

Original Research Article

Effect of Video Assisted Teaching on Anxiety among Patients Undergoing Upper Gastro Endoscopy

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ABSTRACT

In the modern health care setting video technology is considered as an appropriate tool to give accurate practical information about the endoscopic procedure. It is easy to use and the patient can understand the procedure better than verbal explanation. So in this study pre-operative educational video was used to give detailed information about the upper endoscopy. The objective of the study is to evaluate the effect of video assisted teaching in reducing the anxiety level among patients undergoing upper gastro endoscopy (UGE) in experimental group. Study was conducted among participants undergoing upper gastro endoscopy at selected tertiary care teaching hospital, Puducherry. 60 Participants were selected by convenience sampling method and were assigned by blocked randomized technique – computer generated random method. Before the intervention the anxiety level was assessed using modified state anxiety inventory scale (SAIS) and after that video assisted teaching was given for 10 minutes duration in experimental group and control group has received the standard care practiced in the hospital that is providing verbal information about the UGE procedure. Anxiety level was assessed after intervention by using the same scale after 5 minutes of video assisted teaching in experimental group and standard care in control group. There is a statistically significant difference between the mean level of anxiety before and after intervention at $p < 0.001$ in experimental group. There is statistically significant difference between mean level of anxiety before and after standard care at $p < 0.001$ in control group. There is no significant difference in the mean difference in experimental and control group after VAT. So the video assisted teaching or providing verbal information about the upper gastro endoscopy procedure has the same effect on the anxiety level of patients undergoing the upper gastro endoscopy.

Key words: Anxiety, Upper gastro endoscopy, Video assisted teaching,

INTRODUCTION

Endoscopy is a procedure which refers to looking inside the body for medical reasons using an endoscope. ^[1] Endoscope is an instrument used to examine the interior 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. ^[2] Anxieties in patient results due to lack of awareness

about the procedure and fear of discomfort or pain. Prevention of anxiety during the examination is very much important, because of discomfort feeling, and due to which anxiety may increase the time of the procedure and cause more side effects in patients. [3]

Providing information to the patient decreases anxiety, improves awareness, increases cooperation during endoscopy procedure and improves compliance with instructions of discharge. [4] In the modern health care setting video technology is considered as an appropriate tool to give accurate practical information about the endoscopic procedure in a suitable time period. This pre-operative educational video gives an additional effect to the previous written pre-operative teaching. [5]

Relevant information, skill training, and psychological support are essential components of the educational intervention. The pre-operative education must include relevant information about the type of endoscopic procedure and life style modification of the patients, which they will face in the perioperative periods. Preparation of a patient for any surgical procedure includes pre-operative education, which is a very important and common feature and always gives beneficial outcomes for the patient. So intervention can be given by relaxation, music, guided imagery, video assisted teaching, etc. [6] Most of the patients feel anxious before undergoing upper gastro endoscopy procedure. To reduce the anxiety, adequate information is necessary for the participants. So this study is done to assess the change in anxiety level by providing video assisted teaching on upper gastro endoscopy

Objectives

1. To assess the level of anxiety before intervention among patients undergoing upper gastro endoscopy in experimental and control group.
2. To evaluate the effect of video assisted teaching in reducing the anxiety level among patients undergoing upper gastro endoscopy in experimental group.

3. To find out the association between changes in anxiety level with selected study variables in experimental group.

MATERIALS AND METHODS

Experimental design was adopted in this study. This study was conducted among participants undergoing upper gastro endoscopy at selected tertiary care teaching hospital, Puducherry. The sample size of the present study was 60 participants. (i.e.) 30 in experimental group and 30 in control group. In this study the samples were selected by using convenience sampling method and blocked randomization technique was used to assign the participants to experimental and control group. Computer generated numbers were used to assign the study participants to experimental or control group among selected patients undergoing upper gastro endoscopy procedure.

Criteria for sample selection

Inclusion Criteria

1. Patients undergoing elective upper GI endoscopy for the first time.
2. Both male and female patients of 20 to 60 years of age.
3. Patients who can speak and understand Tamil / English
4. Patients undergoing upper GI endoscopy for diagnostic / therapeutic purpose.

Exclusion Criteria

1. Patient who are not willing to participate in the study
2. Confused or unconscious patients.

Description of the tool

Section I – Study variables

Section II – Modified State anxiety inventory scale. It consists of 15 structured questions to assess the level of anxiety among patients undergoing upper gastro endoscopy procedure.

Reliability of the tool was assessed using inter consistency. r- value of the pilot study was 0.75 by Cronbach's Alpha method.

Description of the intervention:

Video assisted teaching include on the following aspects.

- Meaning of Endoscopy.

- Parts of upper gastro intestinal system.
- Indications for upper gastro endoscopy procedure.
- Preparation of patient before, during and after upper gastro endoscopy procedure.

Data collection process:

Approval was obtained from Institutional Review Board, College of Nursing, Pondicherry Institute of Medical Sciences. The researcher had taken formal permission from Dean College of nursing, Medical superintendent, Nursing superintendent, HOD-Endoscopy. Written consent was taken from the participants before data collection. The Patients were informed that the confidentiality of data will be maintained. The data was collected over a period of 4 weeks in September 2016. Participants were selected by using convenience sampling technique. Blocked

randomization technique was used to allocate the participants in experimental and control group.

Before the intervention the level of anxiety was assessed by the staff nurses for both the experimental and control group. After assessing the anxiety level video assisted teaching for 10 minutes was given by the investigator for experimental group. For control group oral information was given by the investigator about the meaning of upper gastro endoscopy, parts of upper gastro intestinal system, indication, preparation of patient before, during and after upper gastro endoscopy procedure for ten minutes duration. In experimental group the level of anxiety was assessed after five minutes of video assisted teaching, in control group after five minutes of standard care.

RESULTS

Section A : Distribution of study variables of patients undergoing upper gastro endoscopy in experimental and control group.

Table – 1 : Frequency and Percentage distribution of demographic variables of the study participants. n = 60

Sl. No	Study Variables	Exp. Group (n = 30)	Control Group (n = 30)	Frequency (%)	
		Frequency	(%)		
1	Age (in years)				
	20-40	15	50	14	47
	41-60	15	50	16	53
2	Gender				
	a)Male	21	70	22	73
	b)Female	9	30	8	27
3	Educational Level				
	a)Illiterate	5	17	1	4
	b)Primary education	17	56	19	63
	c)Secondary Education	2	7	4	13
	d)Degree	6	20	6	20
4	Diagnosis				
	a)Disorders of Oesophagus	14	47	11	37
	b)Disorders of Stomach	9	30	5	17
	c)Disorders of Duodenum	1	3	0	0
	d)Others	6	20	14	46
5	Previous Hospitalization				
	a)Yes	17	57	20	67
	b)No	13	43	10	33
6	Purpose of Endoscopic Procedure				
	a)Diagnostic	27	90	28	93
	b)Therapeutic	3	10	2	7
7	Previous endoscopic Experience among family members				
	a)Yes	7	23	2	7
	b)No	23	77	28	93

Table 1 shows the percentage of participants who underwent upper gastro endoscopy with reference to study variables in experimental group and control group. With regard to age 15 (50%) and 14 (47%)

of participants are from the age group of 20-40 years in experimental and control group respectively and similarly 15 (50%) and 16 (53%) of them in experimental and control group respectively belongs to the age group

of 41-60 years. According to gender 21 (70%) of them were male in experimental group and 22 (73%) of study participants were male in control group.

With regard to education five (17%) of the study participants were illiterate, 17 (56%) of them had primary education in experimental group. Similarly in control group one (3%) of the study participants were illiterate, 19 (63) % of them had primary education. With regard to diagnosis 14 (47%) had disorders of esophagus in experimental group. In control group 11 (37%) had disorders of esophagus. With regard to previous hospitalization 17 (57%) had previous experience of hospitalization in experimental group, 20 (67%) had previous experience of hospitalization in control group. With regard to the purpose of endoscopic procedure 27(90%) of endoscopy procedure was for the diagnostic purpose in experimental group and 28(93%) were diagnostic in control group. With regard to previous endoscopic experience among the family members 23 (77%) had no previous experience in experimental and in control groups 28 (93%) had no previous endoscopic experience among the family members.

SECTION II: Distribution of participants according to the level of anxiety among patients undergoing upper gastro endoscopy in experimental group and control group. **n= 60**

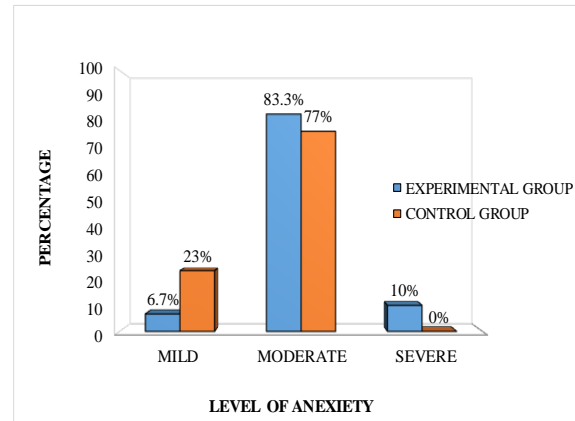


Figure 1: Distribution of participants on their level of anxiety before VAT in experimental group and standard care in control group.

Figure 1 shows the level of anxiety before VAT in experimental group and standard care in control group. In experimental group two 25 (83%) had moderate before the video assisted teaching and in control group 23 (77%) had moderate anxiety before the standard care. So all the patients who are undergoing endoscopy procedure has some anxiety

Table 2: Comparison of level of anxiety before and after standard care among patients undergoing upper gastro endoscopy in control group. n = 30

Control Group	Level of Anxiety		Mean Difference	't' value	p value
	Mean	SD			
Before Standard Care	34.63	4.89	2.83	2	<0.001*
After standard care	31.80	4.35			

* Statistically significant

Table 2 shows that in control group, before standard care the mean anxiety score was 34.63 and after standard care the mean anxiety score was 31.80. Therefore the mean difference was 2.83 and 't' value was 2. There is a statistically significant difference between the mean anxiety score before and after standard care in control group by using Paired 't' test. So giving oral information about the endoscopic procedure is effective in reducing the anxiety.

Table 3: Comparison of level of anxiety before and after VAT among patients undergoing upper gastro endoscopy in experimental group. n=30

Experimental Group	Level of Anxiety		Mean Difference	p value
	Mean	SD		
Before video assisted teaching	37.30	5.45	7	<0.001*
After video assisted teaching	30.30	3.76		

* Statistically significant

Table 3 shows the mean level of anxiety before and after video assisted teaching in experimental group. Before video assisted teaching the mean anxiety score was 37.30 and after video assisted teaching the mean anxiety score was 30.30. Therefore the mean difference was 7. There is a statistically significant difference between the mean anxiety score before and after VAT in experimental group by using Wilcoxon signed rank test. So giving VAT before the endoscopic procedure reduces the anxiety level among patients undergoing endoscopy.

Table 4: Comparison of level of anxiety among patients undergoing upper gastro endoscopy after VAT in experimental group and standard care in control group. n =60

Group	Level of Anxiety After Intervention			t value	df	p value
	Mean	SD	Mean difference			
Experimental	30.3	3.8	-1.5	-1.4	58	0.158
Control	31.8	4.3				

Table 4 shows that the mean differences between the anxiety score after VAT in experimental and standard care in control group. Using paired ‘t’ test the mean difference was -1.5, ‘t’ value was -1.4 and p value was 0.158. So there is no statistically significant difference between the post test mean anxiety score of experimental and control group. So providing verbal information and VAT has same effect on the level of anxiety among patients undergoing upper gastro endoscopy.

SECTION III: Association of changes in anxiety level with selected study variables in experimental group.

TABLE 5: Association between changes in anxiety level and selected study variables in experimental group. n= 30

Sl. No	Study Variables	Changes in anxiety level		Total	p value
		Yes	No		
1	Age (in years)				
	20-40	10	5	15	1.00
	41-60	10	5	15	
2	Gender				
	Male	11	10	21	0.01*
	Female	9	0	9	
3	Educational Level				
	Illiterate	5	0	5	0.17
	Primary education	9	8	17	
	Secondary education	1	1	2	
	Degree	5	1	6	
4	Previous Hospitalization				
	Yes	14	3	17	0.06
	No	6	7	13	
5	Purpose of Endoscopic Procedure				
	Diagnostic	19	8	27	0.25
	Therapeutic	1	2	3	
6	Previous endoscopic experience among family members				
	Yes	6	1	7	0.37
	No	14	9	23	

*statistically significant.

Table 5 shows the association of changes in anxiety level among study participants with selected study variables in experimental group. The variable gender is found to have association with the changes in anxiety level by using Fisher’s Exact Test. The variable age have no association with the changes in anxiety level by using Pearson chi-square test. All other variables were found to have

no association with changes in anxiety level by using Fisher’s Exact Test.

DISCUSSION

All the patients who are undergoing upper gastro endoscopy have some anxiety. In the present study in experimental group 25 (83%) of them had moderate anxiety and in control group 23 (77%) had moderate anxiety before VAT in experimental group

and standard care in control group.

Similar findings were reported by Hiremath in his study “to assess the knowledge, Attitude and Pre-Procedure anxiety level of patients undergoing upper GI endoscopy in Krishna Hospital, Karad, Maharashtra, India”. The sample size was 60. *Hamilton anxiety scale was used for assessing the level of anxiety. Out of 60 patients 31(51.66%) had moderate level of anxiety and 29(48.33%) had severe level of anxiety. The study found that patient undergoing endoscopy may have anxiety because of the lack of knowledge. So, proper education may decrease the level of anxiety.* [7]

In the present study in experimental group, the mean value of anxiety before VAT was 37.30 and the mean value of anxiety after VAT was 30.30 and the level of anxiety was decreased after video assisted teaching ($p < 0.001$). There is a statistically significant difference between the mean anxiety score before and after VAT. Similar result was reported in a study done at KMCH Coimbatore. They conducted a study on effect of Video Assisted Teaching on Anxiety and Cooperation among patients undergoing Upper Gastrointestinal Endoscopy. Anxiety was assessed by using Spiel Berger’s State-Trait Anxiety Inventory STAI. The mean anxiety score was 32.92 in the Video Assisted Teaching group and was 56.40 in the control group. It was found that there was a significant difference in the anxiety scores of the Video Assisted Teaching group and the control group. On comparing the mean scores, Video Assisted Teaching group had better impact on reducing anxiety than the control group. [8]

In control group, the mean value of anxiety before standard care was 34.63 and after standard care the mean value of anxiety was 31.80. So the level of anxiety was decreased after standard care ($p < 0.001$). There is a statistically significant difference between the mean anxiety score before and after standard care. Similar study was conducted on effect of

providing information to the patient about upper gastrointestinal endoscopy on the patient’s perception, compliance and anxiety level associated with the procedure in Turkey. The results shows that the mean anxiety score for a patient in the verbal information group was significantly lower than the patient in the other group ($P > 0.05$), Compliance with the procedure was better in these patients than in the other groups and the difference was statistically significant ($P > 0.05$). So it was noted that the verbal information reduces the anxiety level among patients undergoing upper gastro endoscopy. [9] So there is no significant difference between the level of anxiety after video assisted teaching in experimental group and control group.

To assess the mean difference between the anxiety score after VAT in experimental group and standard care in control group unpaired t test was used. Among 60 patients the mean differences between the anxiety score after VAT in experimental group was 30.3 and standard care in control group was 31.8. There is no statistically significant difference between the mean anxiety score in experimental and control group by using unpaired ‘t’ test. Similar study conducted on effect of Video Assisted Teaching on Anxiety and Cooperation among patients undergoing Upper Gastrointestinal Endoscopy at KMCH Coimbatore. In order to evaluate the effect of video assisted teaching, it was found that the mean anxiety score was 32.92 in the VAT group and was 56.40 in the control group. There is a significant difference in the anxiety scores of VAT group and control group. [8] In a randomized control trial on effect of providing information to the patient about upper gastrointestinal endoscopy in Turkey the results shows that the mean anxiety score for a patient in the verbal information group was significantly lower than the patient in the other group ($P > 0.05$). So it was noted that the verbal information reduces the anxiety level among patients undergoing upper gastro endoscopy. [9]

Video assisted teaching is time saving process for the staff nurses as it provides information regarding meaning of endoscopy, parts of upper gastro intestinal system, indications, preparation of patient before, during and after endoscopy procedure to the patients. Otherwise the staff nurse needs to spend 15- 20 minutes time to explain the details of the procedure in person. Study participants were expressing that they feel more satisfied and comfortable in getting the information through video assisted teaching as it shows the real setting of endoscopy room, the instruments involved in the procedure and also the procedure steps.

There was a significant association between Gender and changes in the level of anxiety. ($p>0.01$) There was no significant association between age, educational level, previous hospitalization, purpose of endoscopy procedure, and previous endoscopy experience among the family members and changes in the level of anxiety. Similar findings were reported by Das and Pradhan. They did a study on study on effect of pre-operative video assisted teaching on knowledge and anxiety among the Patient undergoing abdominal surgery. For association of knowledge and anxiety with selected demographic variables the results shows that the age and sex is extremely statistically significant as the calculated value is 62.93 and 14.63 which is more than the tabulated value at 0.05 level. [6]

CONCLUSION

Patients who are posted for endoscopy had anxiety with regard to procedure and outcome. The current study findings suggest that video assisted teaching is effective teaching method of teaching, which can easily be administered to group of patients, which in turn will reduce their anxiety levels. The nurses need not to repeat the same teaching for all the patients. The VAT will reduce the time and energy spent by the nurses in teaching the patients. So it is concluded that video assisted teaching can

be introduced in the nursing interventions as part of their patient care.

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