"A Study To Assess The Effectiveness of Structured Teaching Programme on Knowledge Regarding Nasogastric tube feeding Among 1 st year B.Sc Nursing students in a selected college at Kolar."

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Abstract

Background: *Nutrition is a necessary constituent of health. It is essential for life, natural growth, to protect and recovery of tissues, cellular metabolism, proper functioning of organs, and energy for movement. Feeding helps to promote wound healing and maintenance of normal immune response of body. Oral feeding is the most effective method of feeding the patients. However, when a patient is not able to eat orally, another method is necessary for his nutritional support, the best of which is tube feeding or NG tube, in which food is entered into the digestive system through a tube.* ***Objectives:*** *1. To assess the knowledge regarding Nasogastric tube feeding among 1st year B.Sc. Nursing students before and after the administration of Structured teaching programme.2. To assess the effectiveness of structured teaching programme on Knowledge regarding Nasogastric tube feeding among 1st year B.Sc. Nursing Students 3. To find the association of Post-test Knowledge scores of 1st year B.ScNursing students with their selected Demographic Variables.* ***Method:*** *A pre experimental single group pre-test and post-test design was adopted to assess the effectiveness of structured teaching programme on nasogastric tube feeding among 1st year B.Sc nursing students, in a selected college, Kolar. A total of 60 students were selected by convenient sampling technique.* ***Results:*** *The overall knowledge scores on Nasogastric tube feeding in pre test, mean of knowledge was 13.9 and standard deviation was 4.613. In post-test mean of knowledge was 21.55 and standard deviation was 5.823. The obtained χ2value is less than table value of selected demographic variable of 1st year B.Sc nursing students was not significantly associated with post test knowledge score of nursing students.* ***Conclusion:*** *There has been significant improvement in the level of knowledge of 1st year B.sc nursing students on Nasogastric tube feeding, which indicates that the structured teaching programme was effective.*

Keywords: *Knowledge, Nasogastric tube feeding, Nursing students.*

I. INTRODUCTION

A Nasogastric (NG) tube is a thin, soft tube made of plastic or rubber that is passed through the nose, down through throat, and into the stomach. The placement of an NG tube, called Nasogastric intubation, can be uncomfortable but is usually not painful. When it is used to deliver liquid nutrition, the procedure is often referred to as tube feeding.[1]

NG tube feeding also called as enteral nutrition can used to deliver special nutrition as well as medicine directly to the stomach for people who have difficulty eating or swallowing. It can also be used to remove liquids or air from the stomach.[1]One of the main indications for enteral nutrition is dysphagia, which is the impairment of swallowing. The prevalence of dysphagia ranges from 7% to 40% in long-term care facilities.[2] the majority of patients with dysphagia will likely require enteral nutrition at some point in their life. Other indications for enteral tube feed include the need to improve the nutritional status of patients who have suboptimal oral intake, and gastrointestinal problems such as obstruction and malabsorption.[3]

Nursing professionals and students may play a key role to promote the appropriate treatment choices.[4] Accordingly, the lack of knowledge and skills of nurses may lead to erroneous perceptions related to approaching the patients.[5] Previous studies have reported that this lack of knowledge or skills referring to end-of-life care started during the academic stage.[6]Although experience seems to be a factor that to improves skills in the management of patients with Nasogastric tube feeding, this is not always the case that this experience is not supported by an update of knowledge based on new evidence.

II. NEED FOR THE STUDY

NG tubes can be utilized to place substances straightforwardly into the stomach when a patient can't take food or drink by mouth. (World Health Organization). Nasogastric tubes are widely used in the world's hospitals, yet in spite of fierce campaigning to expose the dangers, patients are still dying from the complications of wrongful insertion.

In India, 13.5% of stroke patients receive Nasogastric tube feeding. The number of tube fed residents per 100 beds in each facility was 11.6% at the nursing homes, 7.4% at the long term care facilities, 36.6% at the sanatorium medical facilities and 7.9% at the rehabilitation facilities. It is estimated that between 7500000 and 1,000,000 Nasogastric tube are used in adult per year in India.[7]

If we insert NGTs to patients who are bedridden long-term and previously underwent gastrectomy, we must keep an eye on the possibility of anatomical abnormality of abdominal esophagus and should insert it carefully, not blindly, with a use of frontal and lateral radiograph view or under fluoroscopic guidance. Particularly if they are misplaced in the patient's oesophagus or, worse, a bronchus. If not detected before feeding, patients can suffer complications like pneumonia, which can be fatal.[8]

III. REVIEW OF LITERATURE

Jiajia lin et.al., (2022) A single-centre, retrospective study was conducted to assess the Incidence and risk factors of Nasogastric feeding intolerance in moderately-severe to severe acute pancreatitis. All the data were extracted from an electronic database from April 2020 to May 2021. Data were prospectively collected during hospitalisation. Patients diagnosed with moderately-severe to severe AP and admitted within seven days from the onset of abdominal pain were assessed for eligibility. Multivariable logistic regression was performed to assess potential risk factors of GFI. The study results shows that 93 patients were analysed, of whom 24 were deemed GFI (25.8%), and the rest tolerated NG feeding well. The study concluded that GFI is common in moderately-severe to severe AP patients with an incidence of 25.8%, and the presence of respiratory failure may increase the risk of GFI.[9]

Suja karkada et. Al.,(2019) A quasi-experimental study was conducted to compare the efficacy of simulation and case scenarios in promoting knowledge, clinical competency, self-learning, and self-confidence among novice nursing students in the Middle East. The study sample included 69 students registered for the Fundamentals of Nursing Laboratory course at the College of Nursing, Sultan Qaboos University, Oman, during the spring and fall 2016 semesters. Thirty-five students were assigned to the intervention group and attended a simulation, while 34 students were assigned to the control group and were given the standard case scenario used in teaching this course. The competency of the students on NGT feeding skill was measured after a simulation or case scenario. The study result shows that in both groups, the majority of students were $\leq$ 20 years old, female, hailed from rural areas, and had a cumulative grade point average of > 2.5. Data showed a significant improvement in the mean scores of competency between the intervention and control groups ($t_{(67)} = 3.869$, $p < 0.001$) suggesting that simulation was effective in gaining competency compared to the case scenario. The study concluded that there was a positive statistical significance between satisfaction and self-confidence among the intervention group.[10]

The yearly prevalence of nasogastric tube feeding was estimated at 463 per million population in the United States with an incidence of 163 to 360 per million population in the United States and Europe in the 1990s.

IV. OPERATIONAL DEFINITIONS

Assess:
It refers to the responses given by the 1st year B.sc nursing students on structured Questionnaire prepared by the Investigator on nasogastric tube feeding.

Effectiveness*:*
It is the outcome of Knowledge score after administration of Structured teaching programme.

Knowledge:
It refers to the response obtained by the 1st year B.sc nursing students regarding Nasogastric tube feeding from the Knowledge score as measured by Structured Knowledge Questionnaire.

Structured teaching programme:
It refers to the systematic teaching strategy used with the help of A.V.Aids such as computer to the 1st year BSc nursing students regarding nasogastric tube feeding.

Nasogastric tube feeding:
In this study it refers to a thin plastic tube which helps to deliver Nurtitional supplements from the nasal route into the stomach via a feeding tube.

NULL HYPOTHESIS
Ho$_1$: There will be no significant difference between pre-test and post-test knowledge scores of 1st year B.Sc nursing students regarding Nasogastric tube feeding after the administration of structured teaching programme.

Ho₂: There will be no significant association between the knowledge levels of 1st year B.Sc nursing students regarding Nasogastric tube feeding with their selected demographic variables.

ASSUMPTIONS
* The 1st year B Sc nursing students will have some knowledge regarding Nasogastric tube feeding
* The use of structured teaching programme will be effective in improving their knowledge.

DELIMITATIONS
Study is limited to 1st year B Sc nursing students

V. METHODOLOGY

RESEARCH APPROACH
To assess the effectiveness of structured teaching programme on knowledge regarding Nasogastric tube feeding among 1styear B.Sc nursing students, an Quantitative research approach was considered to be the most appropriate and adopted.

RESEARCH DESIGN
The research design refers to the researcher's overall plan for obtaining answer to the research questions and it spells out strategies that the researcher adopted to develop information that is accurate, objective and interpretable[27]. Pre experimental research with one group pre and post test design has been used to attain the objectives of the present study.

SAMPLING CRITERIA
The samples were selected with the following predetermined set of criteria.

Inclusion criteria:
* Ist year B.Sc nursing students who are willing to participate in the study.
* Ist year B.Sc nursing students who are present at the time of study.
* Ist year B.Sc nursing students those who have not yet appeared for exam.

Exclusion criteria:
* Ist year B.Sc nursing students who are sick / absent during the time of data collection.
* Ist year B.Sc nursing students who are not willing to participate in the study.

VI. DATA ANALYSIS
After giving a score for each student, both pre-test and post-test results were tabulated. Descriptive and inferential statistics were used for the analysis of the pre-test and post-test.

VII. RESULTS AND CONCLUSION
Table 1 :(Annexure-1) Distribution of Demographic variables among 1 st year B.Sc nursing students:
The data presented in table-1 Shows that Out of 60 students, Majority of 1styear B.Sc. nursing students 38 (64%) belongs to 19- 20 years of age and only 3%) belongs to age 23 Years and above . Majority of 1styear B.Sc. nursing students 50(84%) were females and only 10(16%) were males. Majority of 1styear B.Sc. nursing students 30(50%) were belongs to Hindus and only 10(16%)of them belong to Muslim. Majority of 1styear B.Sc. nursing students 60 (100%) of students have the previous knowledge of Nasogastric tube feeding. Majority of 1st year B.Sc nursing students 42 (70%) received information during class period, and only18 (30%) received from during clinical period respectively.
Table 2 :(Annexure-II): Distribution of level of knowledge regarding Nasogastric tube feeding among 1 st year B.Sc nursing students:
 Represents I st year B.S c nursing students level of knowledge on Nasogastric tube feeding. Out of 60 students, in pre-test 48(80%) had inadequate knowledge,8(13%) had moderate knowledge and 4(7%) had adequate knowledge. In post-test 4(7%) had inadequate knowledge, 12(20%) had moderate knowledge and 44(73%) had adequate knowledge.
Table 3: (Annexure-III): Comparison of pretest and post test knowledge scores of 1st year B.Sc nursing students regarding Nasogastric tube feeding
The overall knowledge scores on nasogastric tube feeding in pre test, mean of knowledge was 13.9 and standard deviation was 4.613. In post- test mean of knowledge was 21.55 and standard deviation was 5.823.

Table 4(Annexure-IV): The association of post test knowledge regarding Nasogastric tube feeding among 1 st year B.Sc nursing students:

It is evident that the obtained $\chi2$ value is less than table value of selected demographic variable of 1st year B.Sc nursing students was not significantly associated post test knowledge score of nursing students.

VIII. CONCLUSION

NURSING IMPLICATIONS

Nursing Education

• The nurses educator and all health professionals should be given the responsibility to teach the students regarding the Nasogastric tube feeding and teaching should be repeated until they gain knowledge.

• The nursing curriculum should emphasize on implementing health information to communicate by using different teaching methods. Nursing students should be trained in planning, implementing the knowledge by using educational programme like workshops, seminars regarding Nasogastric tube feeding.

Nursing practices

• The nurse plays an important role in imparting knowledge and helping students to be aware about the Nasogastric tube feeding. The teaching helps to improve the knowledge of students and the present study has revealed that teaching programme can be an effective method to improve the knowledge towards the Nasogastric tube feeding among students.

• The present study has several implications for nursing practice. Structured teaching programme on Nasogastric tube feeding is a practical strategy to make the students aware of the procedure and to reduce the complications and also help them to take self-responsibility for providing care.

Nursing Administration

● The nurse administrators are the ministers for providing facilities and plan the nursing care activities. Nursing administrator should initiate organizing education programmes for students nurse and motivate nurse to participate in such activities.

● Nursing administration should provide facilities for giving health education and then motivating nursing students for such programmes.

Nursing Research

● The findings can be utilized as evidenced based practice in clinical practice beneficial for students as well as nurses.

● Nurses should take steps to educate about different aspects on nasogastric tube feeding and Studies should be carried out and published for the benefit of students and to motivate the beginning researchers to conduct same study with different variables on a large scale considering individual aspects.

Limitations

• Study was conducted in specific geographic area imposes limits on generalization

• The findings could be generalized only to the population which fulfilled the inclusion criteria in the study.

• The sample was limited to 60 only

Suggestions

On the basis of the findings of the present study the following recommendations have been made for the further study.

• A similar study can be replicated on a large sample to generalize the findings.

• A similar study may be conducted in different group like staff nurses.

• A comparative study can be conducted with different methods.

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Table 1:(Annexure-1) Distribution of Demographic variables among 1 st year B.Sc nursing students:

VARIABLES	FREQUENCY	PERCENTAGE
Age in years		
19-20 years	38	64%
20-21 years	18	30%
21-22 Years	2	3%
Above 23Years	2	3%
Gender		
Male	10	16%
Female	50	84%
Religion		
Hindu	30	50%
Muslim	10	16%
Christian	20	34%
Previous knowledge		
Yes	60	100%
No	0	0%
Source of information		
During class period	42	70%
During clinical period	18	30%

Table 2 :(Annexure-II): Distribution of level of knowledge regarding Nasogastric tube feeding among 1 st year B.Sc nursing students: n= 60

Knowledge level	Pre test		Post test	
	Frequency	Percent	Frequency	Percent
a. Inadequate knowledge	48	80	4	7
b. Moderate knowledge	8	13	12	20
c. Adequate knowledge	4	7	44	73

Table 3: (Annexure-III): Comparison of pretest and post test knowledge scores of 1st yearB.Sc nursing students regarding Nasogastric tube feeding

Sl. No.	Knowledge aspects	Pre test		Post test		Mean difference	t Value	Df	Inference
		Mean	S D	Mean	S D				
1	**Anatomy and physiology**	2.25	1.068	3.58	1.078	1.333	7.804	59	S
2	**General information**	0.68	0.701	1.38	0.691	0.700	6.884	59	S
3	**Insertion and placement**	4.35	1.603	6.95	2.174	2.600	.911	59	S
4	**Management and complications**	3.65	1.388	4.97	1.365	1.317	6.952	59	S
5	**Care of Nasogastric tube**	2.97	1.473	4.67	1.684	1.700	7.611	59	S
	Overall	13.9	4.613	21.55	5.823	7.650	8.839	59	

Table (Annexure-IV): The association of post test knowledge regarding Nasogastric tube feeding among 1 st year B.Sc nursing students:

Variables	Below Median	Median and above	Chi square	Df	Table value (0.05)	Inference
Age in years						
a. 19-20 years	22	22				
b. 20-21 years	3	11	5.04	3	7.81	NS
c. 21-22 Years	0	1				
d. 23 Years and above	0	1				
Gender						
a. Male	10	31	0.343	1	0.558	NS
b. Female	6	13				
Religion						
a. Hindu	10	22				
b. Muslim	0	1	0.980	2	0.613	NS
c. Christian	6	21				
Previous knowledge						
a. Yes	26	34	0	0	0	NS
b. No	0	0				
Source of information						
a. During class period	24	29	2.444	1	0.118	NS
b. During clinical period	1	6				