"A STUDY TO ASSESS THE EFFECTIVENESS OF AN EDUCATIONAL INTERVENTION PROGRAM ON KNOWLEDGE REGARDING NEURO REHABILITATION AMONG BSc NURSING STUDENTS IN SELECTED COLLEGE AT MYSURU".

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ABSTRACT

Background of the study

Neuro rehabilitation is a program to help to recover after an injury or diagnosis that affects your nervous system. Your nervous system contains your brain, spinal cord and nerves. The goals of this treatment are to: improve or maintain the function of the brain and nervous system. Reduce the impact of symptoms on the body. Enhance the quality of life for both the patient and caregivers[1] A neurological rehab program is designed to meet your individual needs, depending on your specific problem or disease. Active involvement of you and your family is vital to the success of the program.[2]The types of rehabilitation treatments recommended depend on the areas of the body affected by the neurological condition[3]. Neuro rehabilitation is often thought of as a stand-alone process occurring in a defined unit. However, patients with neurological conditions make up a large proportion of general medical admissions and general practitioner consultations.[4] Neuroplasticity is the brain's ability to change and adapt. This skill is very important for people in neuro rehabilitation. It helps them recover abilities lost due to injuries or illnesses. By understanding how neuroplasticity works, we can improve rehabilitation strategies.[5]

Aim: The aim of the study was to assess the effectiveness of educational intervention program regarding neuro rehabilitation among BSC Nursing students.

Methods: Study has used an evaluative approach with Pre experimental, one group pre-test-post-test design. Convenient sampling technique was used to select 100 BSC Nursing students for the study. Data was collected using structured knowledge questionnaire.

Results: The results of the study revealed that majority of BSC Nursing students (40%) were having poor knowledge regarding neuro rehabilitation. Findings also revealed that educational intervention program on

neuro rehabilitation was effective in enhancing the knowledge of BSC Nursing students as indicated by the "t" value which was statistically significant at 0.05 level of significance ('t'=8.47:p<0.05). Statistically significant association was observed between the personal variables of BSC Nursing students viz. gender, previous exposure of neuro rehabilitation with their level of knowledge regarding neuro rehabilitation.

Conclusion: Educational interventional program was effective in increasing the knowledge of BSC Nursing students regarding neuro rehabilitation.

Keywords: Neuro rehabilitation, BSC nursing students, educational intervention program, structure knowledge questionnaire.

INTRODUCTION

Neuro rehabilitation is a specialized healthcare process that helps individuals recover and improve their functional abilities following neurological disorders such as stroke, traumatic brain injury, Parkinson's disease, multiple sclerosis, spinal cord injury, and other neurological conditions. It focuses on restoring physical, cognitive, psychological, and social functioning to achieve the highest possible level of independence and quality of life.[1] Neuro rehabilitation involves a multidisciplinary approach that includes neurologists, physiotherapists, occupational therapists, speech therapists, psychologists, and nurses working together to provide comprehensive patient-centered care.[5]

Globally, neurological disorders are among the leading causes of disability, with millions of individuals requiring rehabilitation services every year. According to recent reports, approximately one in three people worldwide may require rehabilitation at some point in their lives.[6] In India, the burden of neurological disorders is rapidly increasing, with a significant number of stroke, Parkinson's disease, multiple sclerosis, traumatic brain injury, and spinal cord injury cases reported annually.[6] Despite this growing need, access to rehabilitation services remains limited due to shortages of trained professionals and rehabilitation facilities.[6]

Advances in neuroscience have highlighted the importance of neuroplasticity, the brain's ability to reorganize and adapt following injury.[5] Neuro rehabilitation interventions such as task-specific training, repetitive practice, motor learning strategies, cognitive rehabilitation, and assistive technologies help promote recovery and functional improvement.[7] Nurses play a crucial role in neuro rehabilitation by conducting assessments, implementing therapeutic interventions, coordinating multidisciplinary care, educating patients and families, and providing emotional support throughout the recovery process.[8]

As the demand for rehabilitation services continues to increase, there is a growing need to enhance awareness and knowledge regarding neuro rehabilitation among healthcare professionals, particularly nursing students. Adequate knowledge of neuro rehabilitation principles and practices is essential for providing effective patient care, promoting recovery, and improving long-term outcomes for individuals with neurological conditions. Therefore, educational interventions aimed at improving knowledge

regarding neurorehabilitation are important for preparing future nurses to meet the complex rehabilitation needs of patients.[9 8]

OBJECTIVES

1. To assess the of knowledge regarding neuro rehabilitation among BSc Nursing students before and after the educational intervention program.
2. To determine the effectiveness of educational intervention program on knowledge regarding neuro rehabilitation among BSc Nursing students.
3. To determine the association between the level of knowledge regarding neuro rehabilitation among BSc Nursing students and their selected personal variables.

HYPOTHESES:

H_1: Mean post-test knowledge scores of BSc Nursing students regarding neuro rehabilitation will be significantly higher than their mean pre-test knowledge scores.

H_2: There will be statistically significant association between the level of knowledge regarding neuro rehabilitation among BSc Nursing students and their selected personal variables.

RESEARCH METHODOLOGY

Research design adopted for the study was a Pre experimental, one group Pre-test- post-test design. Convenience sampling technique was used to select 100 BSc Nursing students for the study. Data collection tools included; proforma for selected personal variables and structured knowledge Questionnaire to assess the knowledge of BSc Nursing students regarding neuro rehabilitation. Educational intervention program regarding neuro rehabilitation was developed and implemented by the investigator. Data analysis was done by using descriptive and inferential statistics.

RESULTS

TABLE 1

Frequency and percentage distribution of BSc Nursing students according to their selected personal variables

n=100

Sl.No.	Personal variables	Frequency (f)	Percentage (%)
1.	**Age in years**		
	1.1 18-20	46	46
	1.2 21-25	54	54
2.	**Gender**		
	2.1 Male	18	18
	2.2 Female	82	82

3.	**Previous Exposure:** Have you attended any clinical postings in neurology or neuro-rehabilitation?		
	3.1 Yes	80	80
	3.2 No	20	20
4.	**Year of study**		
	4.1 1rd year	0	0
	4.2 2th year	0	0
	4.3 3rd year	0	0
	4.4 4th year	100	100
5.	**Source of Information**: Where did you primarily learn about neuro-rehabilitation?		
	5.1lectures	53	53
	5.2 Internet	35	35
	6.3Clinical experience	12	12

AGE

Data presented in table 1 reveals that 46% of students were in the age group of 15-20 years and 54% were in the age group of 21-25 years.

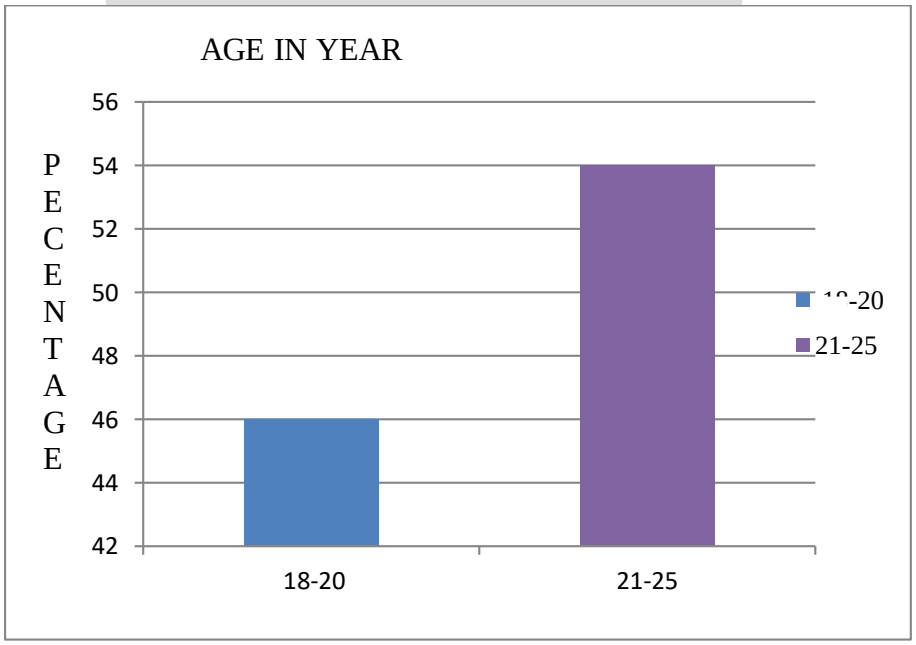

Figure 1: Frequency and percentage distribution of BSc Nursing students according to their age.

Gender

Data related to gender reveals that 18% of students were in the male and 82% were in the female

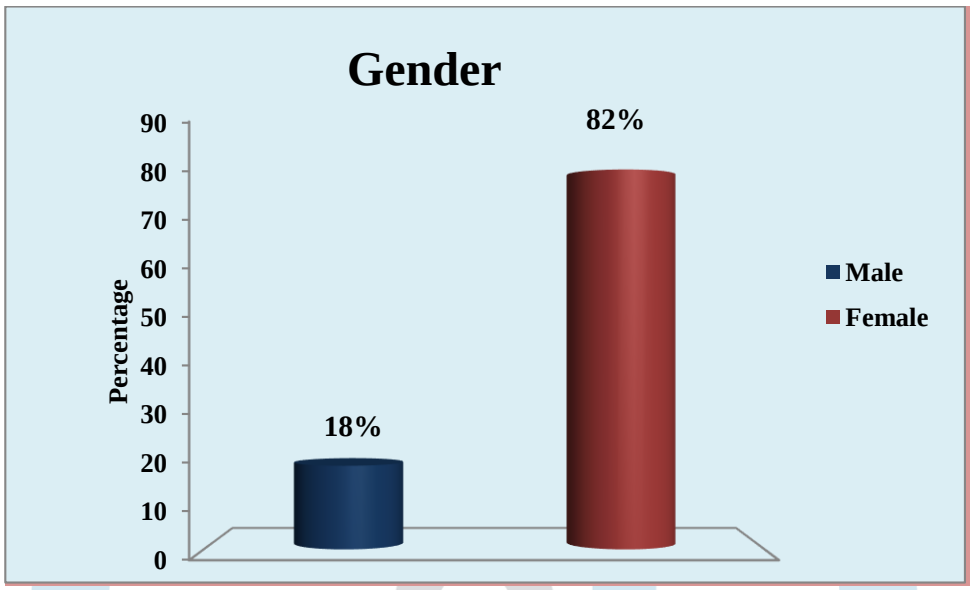

Figure 2: Frequency and percentage distribution of BSc Nursing students according to their gender.

Previous Exposure: Have you attended any clinical postings in neurology or neuro-rehabilitation?

Data related to the clinical Exposure to training program regarding neuro-rehabilitation of BSc Nursing students reveals that majority (80%) were having previous exposure, 20%of them had no exposure of clinical postings in neurology.

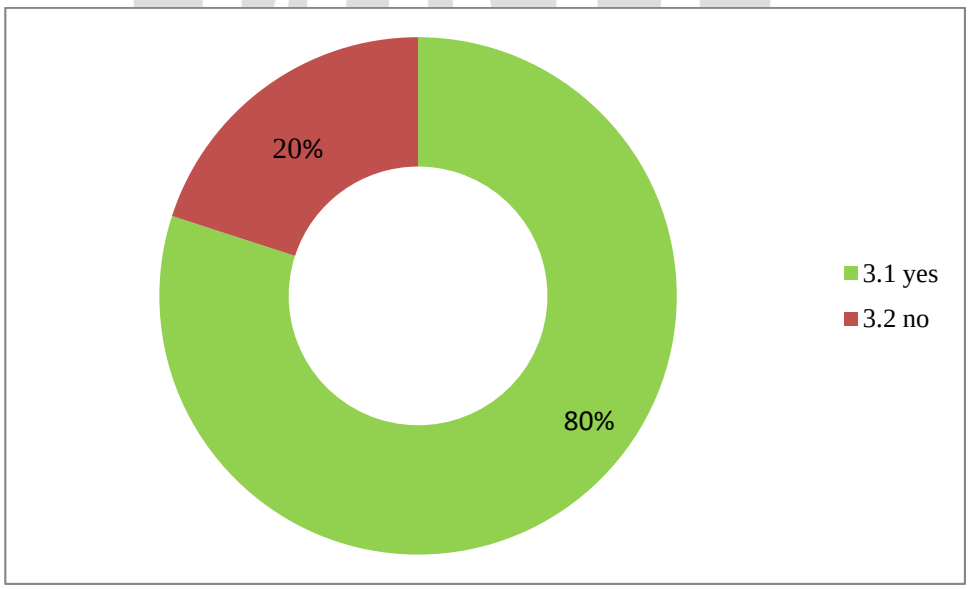

Figure 3: Frequency and percentage distribution of BSc Nursing students according to their previous exposure.

Year of study

Data related to the year of study of BSc Nursing students reveals that majority (100%) were having 4th year.

Source of Information:

Data related to the source of information of BSc Nursing students reveals that majority (53%) were having collect the information from lecture,35% of students collect the information from internt,12% of students are collect the information from clinical experience.

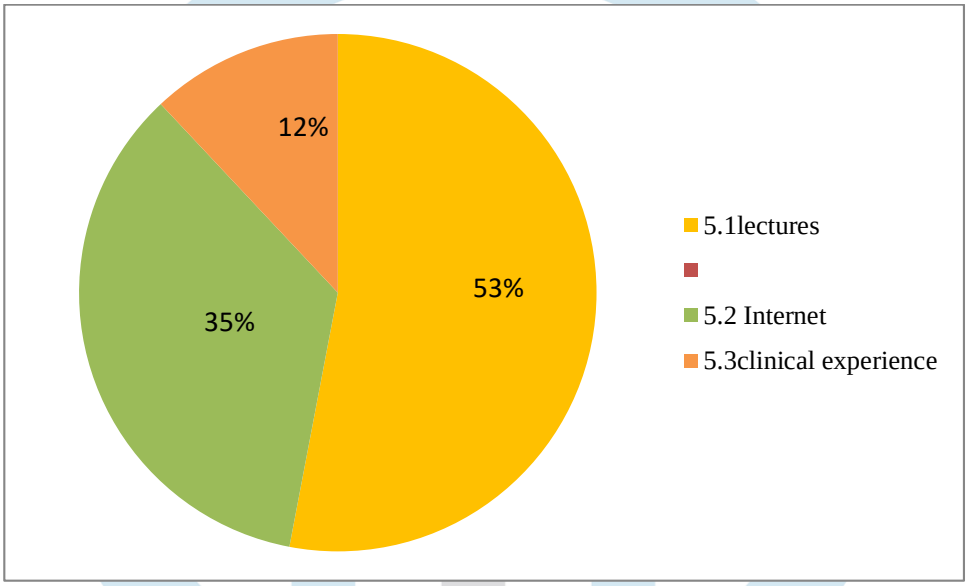

Figure 4: Frequency and percentage distribution of BSc Nursing students according to their source of information

Section 2

Effectiveness of educational intervention on neuro rehabilitation among BSc Nursing students.

a) Description of knowledge of BSc Nursing students regarding neurorehabilitation.

b) Mean, median, range and standard deviation of knowledge scores.

c) Significance of difference between the mean pre-test and post-test knowledge scores of BSc Nursing students regarding neurorehabilitation.

a) Frequency and Percentage distribution of knowledge scores of BSc Nursing students according to their pre-test and post-test scores.

The Pre-test and Post-test knowledge scores obtained from the subjects were tabulated to the master sheet. The findings are presented in Table 2.

TABLE 2

Frequency and Percentage distribution of knowledge scores of BSc Nursing students according to their pre-test and post-test scores

n = 100

Knowledge scores	Pre-test f(%)	Post-test f(%)
Good	25	68
Average	35	30
Poor knowledge	40	02

It is evident from **Table 2** that, in the pre-test majority of BSc Nursing students(40%) had Poor knowledge, 35% had average knowledge and 25% had good knowledge regarding the neuro rehabilitation. Data also revealed that in the post-test, there was an increase in the knowledge level of BSc Nursing students i.e. 68% of them have scored good knowledge, 30% have had average and 02% had poor knowledge.

b) Mean, median, range and standard deviation of knowledge scores.

TABLE 3

Mean, median, range and standard deviation of pre-test and Post-test knowledge of BSc Nursing students.

n = 100

Knowledge	Mean	Median	Range	Standard deviation
Pre-test	16.87	17	04-24	±6.42
Post-test	23.82	26	11-17	±4.57

The data presented in **Table 3** shows that, in the pre-test knowledge scores ranged from 4-24, with a median of 17, mean of 16.87 and standard deviation of ±6.42. The post-test knowledge scores ranged from 11-17, with a median of 26, mean of 23.82 and standard deviation ±4.57. This indicates that there was an increase in knowledge scores of BSc Nursing students after the educational intervention.

c) Significance of difference between the mean pre-test and post-test knowledge scores of BSc Nursing students regarding neuro rehabilitation

To find the significance of the difference between the mean pre-test and post-test knowledge scores of BSc Nursing students regarding neuro rehabilitation, paired 't' test was computed and the findings are presented in Table 4. The null hypothesis is stated as follows:

H_{01}: There will be no statistically significant difference between the mean pre-test and post-test knowledge scores of BSc Nursing students regarding the neuro rehabilitation.

Mean, Mean difference, Standard deviation difference, Standard error and paired 't' value between the mean pre-test and post-test knowledge scores of BSc Nursing students

n = 100

Knowledge scores	Mean	Mean difference	S.D difference	Standard error	Paired 't' test value
Pre-test	16.04				
		6.95	±1.85	0.18	8.47*
Post-test	23.82				

$t_{(99)}$=1.98; p<0.05 *significant

The data presented in Table 4 shows that the mean difference between pre-test knowledge score and post-test knowledge score is 6.95. To find the significance of the difference between the mean knowledge scores, paired 't' test was computed and obtained value of paired t = 8.47 was found to be significant at 0.05 level of significance. Hence null hypothesis is rejected and it is interpreted that there was a statistically significant difference between the mean pre-test and post-test knowledge scores of BSc Nursing students. Hence it is inferred that the educational intervention program on the neuro rehabilitation was effective in improving the knowledge of BSc Nursing students.

SECTION 4

Findings related to the association between the level of knowledge of BSc Nursing students regarding the neuro rehabilitation and their selected personal variables.

Chi square was computed to determine the association between the knowledge of BSc Nursing students regarding neuro rehabilitation and their selected personal variables. The following null hypothesis is formulated:

H_{02}: There will be no statistically significant association between the level knowledge of BSc Nursing students regarding neuro rehabilitation and their selected personal variables.

TABLE 5

Chi square values between the knowledge of BSc Nursing students regarding neuro rehabilitation and their selected personal variables.

n = 100

Sl. no.	Personal variables	Poor knowledge	Average knowledge and above	Chi square
1.	**Age in years**			
	1.1 18-20	15	31	**1.94**
	1.2 21-25	25	29	
2.	**Gender**			
	2.1 male	12	6	**6.50***
	2.2 female	28	54	
3.	**Previous Exposure**: Have you attended any clinical postings in neurology or neuro-rehabilitation?			
	2.1 yes	35	45	**2.34**
	2.2 no	5	15	
4.	**Source of Information**: Where did you primarily learn about neuro-rehabilitation?			
	4.1lectures	24	29	**0.71**
	4.2 Internet	11	24	
	4.3Clinical experience	5	07	

$\chi 2_{(1)}$=6.50,p=<0.05, *-significant

The data presented is Table 5 shows that there was statistically significant association between the personal variables of BSc Nursing students viz. gender with their level of knowledge regarding neuro rehabilitation. Data was also shows that there was no statistically significant association between the personal variables of BSc Nursing students viz. age, Previous Exposure of clinical postings in neurology or neuro-rehabilitation centre and source of information with their knowledge regarding neuro rehabilitation.

SUMMARY

The chapter has dealt with the analysis and interpretation of data using description and inferential statistics. The effectiveness of educational intervention was assessed using paired "t" test. Chi square was used to find out the association between knowledge of BSc Nursing students and their selected personal variables.

CONCLUSION

The present study was focused to determine the effectiveness of educational intervention program regarding neuro rehabilitation among BSc nursing students in Mysuru.

Analysis of findings revealed that 40% of BSc Nursing students had poor knowledge regarding neuro rehabilitation. Educational intervention program was effective in increasing the knowledge of BSc Nursing students regarding neuro rehabilitation as evidenced by computed "t" test which was significant at 0.05 level of significance.

The study highlights the importance of incorporating structured educational programs on neuro-rehabilitation into nursing education. Adequate knowledge of neuro-rehabilitation enables nursing students to provide comprehensive, evidence-based care to patients with neurological disorders and disabilities. Therefore, continuous educational interventions and training programs are recommended to strengthen the knowledge and competencies of Nursing students in neuro-rehabilitation practice.

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