

A study to assess the effectiveness of structured teaching programme among 3rd year b.sc (n) students regarding Neurological assessment of patients with brain stroke in selected Nursing college's at Kurnool

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Abstract

Background: The brain receives about 25% of the body's oxygen, but it cannot store it. Brain cells require a constant supply of oxygen to stay healthy and function properly. Therefore, blood needs be supplied continuously to the brain.

Objective: To assess the level of knowledge regarding Neurological Assessment of Patients with Brain Stroke in Selected Nursing college.

Materials and Methods: The Quatitative research approach adopted for the present study was one group pre test and post test, design and convenient sampling technique was followed which included 60 samples were used. Data was collected using structured questionnaire. Data analysis was done with SPSS.

Results: shows that over all knowledge level of respondents regarding neurological assessment of patients with brain stroke among B.Sc (N) students. The pre test results of the respondents 57 (95%) have below average knowledge level and 3 (5%) have average knowledge level. The post test results shows that below average knowledge was 3 (5%) have average knowledge level was 49 (81.7%) and above average knowledge level was 8(13.3%).

Conclusions: The study concluded that majority of the student nurses in pre-test have below average knowledge and post test majority of students nurses 49 (81.7%) have knowledge regarding neurological assessment.

Keywords: neurological assessment, stroke, hemorrhage

1. Introduction

The brain receives about 25% of the body's oxygen, but it cannot store it. Brain cells require a constant supply of oxygen to stay healthy and function properly. Therefore, blood needs be supplied continuously to the brain.

A cerebrovascular disorder is an umbrella term that refers to a functional abnormality of the central nervous system (CNS) that occurs when the normal blood supply to the brain is disrupted. Stroke occurs when there is ischemia to a part of the brain or haemorrhage into the brain that results in death of brain cells. Stroke is still the third leading cause of death, and also the first leading cause of disability due to disturbance in the blood supply to the brain developed and developing countries. Stroke is a major public health concern. The prevalence of stroke in the general population varies from 40 to 270 per 100000 in India. It is the third biggest killer disease in India after heart attacks and cancer [1].

The neurologic examination is one of the most unique exercises in all of clinical medicine. Neurologic examination is performed to localize a lesion in the central nervous system or peripheral nervous system. A properly performed neurological examination may takes 90 minutes (or) even longer. It is a simple and non-invasive test performed by a physician, often a neurologist in order to test the integrity of a person's nervous system. Each part of the neurological examination tests a different function of the nervous system, which in turn reflects the functional state of a specific part of the brain. Evaluation of neurological status and level of consciousness is an essential part of nursing at the critical care level. Regardless of diagnosis, patients can experience

neurological deficits and changes in mental status based on their current condition, medication regime (or) acute changes in their overall condition. The recognition of a change in mental status can make a significant impact on a patient's prognosis. Early identification of neurological deterioration is vital to preventing secondary brain injury [2].

During a neurological examination "test" The functioning of the nervous system. The nervous system is the very complex and control many parts of the body. The nervous system consist of the brain, spinal cord, 12 cranial nerves that come from the brain and the nervous that come from the spinal cord. A neurological examination for stroke evaluates level of awareness and brain function. Different parts of the brain control different functions like language, speech, vision, eye movements, muscle control and sense of touch. Each section of the exam tests a different function of the brain.

The neurological exam shows how the stroke has effected mental and physical abilities, loss of ability indicates where in the brain stroke may have occurred and how much damage was done. A complete and thorough evaluation of a person's nervous system is impairment if there is any reason to think there may be an underling problem, or during a complete physical damage to the nervous system can cause problems in daily functioning. Early identification may help to identify cause and decrease long term complications. The neurological examination is scored using the national institutes of health stroke scale (NIHSS).The NIHSS is an evaluation tool that measures how brain has been affected by stroke. On this test, a score of zero indicates completely normal the higher score, indicates severe stroke [3].

Primary prevention is a priority for decreasing morbidity and mortality from brain stroke. The goals of brain stroke prevention include health promotion for the well individual and education and management of modifiable risk factors to prevent a primary (or) secondary brain stroke. Health promotion focus on healthy diet, weight control, regular exercise, no smoking, limiting alcohol consumption, routine health assessment.

2. Need for the Study

To perform neurological assessment, students should have specialized knowledge and skill, which will enable them to assess the patient and diagnose the condition. This will also help students to reach out high quality care to the patient. Rapid changes in the society as well as in the health care system places increased pressure on the health care professionals to deliver quality care, which is both competent as well as cost effective.

According to WHO report the mental and neurological disorders are responsible for about 1% of deaths, they account for almost 11% of diseases burden the world over.

Stroke has already reached epidemic proportions. 1 in 6 people worldwide will have a stroke in their lifetime. 15 million people worldwide suffer a stroke each year and 5.8 million people die from it and another 5 million are permanently disability, high Blood pressure contributes to more than 12.7 million strokes worldwide. Current trends suggest that the number of annual deaths will increase to 6.7 million by 2015 with appropriate action [5].

Ageing population is a common phenomenon worldwide. Asia and India are no exception. Nearly 6.0% to 15.5% of the population in Asia, Europe and North America were greater than 65 years of age in year 2000 the projected increases of the geriatric population by 2030 is approximately 12% to 24.3% in India the population greater than 65 years of age of 45million in 2000, 58 million in 2010 and will rise to 76 million in 2012. Older people are at risk for multiple- comorbidities. Stroke is the cause of mortality and permanent disability worldwide. In 2010 Australians suffered around 60,000 new and recurrent strokes. It is Australians second biggest killer after heart diseases, therefore early recognition of stroke signs and symptoms risk factors and early treatment can reduce mortality and disability of stroke as well as reduce the financial burden of the community. Nearly 6.0% to 15.5% of the population in Asia, Europe [6].

Developed countries like United States, brain stroke are the third leading cause of death, exceeded only by cancer and coronary heart disease and it claims a life every three minutes. About 7, 59,000 Americans each year suffer a new stroke (or) recurrent stroke. That mean's on average, a stroke occurs every 40 seconds. Stroke kills more than 1, 37,000 people a year. That's about 1 of every 18 deaths. About 40% of stroke deaths occur in males and 60% in females. 2006 stroke death rates per 100000 populations for specific groups were 41.7 for white males 41.1 for white females, 67.7 for black males and 57.0 for black females. Americans will pay about \$73.7 billion in 2010 for stroke, related medical costs and disability. Nearly three-quarters of all strokes occurs in people over the age of 65. The risk of having a stroke more than doubles each decade after the age of 55.

1995-2005 the stroke death rate fell -30% and the actual number of stroke deaths declined 14%. The risk of ischemic

stroke in current smokers is about double that of non-smokers after adjustment for other risk factors. In Canada 2000 stroke accounted for 7% of all deaths 15,409 Canadians. Every seven minutes a Canadian dies of stroke. stroke was the second largest contributor to hospital care costs among cardiovascular diseases 80% of Canadians have at least one of the risk factors for heart or CVA. Between 1969 and 1999, death rates for CVA 62%.

Developing countries brain stroke third largest killer disease in India. In India is around 130 per 100000 people every year. It further says that about 20% of heart patients are susceptible to it. It how disproportionately affects individuals living in resource poor countries. From 2000 to 2008, the overall stroke incidence rates in low to middle income countries exceeded that of incidence rates seen in high income countries by 20%. Today, 2 out of every 3 people who suffer from a stroke live in low and middle income countries 7.

In India the population greater than 65 years of age was 45 million in 2000, 58million in 2010 and will rise to 76 million in 2012. The incidence of brain stroke in Andhra Pradesh by 2005 53%, and it has been estimated for 2010-2015 71% deaths will occur due to brain stroke.

In district Kurnool, the brain stroke incidence rate is 60% of cases are effecting with brain stroke, among this 20% of cases are effecting with road traffic accidents, and remaining 40% of cases are effecting with risk factors of alcoholism and smoking [8].

Nursing students are exposed to clinical postings in different hospitals of neurological wards in Kurnool were experienced an inadequate knowledge about neurological assessment of patients with brain stroke. Thus the researcher has motivated and interested to conduct study on assess the knowledge levels of 3rd year B.Sc nursing students in selected Nursing colleges in Kurnool.

3. Materials and Methods

Sampling and data collection

The Quatitative research approach adopted for the present study was one group pre test and post test, design and convenient sampling technique was followed which included 60 samples were used. Data was collected using structured questionnaire. Data analysis was done the knowledge regarding neurological assessment of patients with brain stroke among 3rd year B.Sc nursing students in selected nursing colleges at kurnool [4]. Non-probability convenient sampling was used 3rd year B.Sc nursing students who were eligible, can understand regional language, who were available during data collection and voluntarily willing to participate in the study. Who are sick, who are on leave were excluded. Prior Permission was obtained from ethical clearance committee Participants signed an informed consent and were told they could withdraw from the study at any time for any reason.

4. Description of Tool

Part I: Deals with demographic variables 3rd year B.Sc nursing students age, gender, type of institution, method of teaching, source of information.

Part II: It deals with structured questionnaire to the Effectiveness of Structured Teaching Programme among 3rd Year B.Sc (N) Students Regarding Neurological Assessment

of Patients with Brain Stroke in Selected Nursing college's at Kurnool." It consists of 30 multiple choice questions. Each question gives success answer as 1 score. If not answering gives 0 score.

Score Interpretation

The score was interpreted as follows:

- Inadequate knowledge: 0-10
- Moderately adequate: 11-20
- Adequate knowledge: 21-30

Data analysis

Data was analysed by using descriptive and inferential statistics. Frequency, percentage, mean, standard deviation and chi-square test, paired t test were done.

5. Results

- The results shows that to age among Out of 60 respondents, majority 20(33.3 %) were in the age group of 19-20 years, 20 (33.3%) were in the age group of 20-21 years, 19(31.7%) were in the age group of above 21 years & 01(6.7%) were in the age group of 18-19years.
- Regarding gender, majority of the respondents 45(75%) females, 15(25%) respondents were male.
- Regarding type of institution, majority of respondents 35(58.3%) were private, 25(41.7%) was government.

Regarding source of information of neurological assessment of patients with brain stroke majority of respondents 29(48.3%) got information from hospital, 14(23.3%) experience staff, 10(16.7%) mass media, 07(11.7%) library. In Pre test the Variables like type of institution was showing significant association with 3rd year B.Sc nursing student's knowledge on neurological assessment of patients with brain stroke, variables like age, gender and source of information were not shown any significance. In post test the variables like type of institution and source of information was showing significant association with 3rd year B.Sc nursing student's knowledge on neurological assessment of patients with brain stroke, variables like age and gender were not shown any significance

Table 1: Frequency and percentage distribution of level of knowledge among staff nurses and nursing students. (n=60)

Knowledge level	Pre-test		Post-test	
	f	%	F	%
Inadequate	57	95%	3	5%
Moderate	3	5%	49	81.7%
Adequate	-	-	8	13.3%
Total	60	100	60	100

Table 2: Comparison of mean and standard deviation of level of knowledge regarding neurological assessment of patients with brain stroke among 3rd year B.Sc nursing students (n=60)

Category Nursing students	Mean	Standard Deviation
Pre-test	10.6	1.9
Post- test	18.6	3

In pre-test the mean knowledge score of 3rd year B.Sc nursing students 30 items found to be 10.6 with standard deviation 1.9 and the mean percentage scores of 3rd year B.Sc nursing students.

In post-test the mean knowledge score of 3rd year B.Sc nursing students for 30 items found to be 18.6 with standard deviation 3.

6. Discussion

The discussion of the present study was based on the findings obtained from the descriptive and inferential statistical analysis of collected data. It is presented in the view of the objectives of the study. The study related to assess the effectiveness of STP regarding neurological assessment among 3rd year nursing students of patients with brain stroke. The pre-test majority of the respondents have inadequate knowledge level of 57(95%), and moderate knowledge 3 (5%). In post-test inadequate knowledge was 3 (5%), and moderate knowledge level was 49 (81.7%), and adequate knowledge was 8(13.3%).

In pre-test Socio demographic variables among 3rd year B.Sc nursing students such as type institution showing significant association between the level of knowledge and 3rd year B.Sc among nursing students such as source of information, type institution showing significant association between level of knowledge.

7. Conclusion

The study concludes that structured teaching programme is effective in enhancing the knowledge among 3rd year B.Sc nursing students.

8. Recommendations

1. A similar study can be conducted on small number of sample in different settings.
2. The descriptive study can be conducted on same study.

9. Acknowledgement

The authors express their sincere thanks to, Assit prof. N.Swapna and all participants for their cooperation during data collection.

10. References

1. Brunner & Siddartha's Medical Surgical Nursing, 10th edition, Lippincott Williams and willikins, 1904-1908.
2. Chintamani, medical & surgical nursing, Elsevier, 1466-1469.
3. Koziar, Fundamentals of nursing, 7th edition, 640-650.
4. Suresh Sharma k. Nursing research and statistics, 90-94.
5. Joyce M. block *et al.* medical surgical clinical management for positive outcomes 7th edition, 2005, 1189-1192
6. Dewitt Susan C. Essentials of medical surgical nursing 4th edition, Philadelphia, w.b sunders company, 1998, 882-890.
7. Phipps, medical surgical nursing a nursing process approach 7th edition, 265-230.
8. Linton introduction to medical surgical nursing 1th edition, 465-479.