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A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON KNOWLEDGE OF STAFF NURSES REGARDING MANAGEMENT OF PATIENTS WITH SPINAL CORD INJURY IN SELECTED HOSPITAL AT CHENNAI TAMILNADU.

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INTRODUCTION:

"When health is absent, wisdom cannot reveal itself, art cannot manifest, strength cannot fight, wealth becomes useless, and intelligence cannot be applied."

— Herophilus

Health is wealth simply because a healthy life is life in all its abundance, joy and fullness. When one often thinks about diseases and injuries all the time, those calamities will keep coming back to haunt the person. The best way is to concentrate on being healthy and avoid unhealthy activities. With health and optimism, we tend to see life in the best way possible.[1]

By gaining up-to-date and accurate information about healthcare issues, the developing countries can use scientific knowledge and understanding for the improvement of their population's health, and thus their development and well-being.[2]

Disability is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. People with disabilities may experience a narrower margin of health, both because of poverty and social exclusion, and also because they may be vulnerable to secondary

conditions, such as pressure sores or urinary tract infections. Evidence suggests that people with disabilities face barriers in accessing the health and rehabilitation services they need in many settings.[3]

Unlike other parts of the body, the spinal cord does not have the ability to repair itself if it is damaged. A spinal cord injury occurs when there is damage to the spinal cord either from trauma, loss of its normal blood supply or compression from tumour or infection.[4]

Spinal cord injury is damage to the spinal cord that results in a loss of function such as mobility or feeling. A traumatic spinal cord injury dramatically changes the lives of the people involved. Both the patient and family pass through the many levels of grief and loss especially in the financial matters. Increasing cost of health is an economic burden on the client, family, and society, as 55% of spinal cord injury victims are between 16 and 34 years old.[5]

Spinal injuries represent a serious medical and social problem for societies on all continents. The sufferers are predominantly young, healthy and vocationally active people, which entails considerable social and economic consequences. A survey on 343 cases was conducted, where the leading cause of hospitalization was lumbar injury, followed by cervical and thoracic injuries. Lumbar injuries were most frequent in patients older than 40 years, while injuries to the cervical spine were accountable for majority of hospitalizations of patients aged 18-40 years. The risk of an injury was higher for inhabitants of towns and males than for residents of villages and females.[6]

The annual incidence rate of spinal cord injury varies from country to country, ranging from 15 to 71 per million. In 2008 the incidence of spinal cord injury in the United Kingdom was around 13/m, Australia 14/m, Canada 35/m, China 65/m and the United States 35/m per year. This suggests around 40 per million or 52,000 spinal injuries occur every year globally.[10] The most common cause of spinal cord injury is motor vehicle crashes, which accounts for 35% spinal cord injuries. Violence-related injuries account for 24%, falls with 22% and sports related injuries 8%.[11]

Management of spinal cord injured patients in spinal units with dedicated experts and comprehensive rehabilitation improves the outcome. Spinal cord-injured patients require self-management information during the emotionally and psychologically distressing period immediately following their injury. As a vital resource in the spinal cord injury patients' recovery process, it is crucial for the nurse to have knowledge of the specialized needs of this population.[17] The investigator when working as a staff nurse has found that staff nurses lack knowledge in identifying patients with management of spinal cord injury. This motivated the investigator to undertake this study.

MATERIALS AND METHODS

The Experimental research approach was adopted in this study. Non – probability convenient sampling technique was adopted for selecting samples (n=60). The tool used for research study was structured questionnaire which was prepared to assess the effectiveness of Self-instructional module regarding the management of spinal cord injury. The tool was prepared after review of literature search consultation of

experts and based on the past clinical experience of the investigator. It is organized as Section I- Socio demographic data, Section II- The knowledge questionnaire consists of 40 items regarding the management and rehabilitation of spinal cord injury, Section-III- A self-instructional module was developed to educate the staff nurses regarding the management of spinal cord injury patient. The content validity of the instrument was assessed by obtaining opinion from 5 experts in the field of nursing and 2 experts from the doctors, medicine and education. Reliability was established by split half method. This was done by splitting them into Odd and Even items. Odd items were considered as "Y" and Even items were considered as "X". Using this values correlation coefficient was computed where "r" value obtained was r1=.89. Hence the tool considered found to be most reliable and take for conducting the main study.. The data was analysed by using descriptive and inferential statistics.

RESULTS

SECTION-1

THE PRE-TEST KNOWLEDGE SCORES OF STAFF NURSES REGARDING MANAGEMENT OF SPINAL CORD INJURY PATIENTS.

This section deals with the Pre-test knowledge scores which were obtained from Structure Questionnaire on management of spinal cord injury patients. The data were compiled into a master sheet and analyzed.

Table-1: Description of total knowledge score in Pre-Test N=60

S.No.	Categories	Frequency	Percentage
1.	Poor	7	11.6%
2.	Average	32	53.3%
3.	Good	21	35%
4.	Excellent	----	----

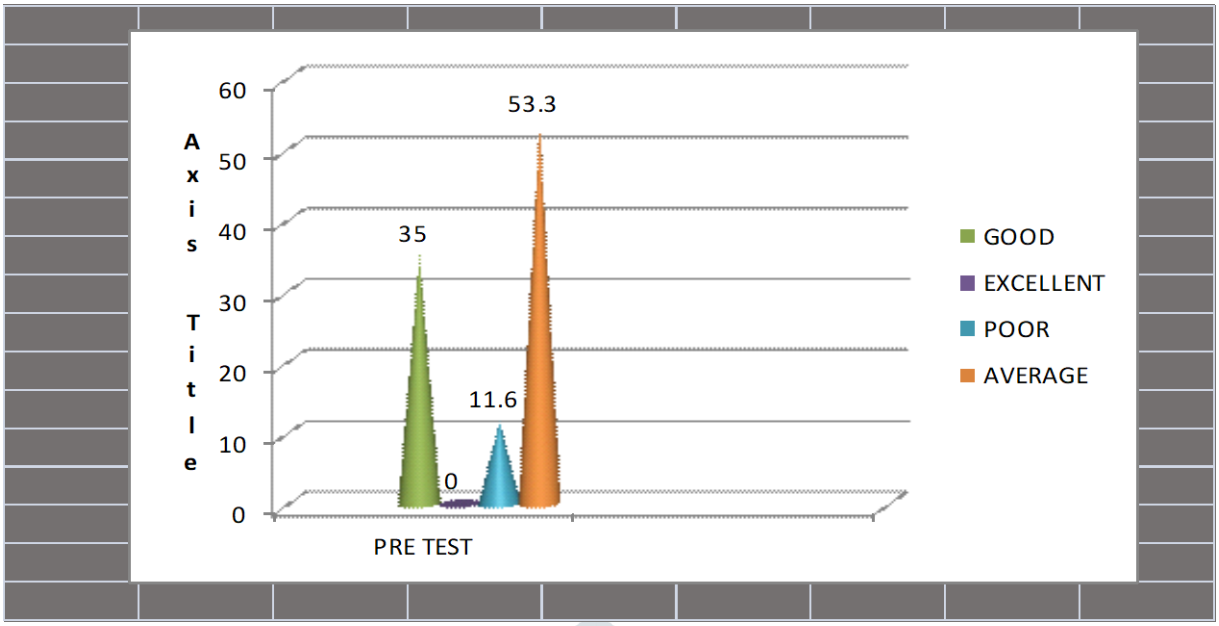

FIG-1 CONE DIAGRAM SHOWING THE TOTAL KNOWLEDGE SCORES IN PRE TEST

The description in table-1, depicts that out of 60 sample 53.3%,were having Average knowledge,35%%were having Good knowledge and 11.6%were having Poor knowledge regarding management of spinal cord injury.

THE POST TEST KNOWLEDGE SCORES OF STAFF NURSES REGARDING MANAGEMENT OF SPINAL CORD INJURY PATIENTS

This section deals with the post-test knowledge scores which were obtained from Structure Questionnaire on management of spinal cord injury patients. The data were compiled into a master sheet and analyzed.

Table-2: Description of total knowledge scores in Post Test

S.No.	Categories	Frequency	Percentage
1.	POOR	---	----
2.	AVERAGE	---	----
3.	GOOD	32	53.3
4.	EXCELLENT	28	46.6

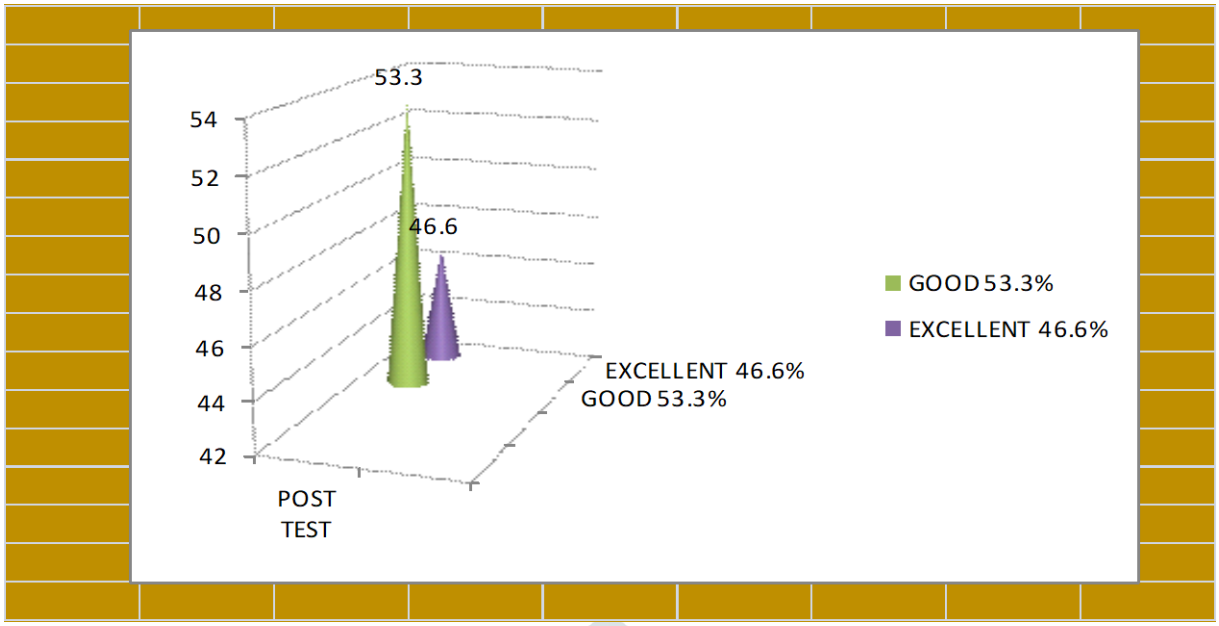

FIG-2 CONE DIAGRAM SHOWING THE TOTAL KNOWLEDGE SCORES IN POST TEST

The description in table 2 depicts that out of 60 sample 53.3% were having good knowledge and 46.6% were having excellent knowledge regarding management of spinal cord injury.

This clearly shows that the Self-Instructional Module was helpful in increase knowledge of staff nurses.

SECTION-2

EFFECTIVENESS AND UTILITY OF SELF-INSTRUCTIONAL MODULE

This section deals with the Pre-test and Post-test knowledge scores were obtained from the structure questionnaire on management of spinal cord injury patients. This part shows the effectiveness and utility of Self-Instructional Module in turns of knowledge increases. The data was compiled into a master sheet and analyzed.

The section is further divided into sub section-Mean, Standard deviation of Pre test and Post test knowledge scores of staff nurses and its significance by Z test computation.

Table 3: Mean Standard deviation of Pre test and Post test knowledge of the staff nurses.

KNOWLEDGE TEST	MEAN	STANDARD DEVIATION
Pre test	**17.6**	**5.88**
Post test	**30.25**	**2.73**

In the Table 3 the data presented indicates that the Mean Post test knowledge scores of staff nurses are 30.25 and Mean Pre test knowledge scores are 17.6.So the Mean of Post test score is higher than Mean of Pre test score. All the subjects achieved a highest score in the post test than the pre test. These suggest that the knowledge is gained in each subject.

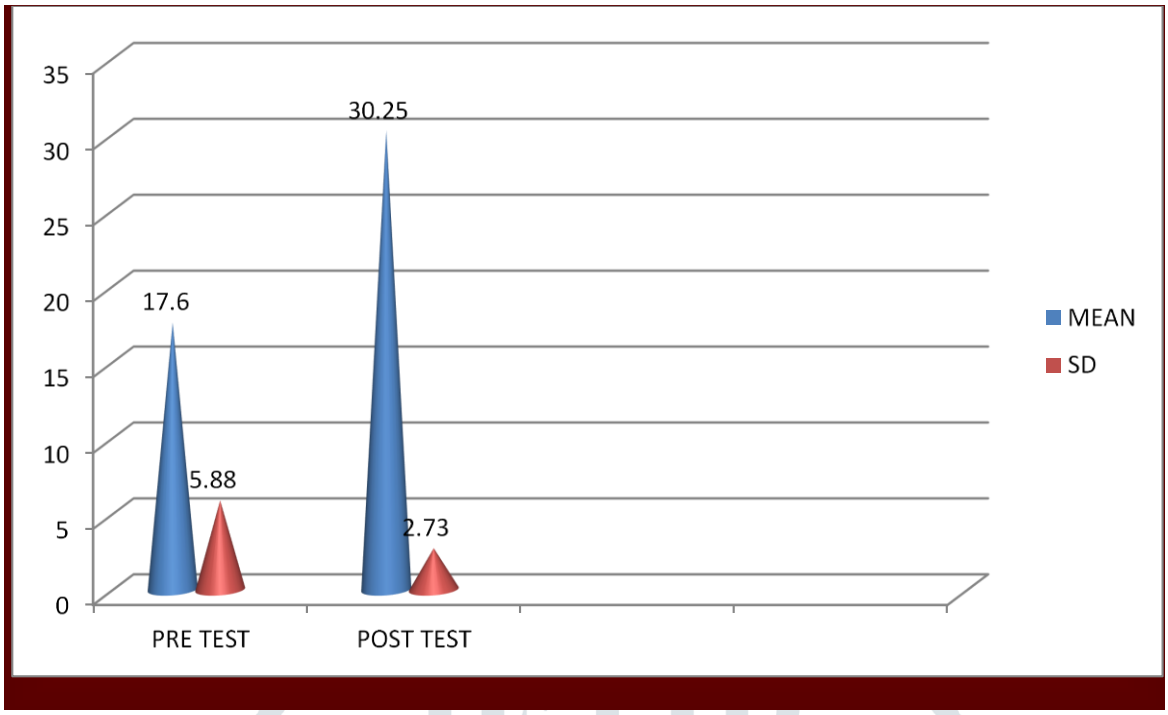

FIG-3 CONE DIAGRAM SHOWING THE MEAN AND STANDARD DEVIATION OF PRE TEST AND POST TEST

SECTION-3

The distribution of knowledge scores of staff nurses indicates that the Mean of Post test is higher than the Pre test knowledge scores. Thus the Self Instructional Module was effective in enhancing the knowledge of the staff nurses regarding the Management of Spinal Cord Injury patients.

Table 4: GRADING OF THE PRE TEST AND POST TEST KNOWLEDGE SCORES.

CATEGORIES OF KNOWLEDGE SCORES	PRE TEST		POST TEST	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
POOR	7	11.6%	---	----
AVERAGE	32	53.3%	---	----
GOOD	21	35%	32	53.3%
EXCELLENT	---	---	28	46.6%

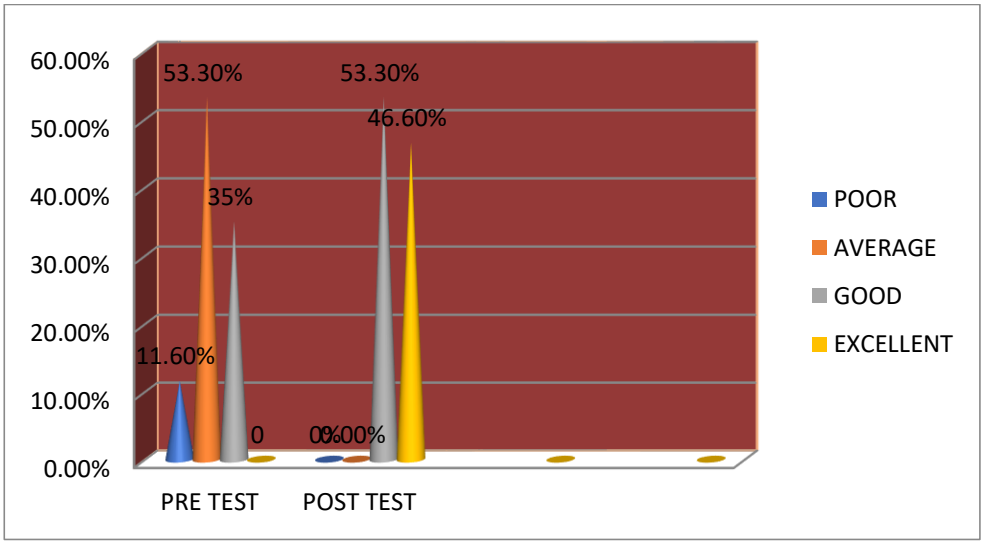

FIG-4 CONE DIAGRAM COMPARING PRE TEST AND POST TEST KNOWLEDGE SCORES OF STAFF NURSES REGARDING MANAGEMENT OF SPINAL CORD INJURY PATIENTS.

TABLE 5: PAIRED Z TEST SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN THE MEAN PRE TEST AND POST TEST KNOWLEDGE OF STAFF NURSES WHO RECEIVED SELF INSTRUCTIONAL MODULE.

GROUP	MEAN KNOWLEDGE SCORES		MEAN DIFFERENCE	STANDARD DEVIATION		Z VALUE	P VALUE
	Pre test	Post test		Pre test	Post test		
Staff nurses	17.6	30.25	12.65	5.88	2.73	15.06	1.96

From Table-5 it is evident that calculated Z value is greater than the P value that is 1.96, hence it indicates that Self Instructional Module for Staff nurses regarding Management of Spinal Cord Injury patients was Effective in enhancing the knowledge of staff nurses.

Z value is 12.65 and is greater than P value that is 1.96.If $Z \geq 1.96$ we Accept the researcher's hypothesis. If $Z \leq 1.96$ we accept the null Hypothesis. Hence the null hypothesis is rejected and the researchers Hypothesis is accepted. Thus it indicates that the Self Instructional Module for staff nurses regarding Management of Spinal Cord Injury Was effective in enhancing the knowledge of Staff Nurses.

In the study data shows that the association between the post test levels of knowledge among staff nurses on the Management of patients with spinal cord injury patients with their demographic variables. In relation to Age, the chi square value was obtained 1.017 and thus found to be non

significant at 5% level of significance. For Gender the chi square value obtained was 1.26and found to be non significant at 5% significance. .For Professional Qualification the chi square value obtained was 0.082and found to be non significant at 5% significance. For Knowledge obtained through Attending Seminar, Conference, Workshop, In-service education the chi square value obtained was 1.63 and found to be non significant at 5% significance. For Work experience the chi square value obtained was 1.12and found to be non significant at 5% significance. For Additional qualification the chi square value obtained was 0.36 and found to be non significant at 5% significance. For Current position the chi square value obtained was 0.23 and found to be non significant at 5% significance. Finally it shows that there is no significant association between post test knowledge score and demographic variable, so null hypothesis H02 is accepted.

DISCUSSION:

The Major findings of the study are as follows,

Statistical description of demographic variables

The majority of staff nurses i.e 42% was in age 31-40year Out of 60 staff nurses 57% were female .It was observed that majority of staff nurses i.e. 42%were Post B.Sc. Out of 60 staff nurses 48%were attended the seminar, conference, workshop or in-service education. The majority of staff nurses i.e. 48% were 4-6 year Out of 60 staff nurses 45%were having additional qualification in neurological nursing. Out of 60 staff nurses 52%were professional nurse, Experience in neurosurgical unit.

In the domain of pre-test knowledge level among the staff nurses majority had average knowledge 53.3%, poor knowledge 11.6%, good knowledge 35% and no excellent knowledge regarding Management of spinal cord injury. The mean score for pre-test level of knowledge among staff nurses is 17.6with standard deviation 5.88

In the domain of post-test knowledge level among the staff nurses majority had good knowledge 53.3% excellent knowledge 46.6% regarding Management of spinal cord injury The mean score for post-test level of knowledge among staff nurses is 30.25 with standard deviation 2.73.

Comparison between the pre-test and post-test knowledge Z test value = 15.06

Tabulated value of Z test at 5% level of significance is 1.96. So Z test of pre-test and post-test of calculation > 0.05 level of significance.

Z calculated > Z tabulated. Hence the research hypothesis H1- There will be significant effectiveness of SIM between pre-test and post-test knowledge score is accepted that means SIM is effective.

The study findings revealed that there is no significant association between the demographic variables such as age, gender, professional qualification, attended any conference, seminar, workshop, in-service education programme, experience in neurosurgical unit, additional qualification, current

position among the post-test level of knowledge among staff nurses regarding Management of spinal cord injury.so the null hypothesis H02 is accepted.

CONCLUSION

The main aim of the study was to assess the effectiveness of self-instructional module on knowledge regarding Management of spinal cord injury Information was given to the them through a self-instructional module which includes various aspects like- Definition, Etiological factors, Clinical manifestations, Diagnostic evaluation, Management and Rehabilitation of spinal cord injury

The following conclusions were drawn on the basis of findings of the study:

The pre-test findings showed that knowledge of staff nurses regarding Management of spinal cord injury was average.

The administration of self-instructional module helped them to understand more about Management of spinal cord injury Most of them were having good level of knowledge after the teaching programme.

The self-instructional module is proved to be very effective method of transforming information.

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