITALS OF AHMEDABAD CITY."

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ABSTRACT

Background

Neurological disorder is constantly rising in India. Neurological disorder are important cause of mortality and constitute 11.84% of total globally. The staff nurses will have an increase knowledge regarding neurological assessment.

Objectives:

- To assess the pre-test knowledge scores of staff nurses working in selected hospitals of Ahmadabad city
- To assess the post-test knowledge scores of staff nurses working in selected hospitals of Ahmadabad city.
- To evaluate the effectiveness of Planned Teaching Programme regarding neurological assessment among staff nurses working in selected hospitals of Ahmadabad city.
- To find out association of pre-test knowledge scores of staff nurses regarding neurological assessment with selected demographic variable in selected hospitals of Ahmedabad city.

Method

Pre-experimental approach was used with one group pre test post test design. The investigator used convenient sampling technique for selecting 40 samples. A structured knowledge questionnaire to assess the knowledge of the samples. The reliability of the structured knowledge questionnaire was determined by 'test-retest method' and using 'Karl pearson's correlation co-efficient formula'. Descriptive and inferential statistics was used to analyze the data.

Results

Majority of the samples 24 (60%) belong to the age group of 20 to 30 years, majority 34 (85.0%) of samples were female, majority of the samples 30 (75%) belong to GNM, majority of the samples 15 (37.5%) had 0 to 2 years of experience and majority of the samples 38 (95%) had not attended any training/workshop/seminar/In service education regarding neurological assessment. The mean pre-test knowledge score of samples regarding neurological assessment was 15.08, whereas mean post-test knowledge score was 24.55 with a mean difference of 9.47 and SD pretest was 2.84 and post test was 2.83 The calculated 't' value 39.453 was greater than tabulated 't'= 2.02 which was statistically proved at 0.05 level of significance. It revealed that the Planned Teaching Programme was effective in increasing knowledge among the Samples. The association between the pre test score and demographic variables was tested using the chi-square test. There was significant association found between pre-test knowledge score and demographic variables such as professional qualification and years of experience. Thus it was concluded that there was significant association between pre test knowledge score and the selected demographic variables and also between pre test practice score and the selected demographic variables.

Conclusion

This indicates that the Planned teaching Programme was effective to enhance the level of knowledge regarding neurological assessment among staff nurses.

Key words

"A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME REGARDING NEUROLOGICAL ASSESSMENT ON KNOWLEDGE AMONG STAFF NURSES WORKING IN SELECTED HOSPITALS OF AHMEDABAD CITY."

Introduction

Neurological assessment is the assessment of the sensory neurons and motor responses, especially reflexes, to determine whether the nervous system is impaired. This typically includes physically examination and a review of patient's medical history. Neurological assessment is a sophisticated and subtle process, comprising a large number of tests of highly specialized function. Although the neurological assessment is often limited to simple screening. It is necessary for the examiner to be able to conduct a through neurological assessment when the history or other physical finding warrant it.The Neurological assessment is a systemic process that includes a variety of clinical tests, observations, and assessments designed to evaluate a complex system. It divided into five components: Cerebral function, Cranial nerves, Motor system, Sensory system, and Reflexes to determine whether the Nervous System is Impaired. It tells us Weather the patient's nervous system is working normally or not. It also helps to Diagnose & localize the disease within the nervous system. Neurological disorders are constantly on the rise and they are most of the time costly as well. The WHO report says Neurological disorders are an important cause of mortality and constitute 11.84% of total deaths globally. And in the upcoming years it will increases to the 12.22%. Within these, cerebrovascular diseases are responsible for 85% of the deaths due to neurological disorders Neurological disorders constitute 16.8% of the total deaths in lower middle-income countries compared with 13.2% of the total deaths in high income countries. The World Health Organization [WHO] estimates that 5 million death occurred in every year in Intensive Care Units. In India every year approximately 3.2million ICU's admissions are occurring. In which 80% patients are in coma stage and in that 48000 deaths are occurring. India has one percent of total number of vehicle in the world it accounts for six percent of road traffic accident, which is highest accident rate in the world. In south India the overall ICU's admission in 2009 was 56.6% but Zimbabwe and Iran the admission was 20%, 19.6% respectively. The overall causes in world about 20 million peoples are admitting in ICU's by various causes.

Objectives of the study were:

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- To evaluate the effectiveness of Planned Teaching Programme regarding neurological assessment among staff nurses working in selected hospitals of Ahmadabad city.
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Pre-experimental approach was used with one group pre test post test design. The investigator used convenient sampling technique for selecting 40 samples. A structured knowledge questionnaire to assess the knowledge of the samples. The reliability of the structured knowledge questionnaire was determined by 'test-retest method' and using 'Karl pearson's correlation co-efficient formula'. Descriptive and inferential statistics was used to analyze the data.The investigator reviewed related literature to describe the tool to assess the knowledge of the samples about selective care aspects of critical ill patient. Tool divided in to two sections. Section I: Demographic data Demographic variables of the samples consist of 5 items such as age, gender, professional qualification, work experience and attended any educational Programme related to neurological assessment. Section II: Structured knowledge questionnaire Structured knowledge questionnaire developed by researcher consists of the mental status, level of consciousness, cranial nerves, motor function, sensory function, reflexes. In that total 30 items and each items carries one mark. Each question which includes one right answer (most appropriate answer). The sample population need to choose most appropriate correct option for given question to assess the knowledge of staff nurses related to neurological assessment. No any negative marking was given for wrong answers maximum score of questionnaires had 30 marks. Scoring of the knowledge regarding neurological assessment consists three categories: Poor knowledge (0-10), Average knowledge (11-20),Good knowledge (21-30).

Results:

Majority of the samples 24 (60%) belong to the age group of 20 to 30 years, majority 34 (85.0%) of samples were female, majority of the samples 30 (75%) belong to GNM, majority of the samples 15 (37.5%) had 0 to 2 years of experience and majority of the samples 38 (95%) had not attended any training/workshop/seminar/In service education regarding neurological assessment. The mean pre-test knowledge score of samples regarding neurological assessment was 15.08, whereas mean post-test knowledge score was 24.55 with a mean difference of 9.47 and SD pretest was 2.84 and post test was 2.83 The calculated 't' value 39.453 was greater than tabulated 't'= 2.02 which was statistically proved at 0.05 level of significance. It revealed that the Planned Teaching Programme was effective in increasing knowledge among the Samples. The association between the pre test score and demographic variables was tested using the chi-square test. There was significant association found between pre-test knowledge score and demographic variables such as professional qualification and years of experience. Thus it was concluded that there was significant association between pre test knowledge score and the selected demographic variables and also between pre test practice score and the selected demographic variables.

Table 1 : Demographic variables

Sr No.	Demographic Variables	Frequency	Percentage (%)
1.	**Age:**		
	a) 20 to 30	24	60
	b) 31 to 40	13	32.5
	c) 41 to 50	03	7.5
	d) 51 years and above	00	0
2.	**Gender:**		
	a) Female	34	85
	b) Male	6	15
3.	**Professional Qualification:**		
	a) G.N.M.	30	75
	b) Basic B.Sc. Nursing	08	20
	c) P.B.B.Sc.	02	5
	d) M.Sc. nursing	00	0
4.	**Year of Experience:**		
	a) 0 to 2 years	15	37.5
	b) 3 to 5 years	09	22.5
	c) 6 to 8 years	03	7.5
	d) 9 to 11 years	07	17.5
	e) 12 years & above	06	15
5.	**Attended any training/workshop/seminar/In service education on neurological assessment:**		
	a) Yes	02	5
	b) No	38	95

TABLE 2: FREQUENCY DISTRIBUTION LEVEL OF KNOWLEDGE AMONG STAFF NURSES IN PRE AND POST TEST

Level of knowledge score	PRE-SCORE		POST SCORE	
	Frequency	Percentage	Frequency	Percentage
POOR KNOWLEDGE (0-10)	05	12.5%	00	0%
AVERAGE KNOWLEDGE (11-20)	35	87.5%	05	12.5%
GOOD KNOWLEDGE (21-30)	00	0%	35	87.5%
Total	**40**	**100%**	**40**	**100%**

Fig. 1: Bar graph showing the level of knowledge Of the students

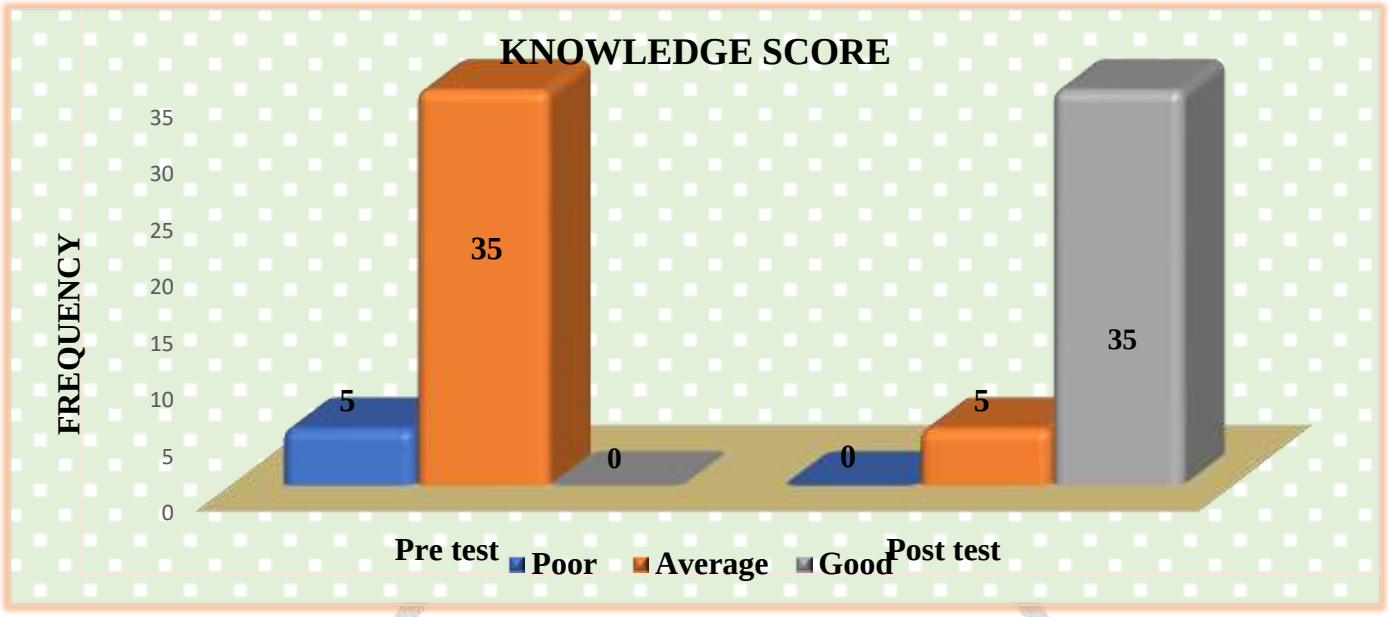


Diagram shows before administration of planned teaching programme regarding neurological assessment pre-test knowledge scores of the samples was: poor knowledge 05 (12.5%), average knowledge 35 (87.5%) and good knowledge 0(0%), whereas after administration of planned teaching programme regarding neurological assessment post-test knowledge score was about 35 (87.5%) had good knowledge, average knowledge 05 (12.5%) and poor knowledge0(0%).

TABLE 3: Comparison of the pre - test and post - test knowledge regarding disaster management among students (aspect wise) :

Sr No.	Area Of Content	Max Score	Pre Test		Post Test		Gain (%)	Mean Difference
			Mean score	Mean (%)	Mean score	Mean (%)		
1.	**Introduction of neurological assessment**	3	2.38	79.33	2.88	96.00	16.67	0.5
2.	**Mental status**	1	0.35	35.00	0.68	68.00	33.00	0.33
3.	**Level of consciousness**	5	2.5	50.00	4.43	88.60	38.60	1.93
4.	**Cranial nerves**	8	4.08	51.00	6.88	86.00	35.00	2.8
5.	**Motor**	6	2.45	40.83	4.45	74.17	33.33	2
6.	**Sensory**	3	1.73	57.67	2.35	78.33	20.67	0.62
7.	**Reflexes**	4	1.6	40.00	2.9	72.50	32.50	1.3
	Total	**30**	**15.08**	**50.27**	**24.55**	**81.83**	**31.57**	**9.47**

Fig. 2 : Bar graph showing the aspect wise comparison of pre-testand post-test level of knowledge regarding disaster management amongthe students.

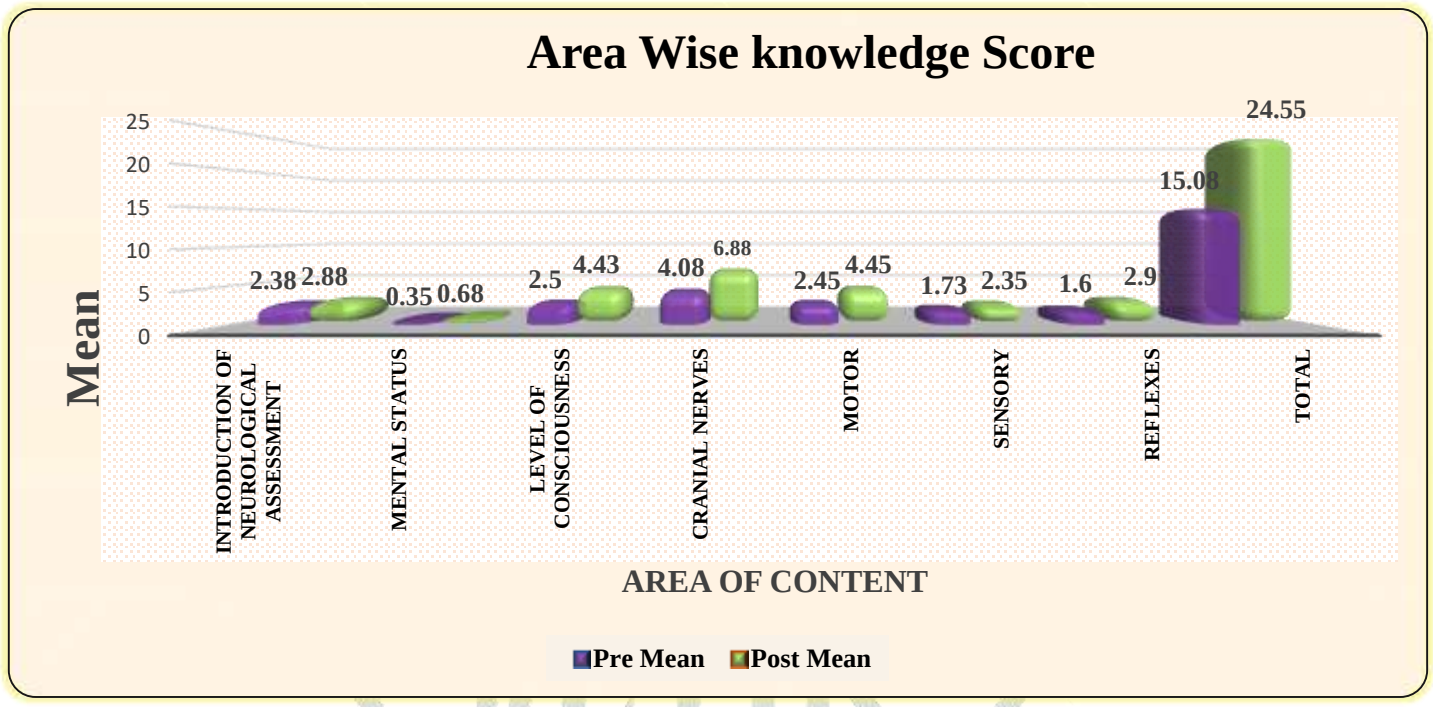


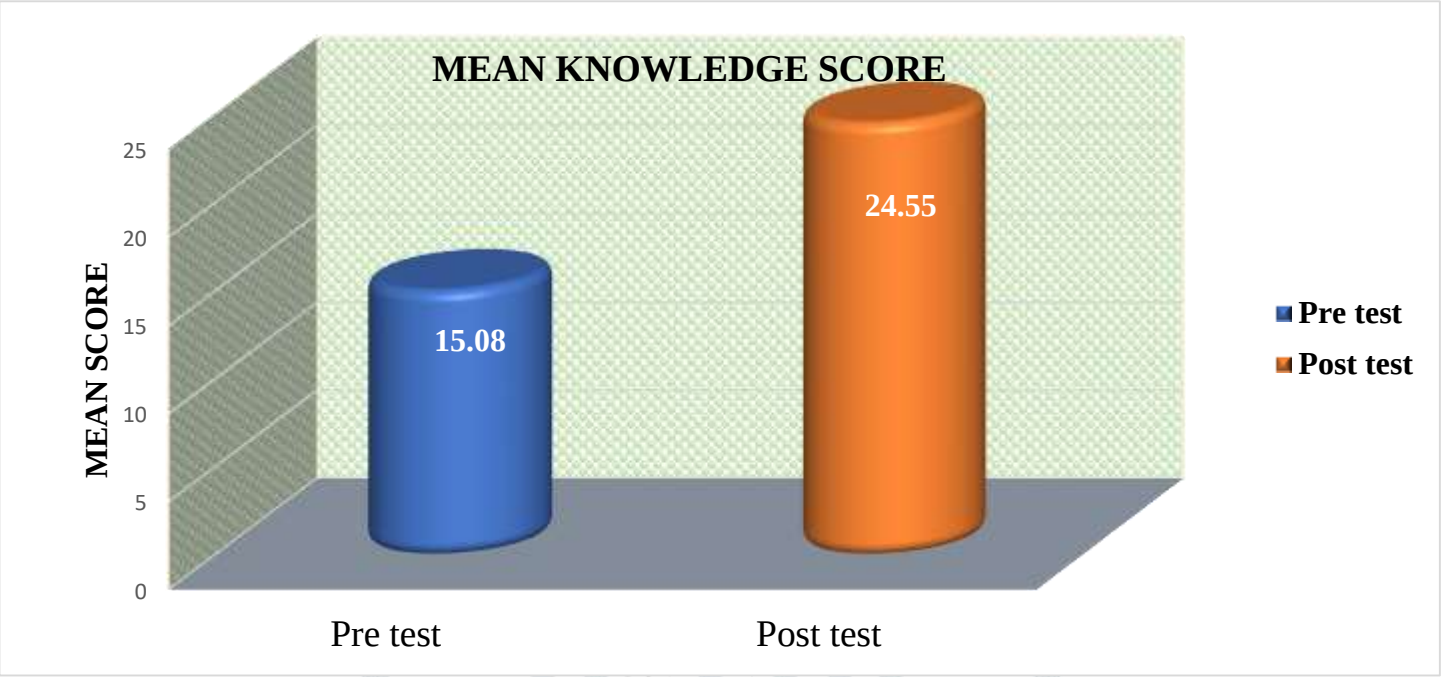
Figure shows the comparison between pre-test and post-test knowledge score obtained by samples. The mean score, mean percentage & mean percentage gain and mean difference in each area were computed. The data presented in above table shows the comparison between pre-test and post-test knowledge score obtained by staff nurses regarding neurological assessment the knowledge area was divided into seven sub areas.Table deplicated area wise distribution of pre-test and post-test knowledge score of the samples. The pre-test knowledge score of samples as per area was Introduction 2.38(79.33%),Mental status 0.35(35%) Level of consciousness 2.5 (50%),Cranial nerve, 4.08 (51%), Motor 2.45 (40.38%) ,Sensory 1.73(57.67%), Reflexes 1.6 (40%).The post-test knowledge score of Samples as per area was accordingly Introduction 2.88(96%), Mental status 0.68(68%), Level of consciousness 4.43(88.60%) , Cranial nerve 6.88(86%), Motor 4.45 (74.17%), sensory 2.35 (78.33%), reflexes 2.9 (72.50%). The data further indicates that the post-test mean percentage scores in all content areas were higher than the pre-test mean percentage knowledge score. The investigator concluded that there was significance increase in the mean post-test knowledge score as compared to mean pre- test knowledge score in all areas after administration Planned Teaching Programme regarding Neurological assessment.

TABLE 4: Comparison of mean scores between pre test and post test of knowledge regarding disaster management (overall)

[N=40]

Knowledge test	Mean score	Mean difference	SD	Calculated 't' value	Table 't' value	DF	Significant /non significant
Pre test	15.08	9.47	2.84	39.453	2.02	39	significant
Post test	24.55		2.83				

Fig.: 5 Bar diagram showing the comparison of overall mean score between pre-test and post-test level of knowledge



regarding disaster management among the students.

TABLE 5: Association between pre -test knowledge score regarding neurological assessment with demographic variables.[N=40]

Sr no.	Demographic variables	Frequency	Chi square		DF	Association
			calculated value	Table value		
1.	**Age: (years)** a) 20 to 30 b) 31 to 40 c) 41 to 50	24 13 03	0.719	5.99	2	Not significance
2.	**Gender:** a) Male b) Female	06 34	0.112	3.84	1	Not significance
3.	**Education qualification** a) G.N.M. b) Basic B.Sc. Nursing c) P.B.B.Sc.	30 08 02	8.82	5.99	2	significance
4.	**Year of experience:** a) 0 to 2 years b) 3 to 05 years c) 06 to 08years d) 09 to 11years e) 12 years & above	15 09 03 07 13	9.803	7.81	3	significance

5.	Attended any Training/ Workshop/Seminar/In-Service Education Programme related to Neurological Assessment: a) Yes b) No	02 38	2.707	3.84	1	Not significance

Table 4.3Shows the association of the Pre-Test Knowledge Scores of the samples with demographic variables such as Age, Gender, Professional Qualification, Years of Experience, and attended any training/workshop/seminar/In service education programme related neurological assessment.Regarding, age groups with the pre-test knowledge scores, the calculated value of chi-square 0.719 was less than the table value 5.99 of chi-square, at the 2 degree of freedom and 0.05 level of significance. Hence, Age had not significant association with the pre-test knowledge score of samples.Regarding, Gender of the samples with the pre-test knowledge scores, the calculated value of chi square 0.112 was less than the table value 3.84 of chi-square was at 1 degree of freedom and 0.05 level of significance. Hence, Gender had not significant association with the pre-test knowledge score of samples.Regarding, professional qualification of the samples with the pre-test knowledge scores, the calculated value of chi square was 8.82 and table value of chi square was 5.99 at 2 degree of freedom and 0.05 level of significance. Hence, professional qualification had significant association with the pre-test knowledge score of samples.Regarding, work experience in critical care units with the pre-test knowledge scores the calculated value of chi-squarewas 9.803 and it was more than the table value 7.81 of chi-squareat 3 degree of freedom and 0.05 level of significance. Hence, Years of Experience had significant association with the pre-test knowledge score of the samples.Regarding, attended any educational programme with the pre-test knowledge scores, the calculated value of chi-square was 2.707 and it was less than the table value 3.84 of chi-square at 1 degree of freedom and 0.05 level of significance. Hence, attended any educational programme had not significant association with the pre-test knowledge score of the samples.This indicates that the selected demographic variables**, educational qualification and years of Experience,** had significant association with pre-testknowledge score among the samples so research hypothesis H_2 was accepted and null hypothesis H_0 was rejected.

DISCUSSION:

The present study was conducted to evaluate the effectiveness of planned teaching Programme regarding neurological assessment on knowledge among staff nurses working in selected hospitals of Ahmedabad city. The investigator collected the samples by non-Probability convenience Sampling Technique. The investigator collected the data by using structured knowledge questionnaire for assessing the knowledge regarding neurological assessment among staff nurses of selected hospitals of Ahmedabad city.The investigator using pre-experimental, one group pre-test post-test design. The tool consists of demographic variables, structured knowledge questionnaire toassessthe knowledge regarding neurological assessment among staff nurses.Themainstudy was conducted in the month of June, on 40 staff nurses working in ICU (MICU, SICU) and who met the inclusion criteria, who were selected by non-Probability convenience sampling technique. After the selection of samples, the level of knowledge regarding neurological assessment among staff nurses was assessed by using the structured knowledge questionnaire.Planned teaching Programme regarding neurological assessment was administered. After taking a pretest of the samples. After7daysof Planned teaching Programme regarding neurological assessment,Posttestwasconductedonthesamplesusing structured knowledge questionnaire. The descriptivestatistics(frequency,percentage,mean,standarddeviation)andinferential statistics(t-test)wereusedtoanalyzethedata,andtotestthestudyhypotheses.The data identified from the present study shows that the pre-test means scores was 15.08 and after the administration of planned teaching Programme conducted the post test the post test mean score was 24.55 with standard deviation is 2.84 and the pairedt-testvalueof knowledge score was39.453 (Tablevalue–2.02)wasobtained, whichisstatisticallysignificantatp<0.05level. Hence the data proved that planned teaching Programme was effective to increasing the staff nurse's knowledge regarding neurological assessment.

Conclusion

This indicates that the Planned teaching Programme was effective to enhance the level of knowledge regarding neurological assessment among staff nurses.

Conflict of interest : The authors declare that they have no competing interests.

Ethics declarations

Ethics approval and consent to participate

JG College of Nursing, Institute Ethics Committee reviewed this study and granted ethical approval. consents has been obtained from participants.

Consent for publication

Written consent for publication was obtained from each participant.

REFERENCES

BOOKS

- Ansari Javed. (2012). ***Examination master in medical surgical nursing*** *II.* 1st S.vikas company (medical publisher) India.
- B.T., B. (2003). ***MEDICAL SURGICAL NURSING****,1st edition.* New Delhi: JAYPEE brothers.
- B.T., B. (2007). ***NURSING RESEARCH****, 2ND EDITION.* Banglore: JAYPEE brothers.
- Chaugh.S.N. (n.d.). ***TEXTBOOK OF MEDICAL SURGICAL NURSING****,1ST EDITION.* New Delhi: Wolters Kluwer(India)Pvt.Ltd.
- Joyce, B. (n.d.). ***TEXT BOOK OF MEDICAL SURGICAL NURSING***. New Delhi: Elsevier Publication.
- Lewis, B. (2013). ***TEXT BOOK OF MEDICAL SURGICAL NURSING****,6th edition.* New Delhi: ELSEVIER Publication.
- Linda. (n.d.).***UNDERTAKING MEDICAL AND SURGICAL NURSING***. New Delhi: JAYPEE publication.
- Linton. (2012). ***TEXT BOOK OF MEDICAL SURGICAL NURSING****,6th edition.* Canada: Elsevier Publication.
- Lippincott. (n.d.). ***Text book of medical surgical nursing***. Delhi: Elsevier.
- Misher, M. (1995).***TEXBOOK OF MEDICAL SURGICAL NURSING*** *volume-2 2nd edition.* America: W.B.Saunders.
- Patrick. (1991). ***TEXTBOOK OF MEDICAL SURGICAL NURSING****,2nd edition.* Canada: Lippincott Publication.
- Prabhakara. (2008). ***BIOSTATISTICS***. New Delhi: JAYPEE brothers Medical publisher pvt.Ltd.
- Sharma, S. (2014). ***NURSING RESEARCH AND STATISTICS****,2nd edition.* New Delhi: Elsevier Publication.
- Suddarth's, B. &. (n.d.). ***TEXTBOOK OF MEDICAL SURGICAL NURSING***. New Delhi: Wolters Kluwer.
- Susan C., D. (2011). ***TEXTBOOK OF MEDICAL SURGICAL NURSING****,2nd edition.* United States: Elsevier Publication.

JOURNALS

- Anndhathi S, Padrna K, A study to Assess the effectiveness of structured teaching Programme among 3 year B.SC Nursing student regarding Neurological Assessment of patient with brain stroke in selected Nursing collage, International journal oc multidisciplinary Education and Research(lSSN) volume-I, Issue-4 2019-21.
- **Ms. Sheetal Barde, Dr. Sheela Upendra,**A Study to Assess the Knowledge Regarding Neurological Assessment among Nurses working in Selected Hospitals of Pune City, annals of Romanian society of cell biology Volume 25 issue-3 February 2021
- Ms. Chaudhry Ankita, study to assess the effectiveness of planned teaching program on knowledge of GCS among 60 staff nurses of Nootan General hospital, Visnagar, international journal advances in nursing management volume 9, issue-1, 27th April 2021
- Ms. Rujata Patel, a study to assess the effectiveness of planned teaching programme regarding Glasgow coma scale on knowledge & attitude among staff nurses in Shree sardar Smarak hospital, Bardoli. International journal of current advance research, volume 9, issue-2, February 2020.
- Dr Mahadeo B Shinde1 , Dr Sunil M Kulkarni, a study to assess Knowledge Regarding Glasgow Coma Scale among Nurses Working at Tertiary Care Hospital. International journal of advance science and technology, Vol. 29, No. 5s, (2020), pp. 1225-1231

- Dr . Elhagga l, Impact of an Educational Programme for nurses and practice about Glasgow coma scale international journal of recent scientific research volujne-7,issue3, March 2016: PP 9690-9695 .
- Richard D.Sanders, the Neurological Examination in adult Psychiatry to hard science journal of Neuropsychiatry volume 10.
- Soheir Tawfeek Ahamed, Effect of Theoretical and Practical Edu, cational Program on Nurse's Compliance IOSR Journal of Nursing and health science volume-6, issue 3 may -june 2017 , PP 21-28
- T.A Ehwarieme, Nurse's knowledge of Glasgow coma scale in neurological assessment of patient in a selected tertiary hospital Africa Journal of nursing and midwifery November 2016: PP 74-86
- Tukaram B, Zagade, ,To Evaluate efficacy of learning package among staff Nurses regarding Neurological Assessment on patient with altered sensorium International journal of science and research (ISSN) Volume 3 ,lssue 9, September 2014 .

UNPUBLISHED THESIS

- Mr. Jitto george, "a study to assess the effectiveness of planned teaching programme on knowledge and practice regarding neurological assessment among staff nurses working in neurological wards in selected hospitals at bangalore".
- Mr. kirankumar, "to evaluate the effectiveness of video assisted teaching programme (vat) on knowledge regarding neurological assessment among third year b.sc nursing students in selected nursing colleges at Hassan"
- Mr. Satish kumar nagireddy, "a study to assess the effectiveness of structured teaching programme knowledge regarding on neurological parameters among staff nurses working in selected hospitals in Bangalore"
- Mrs.leema mary, "a study to assess the effectiveness of planned teaching programme on neurological assessment of patients among iii yearb.sc [n] students in selected colleges at Bangalore.

WEBSITES

- Neurology india. Publication of neurological society of india, Available from: www.neurlogyindia.com
- Neurological examination, Available from: https://en.wikipedia.org/wiki/Neurological_examination.
- Physiopedia neurological assessment, Available from: https://www.physio-pedia.com/Neurological_Assessment.
- John Hopkins medicine, condition and disease, Available from: https://www.hopkinsmedicine.org/health/conditions-and diseases/neurological-exam.
- Medline: we make healthcare run better, Available from: http://www.medline.com
- Medscape, Available from: http://www.medscape.com.
- Medline plus, neurological assessments. http://www.medlineplus.com
- International journal of advance nursing management, available from, https://ijanm.com/search.aspx?key=Ankita%20Chaudhari
- Medialibrary five minute neurological examination, Available from, https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/neurosurgery/images/5-minute-neuro-exam-handout.pdf
- Neurological assessment and GCS, Available from, https://www.ausmed.com/cpd/articles/neurological-assessment-gcs
- Nursing times, neurological observation, Available from, https://www.nursingtimes.net/clinical-archive/neurology/neurological-observations
- Nursing time, adult neurological observation chart, Available from, https://aci.health.nsw.gov.au/__data/assets/pdf_file/0018/201753/AdultChartEdPackage.pdf
- Healthcare link causes of neurological deterioration, Available from, healthcarelink.com.au/cpd/listing/causes-of-acute-neurological-deterioration/7598.
- MD+CALC Glasgow coma scale/score (GCS), Available from, https://www.mdcalc.com/glasgow-coma-scale-score-gcs
- Standford medicine 25 reflex exam, Available from, https://stanfordmedicine25.stanford.edu/the25/tendon.html
- Access pharmacy, the sensory exam, Available from, https://accesspharmacy.mhmedical.com
- MSD MANNUAL Professional Version, Available from, https://www.msdmanuals.com/en-in/professional/neurologic-disorders/neurologic-examination/how-to-assess-the-motor-system