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A study to assess the effectiveness of video-assisted teaching (VAT) on Knowledge and Pre-procedure Anxiety level among patients undergoing Gastro Endoscopy in People's Hospital of Bhopal, (M.P.)

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Abstract

Background of the study: Gastrointestinal (GI) Endoscopy is a very common procedure performed all over the world. The main indication for Endoscopy is the detection of diseases of the GI tract but also to screen clients at risk or the unaffected general population. Anxieties in patient results due to a lack of awareness and knowledge about the procedure and fear of discomfort or pain.

Methodology: The research approach for the study was quantitative research approach, the research design used was one group pretest and posttest design, and the population of the study was patients undergoing Gastro Endoscopy in People's Hospital of Bhopal, 30 samples selected for the study by using quasi-experimental research design and simple random sampling technique. The tool used for data collection was Socio-demographic variables, a Self-structured Knowledge questionnaire and Hamilton's Anxiety assessment scale to assess the Knowledge and Pre-procedure Anxiety level among the patients undergoing Gastro Endoscopy. The pilot study was feasible in terms of time, money, material and resources.

Results: With respect to Video assisted teaching, the statistical paired 't' test implies that the difference in the pre-test and post-test value was found statistically significant at a 5% level ($p < 0.05$) with a paired 't' value of 9.371 and 24.783 respectively. There was a statistical significance in the mean differences and the Standard deviation on Knowledge reveals that 8.70 with a Standard deviation of 1.97 was seen in the Pre-test Knowledge score which was significant. 13.73 Mean difference with 2.586 Standard deviations was seen in the Post-test Knowledge level. And a comparison of Mean differences and Standard deviation on Pre-procedure Anxiety level reveals that 25.90 with 24.783 Standard deviation was seen in Pre-test Pre-procedure Anxiety level which was significant. 14.03 Mean difference with a 2.076 Standard deviation was seen in the Post-test Pre-procedure Anxiety level.

Conclusion: In this study, Video-assisted teaching is a method of teaching used to teach patients regarding Gastro Endoscopy. Video-assisted teaching refers to multimedia teaching in which organized and sequential representation of information regarding Gastro Endoscopy.

Keywords: Effectiveness, video-assisted teaching (VAT), Knowledge, pre-procedure anxiety level, gastro endoscopy

Introduction

Gastrointestinal (GI) Endoscopy is a very common procedure performed all over the world. The main indication for Endoscopy is detection of diseases of the GI tract but also to screen clients at risk or the unaffected general population. Bowel cancer screened by colonoscopy is an established method approved by several National Health Care Systems. However, colonoscopy helps to detect not only carcinomas but also early, neoplasm and precursors of a carcinoma that can be endoscopically removed.

An estimated 20 million-plus Endoscopies are performed yearly in the United States. Out of this, 30.6 percent of Endoscopies are upper GI Endoscopy. India lacks a centralized database for these procedures; however, in India, it is found that 1.6% in the general population is affected with Upper GI symptoms and 10% of those undergoing Upper Gastro Endoscopy whereas according to the studies in Andhra Pradesh, India about 32756 Endoscopic procedures have been carried out in a population and in Maharashtra, India about 3000 population underwent GI Endoscopy in a year.

Upper GI Endoscopy constitutes about 75 percent of these Procedures [7]. Generally considered as a relatively safe procedure, Endoscopy is also associated with certain complications. According to the American Society for Gastrointestinal Endoscopy, the overall complication rate of Endoscopy was 0.13 percent with an associated mortality of 0.004 percent. In Germany, it is estimated that 18,000 colon cancer cases are prevented per year by screening colonoscopy. Furthermore, another 4000 patients are diagnosed with cancers in an early stage that are amenable to Endoscopic therapy.

Endoscopy is a procedure which refers to screening done to visualize digestive system for medical reasons using an endoscope. Endoscope is an instrument used to examine the interior portion of a hollow organ or cavity of the body. Unlike most other medical imaging techniques, Endoscopes are inserted directly into the organ. The procedure is usually performed in a dedicated Endoscopy unit in the hospital or outpatient unit. This is done when a long, flexible, tubular instrument called the Endoscope is used to view the entire inner lining of the colon (the large intestine and the rectum). Endoscopy is a simple procedure but a cause of stress and anxiety for the patients. Preventing extreme anxiety during the examination is important because it may result in a wide range of potential complications and even the cancellation of the examination. Preparation of a patient for any surgical procedure includes pre-operative education, which is a very important and common feature and always gives beneficiary outcomes for the patient. So intervention can be given by relaxation, music, guided imagery, Video Assisted Teaching, etc. Most of the patients feel anxious before undergoing upper gastro endoscopy procedure. To reduce their anxiety, adequate information regarding the procedure is very much necessary for the participants. So the researcher wants to conduct this study in order to assess the knowledge and change in Pre-procedure Anxiety level of patients undergoing Gastro Endoscopy by providing Video Assisted Teaching on Gastro Endoscopy before the procedure.

Need of the study

Endoscopy is a diagnostic procedure that can be a causing factor of stress for the patients undergoing Gastro Endoscopy and Video Assisted Teaching may increase their knowledge and reduce their stress & anxiety. Informing the patients about the procedure by showing Video related to the preparation for undergoing procedure, how procedure will be performed and what are Do's and Don'ts post-procedure and also by introducing the feedback of the patients already undergone by the procedure, to become aware regarding the procedure and providing psychological support before & during procedure is one of the best methods to reduce their anxiety and increase satisfaction among patients undergoing Gastro Endoscopy. Before the procedure educating the patients about the procedure has an important role in decreasing the fear and anxiety of the patients.

Objectives

- To assess the Pre-test Knowledge score of patients undergoing Gastro Endoscopy in People's Hospital, Bhopal.
- To assess the Pre-test Pre-procedure Anxiety Level among patients undergoing Gastro Endoscopy in

People's Hospital, Bhopal.

- To implement Video Assisted Teaching among patients undergoing Gastro Endoscopy regarding Gastro Endoscopy procedures in People's Hospital, Bhopal.
- To assess Post-test Knowledge score of patients undergoing Gastro Endoscopy in People's Hospital, Bhopal.
- To assess Post-test Pre-procedure Anxiety Levels among patients undergoing Gastro Endoscopy in People's Hospital, Bhopal
- To assess the difference between Pre-test and Post-test knowledge scores of patients undergoing Gastro Endoscopy in People's Hospital, Bhopal.
- To assess the effectiveness of Video-assisted teaching on Knowledge and Pre-procedure Anxiety levels of patients undergoing Gastro Endoscopy in People's Hospital, Bhopal.

Hypothesis

- **H0:** There will be no significant difference between Pre and Post Knowledge scores of patients undergoing Gastro Endoscopy
- **H1:** There will be a significant difference between Pre and Post Knowledge scores of patients undergoing Gastro Endoscopy
- **H2:** There will be a significant difference between Pre and Post Pre-procedure Anxiety Levels among patients undergoing Gastro Endoscopy

Methodology

Research Approach: Quantitative Research Approach.

Research Design: Quasi-experimental (one group pre-test – post-test research design).

Sampling technique: Simple random sampling technique

Sample size: 30 samples.

Setting of the study: Patients undergoing Gastro Endoscopy in People's Hospital of Bhopal, (M.P.).

Tools used for data collection

Following tools used for the data collection

Section-I: Socio-demographic data: It consists of 8 items related to the demographic data of participants.

Section-II: Self-Structured Knowledge Questionnaire: This section consists of 20 self-structured multiple-choice questionnaires with multiple options for each item to assess the Knowledge of participants regarding Gastro Endoscopy.

Section-III: Hamilton's Anxiety Assessment Scale: It consists of 14 items with 0-4 scoring for each item to assess the Pre-procedure Anxiety level of the patient's undergoing Gastro Endoscopy.

Procedure of data collection

Data was collected after obtaining administrative permission from People's College of Nursing & Research Centre of Bhopal. Investigator approached and introduced to patients undergoing Gastro Endoscopy. The purpose of the study was explained and the willingness of the participants was ascertained. Written and informed consent was taken from the participants. They were assured that the data collection will be kept confidential. First, the Socio-demographic data was collected then the investigator did the pre-test with a

self-structured Knowledge questionnaire and Hamilton’s Anxiety assessment scale given to 30 patients undergoing Gastro Endoscopy. After the pre-test, the researcher administered Video assisted teaching for 30 minutes. Post-test was conducted on the same day by using the same self-structured Knowledge questionnaire and Hamilton’s

Anxiety assessment scale. The data collected was compiled for data analysis.

Results

Section I: The findings related to the socio-demographic variables of participants

Table 1: Frequency and percentage distribution of Socio-demographic data of participants, N=30

Socio-Demographic Variables	Frequency F	Percentage %
Age		
20-30	14	46.7
31-40	4	13.3
41-50	11	36.7
51 or above	1	3.3
Gender		
Female	14	46.7
Male	16	53.3
Occupation		
Private	20	66.7
Government	3	10.0
Self Employed	7	23.3
Marital Status		
Married	20	66.7
Unmarried	10	33.3
Education Level		
Primary Education	9	30.0
Secondary Education	12	40.0
Graduate	9	30.0
Illiterate	0	0
Diagnosis		
Disorders of Oesophagus	3	10.0
Disorders of Stomach	23	76.7
Disorders of Duodenum	4	13.3
Previous Hospitalization		
YES	13	43.3
NO	17	56.6
Knowledge About Endoscopy		
Yes	19	63.3
No	11	36.7

Section II: Difference between Pre-test and Post-test Knowledge scores of patients undergoing Gastro Endoscopy

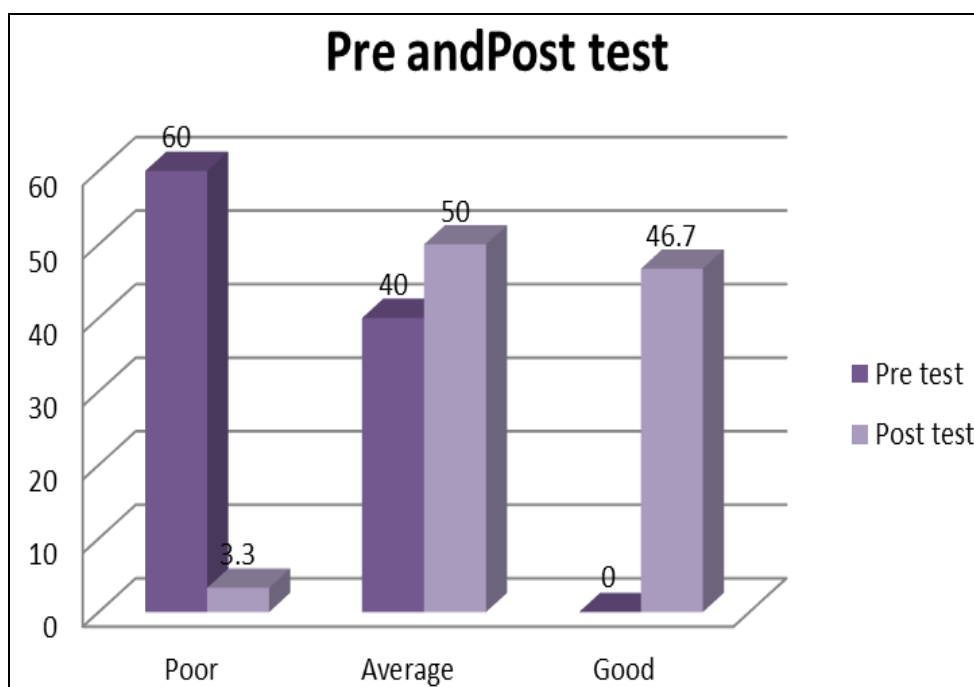


Fig 1: The Bar diagram reveals the difference between pre and post-test knowledge scores according to frequency and percentage

Table 2: Difference between pre-test and post-test knowledge scores of patients undergoing gastro endoscopy, N=30

Knowledge	Pre-test		Post-test	
	Frequency F	Percentage %	Frequency F	Percentage %
Poor	18	60.0	1	3.3
Average	12	40.0	15	50.0
Good	0	0	14	46.7
Total	30	100.0	30	100.0

Table 2, Fig. 1, The above table and bar diagram show that in the Pre-test score, 18 (60%) had Poor Knowledge, 12 (40%) had Average Knowledge, and none had Good Knowledge whereas, in Post-test, 15 (50%) had Average Knowledge, 14 (46.7%) had Good Knowledge and 1 (3.3%) had Poor Knowledge regarding Gastro Endoscopy among patients undergoing Gastro Endoscopy after the intervention

of video-assisted teaching (VAT).

Section III: Difference between pre and post-test pre-procedure anxiety levels according to frequency and percentage

Table 3: Difference between pre and post-test pre-procedure anxiety levels according to frequency and percentage, N=30

	Pre-test		Post-test	
	Frequency F	Percent %	Frequency F	Percentage %
Mild	0	0	28	93.3
Moderate	8	26.7	2	6.7
Severe	21	70.0	0	0
Very severe	1	3.3	0	0
Total	30	100.0	30	100.0

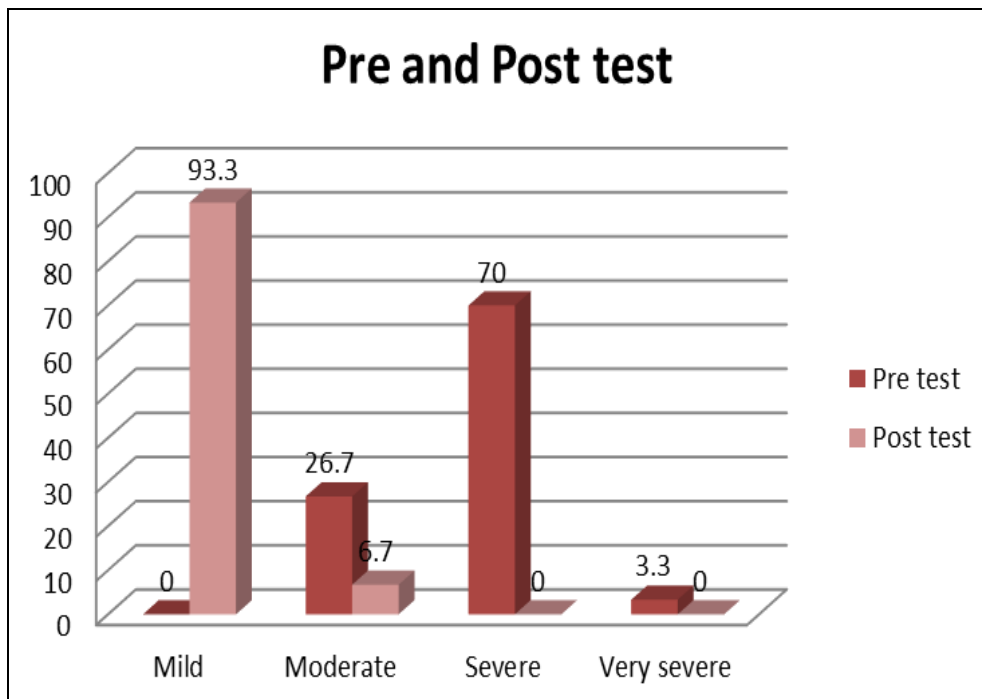


Fig 2: The Bar diagram reveals the difference between Pre and Post-test Pre-procedure Anxiety levels according to frequency and percentage

Table 3, Fig 2. The above table and bar diagram show that in the Pre-test score, 21 (70%) had Severe Anxiety, 8(26.7%) had moderate Anxiety, 1 (3.3%) had very severe Anxiety and none had mild Anxiety whereas, in Post-test

score, 28 (93.3%) had mild Anxiety, 2(6.7%) had moderate Anxiety and none had severe and very severe Anxiety among patients undergoing Gastro Endoscopy after the intervention of video-assisted teaching (VAT).

Mean difference & standard deviation on knowledge and pre-procedure anxiety level of patients

Table 4: Mean, standard deviation 't' value and degree of freedom of pre-test and post-test scores

		Mean	Std. Deviation	t	DF	P Value	Significance
Knowledge	Pre-Test	8.70	1.97	9.371	29	.050	S
	Post-Test	13.73	2.59				
Anxiety	Pre-Test	25.90	2.683	24.783	29	.050	S
	Post-Test	14.03	2.08				

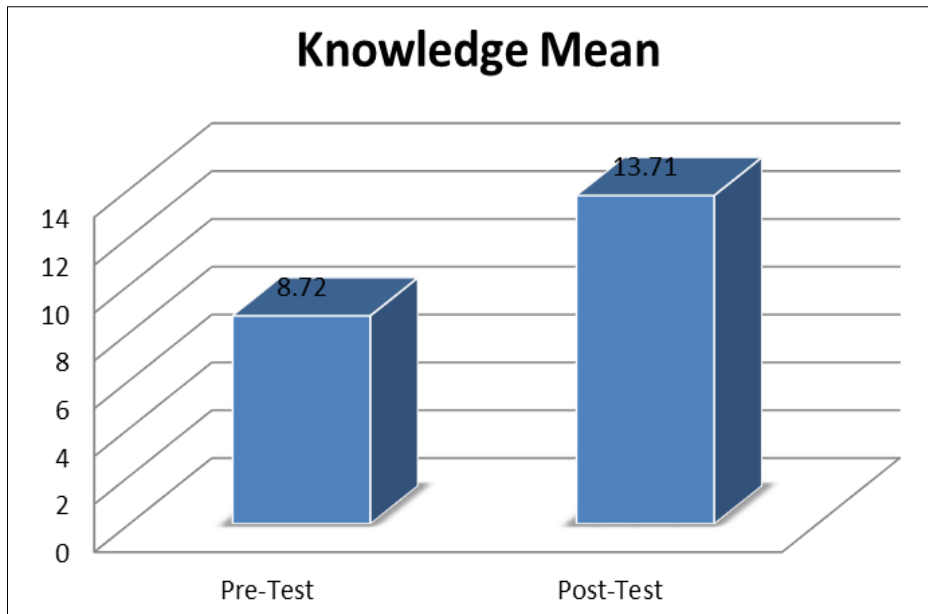


Fig 3: The Bar diagram depicts the mean difference between & standard deviation on knowledge and pre-procedure anxiety level of patients

Table 4, Fig 3. The above table and Bar diagram reveal that the mean Pre-test score is (8.70), standard deviation is (1.968) apparently increased than the mean Post-test score is (13.73), standard deviation is (2.586) and the t-test is

(9.371) which reveals that there was increase in Knowledge among patients undergoing Gastro Endoscopy after the intervention of Video-assisted teaching (VAT).

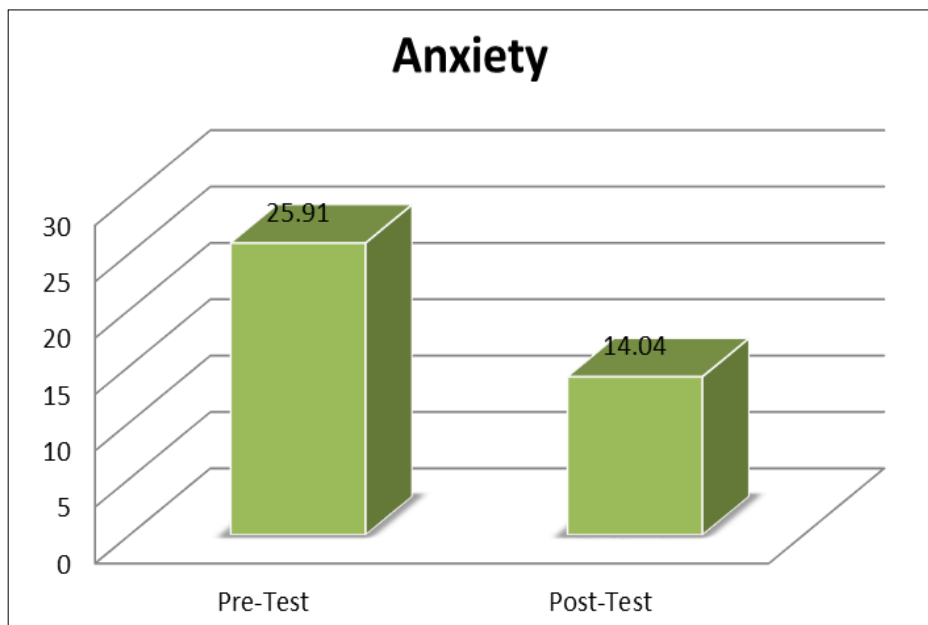


Fig 4: The Bar diagram depicts the mean difference between & standard deviation on and pre-procedure anxiety levels of patients

Table 4, Fig 4. The above table and Bar diagram reveal that the mean Post-test score is (14.03), standard deviation is (2.076) apparently is reduced than the mean Pre-test score is (25.90), standard deviation is (2.683) and the t-test is (24.783) which reveals that there was a decrease in Pre-procedure Anxiety level among patients undergoing Gastro Endoscopy after the intervention of Video-assisted teaching (VAT).

**Discussion
Section-I**

Socio-demographic variables distribution of subjects according to Age revealed that maximum subjects 14 (46.7%) were in the age group between 20-30 years, were in

between 20-30 years of age, 11 participants (36.7%) were in between 41-50 years of age, 4 participants (13.3%) were in between 31-40 years of age and 1 participant (3.3%) was above 51 years of age.

With regard to Gender it was found that majority, 16 participants (53.3%) were Males and 14 participants (46.7%) were Females.

In relation to the Occupation, majority 20 participants (66.7%) were private employee, 7 participants (23.3%) were self-employed and 3 participants (10%) was Government employee.

With regard to marital status, 20 participants (66.7%) were married and 10 participants (33.3%) were unmarried.

In relation to the Educational status, it was found that out of

30 participants, 12 (40%) had secondary education, 9(30%) had primary education, 9(30%) were Graduates and none of them were illiterate.

With regard to patient Diagnosis, 23(76.7%) patients had disorders of stomach, 4(13.3%) had disorders of duodenum and 3 (10%) patients had disorders of Esophagus.

Distribution of subjects as per previous Hospitalization, 17(56.6%) do not have previous hospitalization and 13 (43.3%) had previous hospitalization.

Difference between Pre and Post-test Knowledge scores among patients undergoing Gastro Endoscopy by using frequency percentage depicts that the Pre-test score, 18 (60%) had Poor Knowledge, 12(40%) had Average Knowledge, none had Good Knowledge which was increased than the 15(50%) had Average Knowledge, 14(46.7%) had Good Knowledge and 1(3.3%) had Poor Knowledge regarding Gastro Endoscopy among patients undergoing Gastro Endoscopy after the intervention of Video-assisted teaching (VAT).

A comparison between Pre and Post-test Knowledge scores of patients underwent Gastro Endoscopy reveals that there was change in each category of the Knowledge levels from Pre to Post-test levels. Among Poor the number of participants reduced from 18 to 1, in Average category it changed from 12 to 15 but a drastic change is seen in the Poor category from 0 to 14.

Difference between Pre and Post-test Pre-procedure Anxiety levels according to frequency and percentage shows that in the Pre-test score, 21(70%) had Severe Anxiety, 8(26.7%) had moderate Anxiety, 1(3.3%) had very severe Anxiety and none had mild Anxiety which was reduced than the 28 (93.3%) had mild Anxiety, 2(6.7%) had moderate Anxiety and none had severe and very severe Anxiety among patients undergoing Gastro Endoscopy after the intervention of Video-assisted teaching (VAT).

A difference between Pre and Post-test Pre-procedure Anxiety levels of patients underwent Gastro Endoscopy reveals that there was change in each category of the Pre-procedure Anxiety level from Pre to Post-test levels. Among the Very Severe number of participants reduced from 1 to 0, in severe category it changed from 21 to 0 drastic change is seen, in Mild category from 0 to 28 there were also a drastic change in Post-test Pre-procedure Anxiety level.

Mean difference & Standard Deviation on Knowledge and Pre-procedure Anxiety level of patients shows that the mean Pre-test score is (8.70), standard deviation is (1.968) apparently increased than the mean Post-test score is (13.73), standard deviation is (2.586) and t-test is (9.371) which reveals that there was increase in Knowledge among patients undergoing Gastro Endoscopy after the intervention of Video-assisted teaching (VAT).

When we compare the Mean differences and Standard deviation on Knowledge it is reveal that 8.70 with a Standard deviation of 1.97 was seen in the Pre-test Knowledge score which was significant. 13.73 Mean difference with 2.586 Standard deviation was seen in the Post-test Knowledge level. And comparison of Mean differences and Standard deviation on Pre-procedure Anxiety level it is reveal that 25.90 with 24.783 Standard deviation was seen in the Pre-test Pre-procedure Anxiety level which was significant. 14.03 Mean difference with 2.076 Standard deviation was seen in the Post-test Pre-procedure Anxiety level.

Conclusion

In this study, video-assisted teaching is a method of teaching used to teach patients regarding Gastro Endoscopy. Video-assisted teaching refers to multimedia teaching in which organized and sequential representation of information regarding Gastro Endoscopy had the effectiveness of increase in Knowledge and decrease in Pre-procedure Anxiety level of patients undergoing Gastro Endoscopy.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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