



Research Article

**A STUDY TO ASSESS THE EFFECTIVENESS OF SKILL TRAINING PROGRAMME ON KNOWLEDGE AND SKILL OF B.Sc. NURSING STUDENTS REGARDING RYLES TUBE INSERTION AND FEEDING STUDYING IN SELECTED NURSING COLLEGES OF KASHMIR INDIA**

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**Abstract**

A ryles tube is a flexible tube that can be inserted trans nasally into the stomach. It is commonly used for delivery of feed, fluids, medication or drainage of gastric contents. A patient is in need of nasogastric tube feeding when he is unable to take oral feeding. Patients who are unable to swallow sufficient nutrients. In these conditions, it is very much necessary to maintain or improve their nutritional status. Moreover patients who are Unconscious, semiconscious mentally ill, patients who refuse to eat, who are irritable patients also need nasogastric tube feeding. NG tube feeding has become widely preferred over parenteral nutrition in adults and children with functioning gastrointestinal tracts when the need for tube feeding is expected to be 6 weeks or less. Investigators during their clinical posting came across group of clients with nasogastric tube and feedings given to them by their attendants and the staff. The technique used by attendants to feed their clients was not upto the mark and could lead to various complications of feeding. It was seen that student nurses can perform better role in teaching attendants, the proper way to give feeds since they are in direct contact with them. The aim of the study was to assess the effectiveness of skill training programme on knowledge and practice regarding Ryles tube insertion and feeding technique among B.Sc Nursing first and second year students in Madr-e-Meharban Institute of Nursing Sciences and Research SKIMS Soura Srinagar Kashmir. A *Pre-experimental, one group pre-test post-test design* was used for assessing the effectiveness of Skill training programme on knowledge and skill gain regarding ryles tube insertion and feeding among B.Sc. nursing first year and second year students. Convenient sampling technique was used for selection of 30 B.Sc. nursing students from accessible population. The results revealed that the knowledge level of B.Sc nursing students regarding the ryles tube insertion and feeding showed that among the total sample (n=30) majority of the subjects 56.7% (17) had average knowledge, 40% (12) had below average, 3.3% (1) had good knowledge in the pre test while as in the post test majority of the subjects 100% (30) had good knowledge, 0% had below average and 0% average knowledge. The skill level of B.Sc nursing students regarding the ryles tube insertion and feeding showed that among the total sample (n=30) majority of the subjects 76.7% (23) had average skill, 20% (6) had below average, 3.3% (1) had good skill and 0% had excellent in the pre test while as in the post test majority of the subjects 100% (30) had excellent, 0% had below average, 0% had good skill and 0% average knowledge. The mean post test knowledge scores ( $26.83 \pm 1.895$ ) of the subjects regarding ryles tube insertion and feeding was found to be significantly higher than that of mean pre test knowledge scores ( $11.17 \pm 3.030$ ).

**Keywords:** Student nurses, knowledge, skill, pre-test, post-test, skill training programme, ryles tube insertion and feeding.

**INTRODUCTION**

Nutrition is the science of food and relationship to health. It is concerned primarily with the part played by nutrients in the body growth, development and maintenance. For every human being eating food is an enjoyment, which is GOD'S gift. The person who consumes food orally with proper nutrients, his health will be maintained optimally. 5.7 million patients are admitted in intensive care units and 5 million patients are admitted for dysphagia particularly elderly.<sup>1</sup> Among dysphagia patients and patients in intensive care units, a study in NHS Scotland, revealed that 64.90% of dysphagia patients and 22.4% of conscious stroke patients in acute phase needed ryles tube feeding.<sup>2</sup> Nasogastric tube feeding also known as enteral feeding or enteral nutrition, refers to the administration of a nutritionally balanced liquefied food or formula, through nasogastric tube inserted in to the stomach via nose. Nasogastric tube feeding shall be used to administer the necessary nutrient like carbohydrates, protein, fat, vitamins, minerals, waters etc. and it is also used to ensure adequate caloric intake in order to ensure the natural growth of the body, to increase energy, to improve lung function and to add fighting power during infections. So Nasogastric tube feeding is necessary to maintain adequate nutrition and hydration of the patients<sup>6</sup>.

Ryles tube is inserted mainly for two purposes

- 1) Diagnostic purpose
- 2) Therapeutic purposes

A patient is in need of nasogastric tube feeding when he is unable to take oral feeding, in following conditions like dysphagia, pharyngitis, esophagitis, burns, bulbar palsy, pancreatitis, post-operative patients etc. Patients who are unable to swallow sufficient nutrients like those suffering from cerebrovascular accidents, progressive oral and pharyngeal tumors, degenerative neurological disorders, upper gastrointestinal surgeries, head and neck surgery. In these conditions, it is very much necessary to maintain or improve their nutritional status. Nasogastric tube feeding is a common method of maintaining and improving the nutritional status in patients who are unable to take sufficient nutrition orally. Moreover patients who are Unconscious, semiconscious mentally ill, Patients who refuse to eat, who are irritable patients also need nasogastric tube feeding.<sup>7</sup> The complications of nasogastric tube feeding includes pulmonary aspiration, increased respiratory quotient, fluid overload, hyperosmolar dehydration, tube occlusion, displacement of the tube, diarrhea, constipation, abdominal cramping, nausea and vomiting, delayed gastric emptying and serum electrolyte imbalance. Nurse must have adequate knowledge and good practice technique to minimize the complications. So, student

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nurses need the continuing education and skill training programmes regarding nasogastric tube feeding to enhance their knowledge and skill. Investigators during their clinical posting came across group of clients with nasogastric tube and feedings given to them by their attendants and the staff. The technique used by attendants to feed their clients was not upto the mark and could lead to various complications of feeding. It was seen that student nurses can perform better role in teaching attendants, the proper way to give feeds since they are in direct contact with them. There is a need to prepare a skill training programme to train and refresh the skill and knowledge students of b.sc nursing 1<sup>st</sup> and 2<sup>nd</sup> year students regarding ryles tube insertion and feeding technique, so that they will be able to perform insertion and feeding skillfully and without errors.

## METHODOLOGY

### Research Approach

Quantitative approach was considered appropriate for the present study.

### Research design

**Pre-experimental ,one group pre-test post-test design** was considered most appropriate for assessing the effectiveness of Skill training programme on knowledge and skill gain regarding ryles tube insertion and feeding among B.Sc. nursing 1<sup>st</sup> and 2<sup>nd</sup> year students.

**Table 1. Schematic representation of research design**

Group	Pretest	Intervention	Posttest
	Day 1	Day 1	Day 6
B.Sc Nursing 1 <sup>st</sup> and 2 <sup>nd</sup> year students	O1	X	O2

KEY:-

O1:- pretest for assessment of knowledge and skill through structured questionnaire and observation checklist.

X:- intervention or treatment through skill training programme ( demonstration supported by videos )

O2:-posttest for assessment of knowledge and skill through same tool

Three types of attributes were identified in the study. They are independent variables, dependent variables and extraneous variables.

- **Independent variable:** Skill training programme regarding ryles tube insertion and feeding.
- **Dependent variable:** It refers to the knowledge and skill about Ryles tube insertion and feeding among BSc nursing 1<sup>st</sup> and 2<sup>nd</sup> year students.

### Setting of the study

The setting for the study was Madr-e-Meharban Institute of Nursing Sciences and Research, for the following reasons:

- Sample was easily available
- Less time consuming
- Cost effective

**Population:** A target population consists of 12 1<sup>st</sup> and 18 2<sup>nd</sup> year B.sc nursing students.

### Sample and sampling techniques

The sample for the study will be 12 1<sup>st</sup> year and 18 2<sup>nd</sup> year B.sc students of Madr-e-Meharban Institute of Nursing Sciences and Research. The sampling technique will be non-probability convenient sampling technique.

### CRITERIA FOR SAMPLE SELECTION

Inclusion criteria:

- B.Sc.nursing Ist year and 2<sup>nd</sup> year students studying in MMINSR.
- Who were willing to participate in the study.
- Who were available at the time of data collection.

Exclusion criteria

- B.sc nursing 1<sup>st</sup> year and 2<sup>nd</sup> year students.
- Not willing to participate.

### Development of tool

An intensive review of literature was done in order to select and develop the appropriate tool, for the study. Informal discussion was held with the guide .The tool was selected on the basis of.

- Theoretical sources.
- Previous studies.
- Objectives of the study.
- Internet sources and thorough discussions with the guide.

### Description of tool

The tool comprised of two parts

**Part I:-**Demographic variables of Ist year and 2<sup>nd</sup> year students which included age, residence and professional education.

**Part II:** Self structured questionnaire which had 30 items in it.

**Part III:** Check list consisted of 40 items. It further had of three sections:

**Section A:** Steps before procedure.

**Section B:** Steps during procedure.

**Section C:** Steps after procedure

### Content validity of tool and intervention

The experts included faculty and our five nursing guides of MMINSR .The experts were requested to give their valuable suggestions on the content of tool and intervention.The suggestions given by them were incorporated and necessary modifications were made.

### Data analyses

Data was analyzed using descriptive and inferential statistics.

## RESULTS

The knowledge level of B.Sc nursing students regarding the ryles tube insertion and feeding showed that among the total sample (n=30) majority of the subjects 56.7% (17) had average knowledge, 40% (12) had below average, 3.3% (1) had good knowledge in the pre-test while as in the post test majority of the subjects 100% (30) had good knowledge, 0% had below average and 0% average knowledge. The skill level of B.Sc nursing students regarding the ryles tube insertion and feeding showed that among the total sample ( n=30 ) majority of the subjects 76.7% (23) had average skill, 20% (6) had below average, 3.3% (1) had good skill and 0% had excellent in the pre -test while as in the post test majority of the subjects 100% (30) had excellent, 0% had below average, 0% had good skill and 0% average knowledge. The mean post-test knowledge scores ( $26.83 \pm 1.895$ ) of the subjects regarding ryles tube insertion and feeding was found to be significantly higher than that of mean pre-test knowledge scores ( $11.17 \pm 3.030$  ). This indicated that skill training programme was significantly effective in improving the knowledge among subjects regarding ryles tube insertion and feeding. There was no significant association found between pre-test knowledge score of the subjects and their selected demographic variables like age, residence and education.

**Table 1. Frequency and percentage distribution of pre-test Knowledge level of subjects**

N=30		
Level of knowledge	Frequency	Percentage
Below average (0-12)	12	40%
Average(11-20)	17	56.7%
Good(21-30)	1	3.3%

**Table 2. Frequency and percentage distribution of post-test Knowledge level of subjects**

N=30		
Level of knowledge	Frequency	Percentage
Below average(0-12)	0	0
Average(11-20)	0	0
Good(21-30)	30	100%

**Table 3. Frequency and percentage distribution of pre-test and skill of subjects**

N = 30		
Skill scores	Frequency	Percentage
Below average ( 0-10)	6	20.0%
Average(11-20)	23	76.7%
Good(21-30)	1	3.3%
Excellent(31-40)	0	0

**Table 4. Frequency and percentage distribution of post-test skill of subjects**

N = 30		
Skill scores	Frequency	Percentage
Below average ( 0-10)	0	0
Average(11-20)	0	0
Good(21-30)	0	0
Excellent(31-40)	30	100%

**Table 5. Comparison between pretest and post-test knowledge scores**

Knowledge	Mean±SD	P- value	Level of significance
Pre-test	11.17 ± 3.030	0.000	s*
Post- test	26.83 ± 1.895		

There is significance difference between pre test & post test ( $p < 0.05$ )

The mean post-test skill score of ( $35.70 \pm 2.437$ ) of the subjects regarding ryles tube insertion and feeding was found to be significantly higher than that of mean pre-test skill scores ( $14.40 \pm 3.470$ ). This indicated that skill training programme was significantly effective in improving the skill among subjects regarding ryles tube insertion and feeding. There was no significant association found between pre-test skill scores of the subjects and their selected demographic variables like age, residence and education.

It was found to be significant at  $P < 0.05$  level, this support the research hypothesis ( $H_1$ ) which states that there will be significant difference in knowledge score at 0.05 level of significance. Hence null hypothesis ( $H_0$ ) was rejected.

**Table 9. Comparisons between pre-test and post-test skill scores**

Skill test	Mean±SD	P- value	Level of significance
Pre-test	14.40± 3.470	0.000	s*
Post- test	35.70± 2.437		

S\*:there is significant difference ( $p < 0.05$ ). It was found to be significant at  $P < 0.05$  level, this support the research hypothesis ( $H_2$ ) which states that there will be significant difference in knowledge score at 0.05 level of significance.

### Association between all demographic variables and pretest Skill Score

### Conclusion

The findings of the study revealed that the B .Sc. first year and second year nursing students were not possessing adequate knowledge and skill regarding ryles tube insertion and feeding. No significant association between the demographic variables like age, residence and education and the pre- test knowledge and skill was found. The skill training programme was found to be effective in improving the knowledge and skill regarding ryles tube insertion and feeding. Therefore, the study concluded that implementing a skill training programme is effective in increasing the level of knowledge and skill of B.Sc. first year and second year students regarding ryles tube insertion and feeding so that student nurses will be able to perform ryles tube insertion properly and perform proper feeding techniques and will come to know, how to prevention of complications of feeding.

### REFERENCES

1. Incidence of stroke and related deaths available at URL:www.wikipedia.com.
2. Brunner and Suddhart ,a textbook of medical and surgical, Edition 2<sup>nd</sup>.
3. Importance of ryles tube feeding available at URL: www. PubMed.com.
4. History of ryles tube insertion at URL: www.wikipedia. com.
5. Performing Ryles tube insertion available at URL:www. wikipedia.com
6. Sister Nancy,a textbook of principles and practice of senior nursing procedures ,Edition 4<sup>th</sup> ,volume 2<sup>nd</sup>, M.Y hospital road indore (mp) ,N.R .publishing house page no. 238- 247.
7. Ryles tube insertion and feeing available at URL:www. medscape.com
8. Ryles Tube insertion available at URL:www.wikipedia. com
9. Ryles tube feeding and insertion available at URL:www. myoclinic.com

10. Sister Nancy, a textbook of principles and practice of senior nursing procedures, Edition 4<sup>th</sup>, volume 2<sup>nd</sup>, M.Y hospital road indore (mp), N.R, publishing house page no. 238- 247.
11. Dr. Elizabeth K.E. Nutritional and child development, First edition 1998. Paras medical publication, Hydrabad.
12. Ghai O.P. Essential paediatrics. C.B.S publication New Delhi. Fifth edition 2005.
13. Eugfnia H. Waechter. Nursing care of children, J.P Lippincott Co. Philadelphia tenth edition 1985.
14. Mark Megret G. Broadribb. Introductory paediatric nursing J.P Lippincott Co. Philadelphia, fourth edition 1994
15. Parthasarthy A. Text book of paediatrics, Jaypee brothers, second edition 2003.
16. Mehatab S. Barj. Text book of human nutrition, JBH publishing co. Pvt. Ltd. Delhi, second edition 2003.
17. Patole and De Klerk. Standardised feeding regimens for reducing the risk of necrotising enterocolitis, Indian paediatrics, Sep 2005.
18. Eisen Berg Putti. An overview of diarrhoea in the patient reviewing enternal nutrition, gastroenterology nursing, vol 25(3) May-Jun 2002: 95-104.
19. Luca Dello. Feeding dysfunction in infants with severe chronic renal failure after long term nasogastric tube feeding, paediatric nephrology, vol 2(1) Jan 1997:84-86.
20. Julia B. George. Nursing theories: The base for professional nursing practice.

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