

## Original Research Article

# A study to assess effectiveness of video assisted teaching programme on gastro intestinal tract assessment among student nurses of tertiary care hospital: a statistical approach

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## ABSTRACT

**Background:** The gastro intestinal is important system in the human body. Many times it is found that its uneasy for student nurses to check the patient. So, there is need to improve the available learning programmes regarding gastro intestinal tract assessment. So, it was necessary to conduct this study for educating student nurses regarding the gastro intestinal tract assessment to improve their knowledge. The objectives of this study were to assess the knowledge of student nurses regarding gastro-intestinal tract assessment and to evaluate the effectiveness of video assisted teaching programme on knowledge regarding gastro intestinal tract assessment.

**Methods:** Material and methods used for the study is the evaluative approach; one group pre test, post test design was used. Study was conducted on sample of 70 student nurses by using convenient sampling technique. The data were collected by structured questionnaire. The data were analyzed using descriptive and inferential statistics.

**Results:** The mean knowledge score of student nurses during the pre-test was 39.89% where as it had raised up to 72% during the post-test regarding gastro intestinal tract assessment as effectiveness of video assisted teaching programme. Therefore, the difference assessed was 32.11% between pre-test and post-test.

**Conclusions:** There was significant difference between the pre-test knowledge level and post-test knowledge level of student nurses on gastro intestinal tract assessment. Hence health education programs and on-going teaching both can further improve the knowledge of student nurses.

**Keywords:** Assessment, Gastro, Knowledge, Students, Video, Visual

## INTRODUCTION

The gastrointestinal tract (digestive tract, GI tract, GIT, gut, or alimentary canal) is an organ system within humans which takes in food, digests it to extract and absorb energy and nutrients, and expels the remaining waste.

Learning is the process of gaining new knowledge and experience. Teaching and learning is an necessary part of nursing. Nurses have capability to educate patients and their care givers related to various things and keep themselves updated with the current knowledge. Various methods are used to improve knowledge, such as lectures, group discussions, demonstration, and self-education

through learning modules or video assisted teaching programmes etc. Various methods of self education are beneficial since student nurses can learn at their own level.<sup>1</sup>

The basic tools of the physical examination are vision, listening, touch, and smell. These senses of human may be supported by specified gadgets like (e.g., stethoscope, ophthalmoscope, and reflex hammer) that are extensions of the human senses. These are simple tools to handle for anyone. Practicing anything results in expertise the same. Physical and clinical examination is the process by which any health care giver investigates the body of a patient for signs of disease, which is followed by taking history of the patient. Medical history along with physical examination helps for diagnosing the disease of patient.<sup>2</sup>

Nurses help to prevent illness of patient. If the patient is suffering from unhealthy conditions and the nurse is skilled, he can refer the patient to the specialist. There are many situations in which the nurses do the G.I.T assessment. Based on the results, treatment team can plan the treatment for the patient. Student nurses faced difficulty to assess a patient physically.<sup>3</sup>

So, it was necessary to conduct this study to improve the quality of existing programmes and for enhancing knowledge among the student nurses of tertiary care hospital regarding gastrointestinal tract.<sup>4</sup>

**METHODS**

The secondary data available was used for the study purpose. The evaluative approach was used; One Group pre test, post test design was used. Study was conducted on sample of 70 student nurses by using convenient sampling technique. The study was carried out during the period August 2015- March 2016.

The target population for the study was student nurses of tertiary care hospital. The study design was descriptive cross-sectional study. The convenient sampling technique was used for study.

The secondary data available was used for the study purpose. Study was conducted on 60 student nurses of tertiary care hospital. The structured questionnaire was used to assess effectiveness of video assisted teaching programme. The sample size estimation was also done at conveniences.

Inclusion criteria were the student nurses of tertiary care hospital and who are willing to participate in the study. Exclusion criteria were the staff nurses and student nurses who are not interested to participate in the study. Period of the study was six months.

Data were collected, tabulated and analyzed using SPSS version 20.0 with respect to the objectives of the study using descriptive and inferential statistics. Frequency and

percentage count were done for demographic variables. Unpaired t test was done to assess effectiveness of video assisted teaching programme.

**RESULTS**

Table 1 shows frequency and percentage analysis of demographic variables. The maximum number 65 (92.86%) of student nurses were in the age group of 18-20, the remaining 5 (7.14%) of respondents were in the age group of 21-23. The maximum number of student nurses 45 (64.29%) were females and the remaining 25 (35.71%) were males.

**Table 1: Frequency and percentage analysis of demographic variables.**

Variables	Category	Respondent	
		Frequency (f)	Percentage
Age	18-20 years	65	92.86
	21-23 years	5	7.14
Sex	Male	25	35.71
	Female	45	64.29
Place of residence	Rural	33	47.14
	Urban	19	27.14
	Semi urban	18	25.71
Occupation of father	Health care professional	1	1.43
	Government service	7	10.00
	Private service	26	37.14
	Self-employed/business	15	21.43
Occupation of mother	Agriculture	21	30.00
	Health care professional	5	7.14
	Government service	3	4.29
	Private service	0	0.00
	Self-employed/business	3	4.29
Academic performance	House wife	59	84.29
	Distinction	0	0.00
	First class	5	7.14
	second class	13	18.57
Previous training	pass class	33	47.14
	ATKT	19	27.14
Previous training	Yes	7	10.00
	No	63	90.00

Majority of respondents 33 (47.14%) of student nurses lives in rural places, 19 (27.14%) in urban places and 18 (25.71%) in semi urban places. Majority of student nurse’s fathers were in private service i.e., 26 (37.14%). Then, 21 (30%) were in agriculture, 15 (21.43%) were self employed, 7 (10%) were government services and only 1 (1.43%) were health care professionals. Majority of student nurse’s mothers were housewives i.e. 59

(84.29%), 5 (7.14%) were health care professionals, 3 (4.29%) were self employed, 3 (4.29%) were in government services and none (0%) was in private service. Majority of student nurses 33 (47.14%) secured pass class in the first year university exam, 13 (18.57%) secured second class, 5 (7.14%) secured first class, 19

(27.14%) of student nurses got ATKT and none of the students got distinction. Majority of student nurses 63 (90%) have not taken prior training regarding gastro intestinal tract assessment and 7 (10%) students have taken prior training regarding G.I.T assessment.

**Table 2: Comparison of pre-test and post-test knowledge scores of student nurses regarding gastro intestinal tract assessment.**

Level of knowledge	Score	Pre Test		Post Test	
		Frequency	Percentage	Frequency	Percentage
Poor	0-10	43	61.43	2	2.86
Average	11-18	27	38.57	36	51.43
Good	19-25	0	0.00	32	45.71
Total		70	100.00	70	100.00

**Table 3: Determining the difference in knowledge of student nurses regarding gastro intestinal tract assessment.**

Pre test		Post test			Mean gain percentage	t statistic	p- value
Mean	Mean Percentage	SD	Mean	Mean percentage			
9.99	39.89	2.49	17.97	72	32.11	19.21	<0.0001

**Table 4: question wise frequency and percentage of number of respondents given correct answer; showing the strong and weak areas of knowledge regarding G.I.T assessment.**

Questions	Respondents given correct answer in pre test		Respondents given correct answer in post test		Difference	
	No.	%	No.	%	No.	%
Position of the client for examination	18	25.71	51	72.86	33	47.14
The reason for performing auscultation before percussion and palpation	50	71.43	60	85.71	10	14.29
Indication of Halitosis	39	55.71	56	80.00	17	24.29
Pain in the RLQ	60	85.71	64	91.43	4	5.71
Indication of yellow or green colour vomit	31	44.29	51	72.86	20	28.57
Number of regions in the abdomen	35	50.00	54	77.14	19	27.14
The technique which is using for assessing the masses and tenderness.	51	72.86	64	91.43	13	18.57
Assessment of the pain full area	14	20.00	55	78.57	41	58.57
Location of the stomach	29	41.43	46	65.71	17	24.29
Indication of Cullen’s sign.	20	28.57	53	75.71	33	47.14
Use of diaphragm of the stethoscope in the assessment	49	70.00	60	85.71	11	15.71
Normal time interval of hearing bowel sounds	23	32.86	48	68.57	25	35.71
Name of abdominal gurgle	12	17.14	53	75.71	41	58.57
Indication of pain that begins 2-4 hours after meal	19	27.14	54	77.14	35	50.00
Cause of chelosis	8	11.43	44	62.86	36	51.43
Exceptional causes to perform percussion	12	17.14	51	72.86	39	55.71
Normal percussion sounds of the abdomen	32	45.71	49	70.00	17	24.29
Location of the liver	36	51.43	41	58.57	5	7.14
Asymmetry of the lower quadrant	20	28.57	34	48.57	14	20.00
Location of McBurney’s point	33	47.14	50	71.43	17	24.29
Method of Assessing the spleen	21	30.00	31	44.29	10	14.29
Assessment of the spleen	22	31.43	58	82.86	36	51.43
Indication of Friction rubs over organs	24	34.29	55	78.57	31	44.29
Signs of venous prominence around anal areas	25	35.71	32	45.71	7	10.00
Causes of black colour stool	15	21.43	46	65.71	31	44.29

The Table 2 shows the comparison of pre test and post-test knowledge of student nurses on gastro intestinal tract assessment. The pre-test data depicts majority of student nurses 43 (61.43%) had poor level of knowledge about gastro intestinal tract assessment and 27 (38.57%) of student nurses had average level of knowledge and none of student nurses had good knowledge regarding gastro intestinal tract assessment before administration of video assisted teaching programme.

The post-test data depicts that, majority of student nurses 36 (51.42%) had average level of knowledge about gastro intestinal tract assessment whereas 32(45.71%) of student nurses had good level of knowledge and only 2 (2.86%) of student nurses had poor knowledge regarding gastro intestinal tract assessment after administration of video assisted teaching programme Hence the data reveals the effectiveness of video assisted teaching programme.

#### ***Effectiveness of audio visual learning package on G.I.T. assessment among student nurses***

The t test was used to test the hypothesis and significant difference in the level of knowledge between pre-test and post-test by student nurses regarding gastro intestinal tract assessment and is significant ( $p < 0.0001$ ).

The Table 3 depicts the mean and standard deviation of knowledge score obtained before and after the administration of the video assisted teaching programme. The mean post test knowledge (17.97) was significantly higher than mean pre test knowledge (9.99) after administration of the video assisted teaching programme.

#### ***Evaluating the strong and weak areas of knowledge regarding G.I.T. assessment among U.G student nurses.***

The Table 4 shows question wise frequency and percentage of number of respondents given correct answer; showing the strong and weak areas of knowledge regarding G.I.T. assessment. For all 25 questions there was an improvement in the knowledge of student nurses regarding G.I.T. assessment, because the percentage of number of respondents given correct answer was increased in the post test than pre test. The percentage of improvement ranged from 5.71% to 58.57%. The least improvement was observed in the area of assessment of halitosis (Q.4), liver (Q.18) and assessment of hemorrhoids (Q.24).

## **DISCUSSION**

The present study has been under taken to evaluate the effectiveness of video assisted teaching programme on knowledge regarding G.I.T. assessment.

The socio demographic data revealed that majority of the students 65 (92.86%) were in the age group of 18-20. The maximum number of respondents 45 (64.29%) were

females. Majority of respondents 33 (47.14%) were coming from rural area. Most of the respondents 33 (47.14%) secured pass class in the first year university exam and majority of U.G student nurses 63 (90%) have not taken prior training regarding G.I.T. assessment.

The findings of the study discussed with the reference to the objectives. The first objective of the present study was to assess the knowledge of student nurses regarding gastro intestinal tract assessment.

Based on the above objective of the study the data was collected by the investigator during the pre-test revealed that the knowledge of student nurses on gastro intestinal tract assessment. The pre-test data revealed that, majority of student nurses 43 (61.43%) had poor level of knowledge about gastro intestinal tract assessment and 27 (38.57%) of student nurses had average level of knowledge and none of student nurses had good knowledge regarding gastro intestinal tract assessment before administration of video assisted teaching programme.

The above findings supported by a study carried out by Mohsen AH, Azade S in 2013. A cross sectional study carried out to evaluate nurse's use and mastery in health assessment skills. The result shows that highest level of using and proficiency in skills was related to taking history. Nurses received 87.25% of score in this field. The lowest level of application was in assessment of the urogenital system so that nurses received 16.37% of score in this area. Also, the lowest proficiency was in assessment of the nervous system and nurses received 34.58% of score in this area. The level of nurses' proficiency in the health assessment skills was not satisfactory. Modifying the curriculum and cooperating of nurse managers and nursing schools can help to improve the situation.<sup>5</sup>

The above findings also supported by a study carried out by Giddens JF in 2007. A survey of physical assessment of techniques performed by RNs: lessons for nursing education. The purpose of this study was to identify physical examination skills performed by practicing nurses to better understand the competencies needed by graduates of nursing programmes. 30 skills routinely performed occasionally or were not performed. The fact that only 30 skills were reportedly performed regularly by the sample raises questions about the depth at which examinations should be conducted in the clinical setting and the depth at which physical examinations skills should be taught in nursing programs. Nurse educator should assess the skills currently taught in nursing programs and consider what skills graduates actually needs to enter nursing practice.<sup>6</sup>

The second objective of the present study was to evaluate the effectiveness of video assisted teaching programme on knowledge regarding G.I.T. assessment among student

nurses. The pre-test data depicts that majority of student nurses 43 (61.43%) had poor level of knowledge about gastro intestinal tract assessment and 27 (38.57%) of student nurses had average level of knowledge and none of student nurses had good knowledge regarding gastro intestinal tract assessment before administration of video assisted teaching programme.

The post-test data depicts that, majority of student nurses 36 (51.42%) had average level of knowledge about gastro intestinal tract assessment whereas 32(45.71%) of student nurses had good level of knowledge and only 2 (2.86%) of student nurses had poor knowledge regarding gastro intestinal tract assessment after administration of video assisted teaching programme. Hence the data reveals the effectiveness of video assisted teaching programme.

The mean and S.D of knowledge scores obtained before administering learning package was 9.99 and 2.49 respectively, which was increased after administering video assisted teaching programme to 17.97 and 2.62 respectively. It shows that the knowledge regarding gastro intestinal tract assessment was increased after showing the video assisted teaching programme on G.I.T assessment. It reveals that the video assisted teaching programme on knowledge regarding gastro intestinal tract assessment was effective.

The above findings supported by a study carried out by Amosh T, Tukaram Z in 2014. A study carried out to assess the effectiveness of learning package on knowledge about cardio-respiratory assessment among student nurses. The results shows that Pre-test mean knowledge score and S.D. of the U.G. student nurse regarding cardio-respiratory assessment was  $11.18 \pm 2.657$ , which was increased in post-test to  $25.30 \pm 2.940$ .<sup>7</sup>

The above findings also supported by a study were done by Sheetal U, Makarand U. In 2013 to assess the effectiveness of video assisted teaching programme on prevention of swine flu among students. The result shows that average knowledge (13-22) and their frequency is 31 where as 9 samples belong to good knowledge category (23-34) The post test mean score of level of video assisted teaching program  $26.13(SD \pm 4.142)$  was higher than the pre test mean score  $13(SD \pm 3.258)$  the paired 't' value 14.591, So the video assisted teaching was highly effective in increasing knowledge of students regarding prevention of swine flu.<sup>8</sup>

Also in a study by Das, analysis of pre test and post test for awareness score revealed that mean post test score of experiment group for awareness was 9.43 which was more than mean post score of control group for awareness that was 4.73.<sup>9</sup>

In the study by Kulthukran, the results of pre test and post test for satisfaction level revealed that mean post test score of experiment group for satisfaction level was

29.06, which was higher than mean post score of control group for satisfaction level that was 21.4. It inferred that there was a marked improvement in satisfaction level in post test experiment than post test control group.<sup>10</sup>

## CONCLUSION

Based on the findings the result of the study it was found that the total pre-test means knowledge score of the student nurses was 9.99, which indicates that the student nurses had poor knowledge on G.I.T assessment. In the post-test the mean knowledge score of the student nurses was increased to 17.97. It is suggesting that there was significant difference of 7.98, which was the result of showing video assisted teaching programme on gastro intestinal tract assessment. Thus, it was concluded that the video assisted teaching programme was effective method to improve knowledge of student nurses about gastro intestinal tract assessment.

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## REFERENCES

1. Shinde M, Anjum S. Educational Methods And Media For Teaching In Practice Of Nursing. Sneha Publication India (Dombivili). 2007.
2. Deborah A, Cheryl A, Catherine B. Assessment a 2-in-1 reference for nurses. 1st ed. Lippincott Williams and Wilkins. Philadelphia. J Cardiovascular Nursing. Year;26(45):556.
3. John NG, Zagade TB. effectiveness of audio-visual learning package on knowledge regarding gastro intestinal tract assessment among under graduate student nurses. Inter J Sci Res. 2016;5(4):50-506.
4. Bhosale T, Patel R, Patil P, Yadav R. A study to assess effectiveness of planned teaching programme on knowledge regarding hand washing among the staff nurses in secondary care hospital, Karad. Inter J Sci Res. 2018;7(9):620-3.
5. Adib-Hajbaghery M, Safa A. Nurses' evaluation of their use and mastery in health assessment skills: selected iran's hospitals. Nursing Midwifery Studies. 2013 Sep;2(3):39.
6. Giddens JF. A survey of physical assessment techniques performed by RNs: lessons for nursing education. J Nurs Educ. 2007 Feb;46(2):83-7.
7. Amosh T, Tukaram Z. Effectiveness of learning package on knowledge about cardio-respiratory assessment among under graduate student nurses. Int J Sci Res. 2014 May;3(5):548-53.
8. Udaykar S, Udaykar M. Effectiveness of video assisted teaching programme on prevention of swine flu among students. Inte J Sci Res. 2015;4(10):387-93.
9. Das S, Xavier B. The effectiveness of video assisted teaching on awareness, anxiety and satisfaction of

patients undergoing upper gastro intestinal endoscopy. *International J Adv Nur Manag.* 2014;2(4):266-72.

10. Kutlutürkan S, Görgülü Ü, Fesci H, Karavelioglu A. The effects of providing pre-gastrointestinal endoscopy written educational material on patients anxiety: a randomised controlled trial. *Int J Nursing Studies.* 2010 Sep 1;47(9):1066-73.

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