



Video Assisted Preparatory Teaching Module (VAPTM) Regarding Upper Gastro Endoscopy on the Level of Anxiety and Physiological Response among Clients at Selected Hospitals in Puducherry.

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ABSTRACT

The study aim is to assess the effectiveness of video assisted preparatory teaching module (VAPTM) regarding upper gastro endoscopy on the level of anxiety and physiological response among clients undergoing the procedure. Quantitative research approach, experimental research design (Post test only control design) was adopted. The samples were selected through Simple random assignment by using lottery method. 60 study participants were selected for the study, 30 samples were allotted for experimental group who have watched the upper gastro endoscopy video, and 30 samples were selected for the control group who receives regular hospital instruction about the procedure. The study findings revealed that the experimental group clients were less anxious and highly co-operative during the procedure. Physiological response revealed two groups were similar on pulse rate, respiration, systolic blood pressure. The result infers that whenever the anxiety of the patient increases their cooperation to the procedure has been reduced and whenever the anxiety increases their physiological response also increases. Hence it can be concluded that the video assisted teaching regarding upper gastro endoscopy was highly effective.

Key word: video assisted preparatory teaching module, anxiety, physiological response, cooperation

INTRODUCTION

The word "Endoscopy" is derived from the Greek word Endo (means inside) and "spoke in" (means to examine). Endoscopy means direct visualization of the interior aspects of the gastro intestinal tract starting from pharynx to duodenum through mouth by means of an endoscopy. Endoscopy contains multiple channels that allow for air insufflations, irrigation, fluid aspiration and the passage of special instrument. These instruments include biopsy forceps, cytology brushes; needles wire baskets, laser probes and electro cautery shares.

Upper gastrointestinal endoscopy is a widely used procedure for diagnosis and treatment of upper gastrointestinal diseases. Although it is considered as a safe and well-tolerated procedure, significant discomfort has been noted in patients undergoing endoscopy without sedation.

The invention of flexible endoscope has a marked improvement in the management of GI tract diseases. The endoscopy procedure may be performed on either an [outpatient](#) or [inpatient](#) basis. In most cases it is the first line of investigation, comparing radio graphical studies and even giving better results. (Aduful, 2007)

Gastro intestinal Cancer is one of the leading causes of adult deaths worldwide. In south India, Stomach cancer is the third most common cancer. So the technology goes throughout our life. But still we are lack in early and effective diagnosis. People were scared by seeing the huge apparatus used for diagnosis and hesitate to come forward. Endoscopy has become a mandatory investigation in Gastroenterology is early detection of GI Cancers, which is a major health problem in our country (Kathiravan, 2011).

Anxiety is an emotional response to a threatening situation and it is generally agreed that hospitalization and associated procedures produce various threats including possible disability, coping with new social situations, and deprivation of normal freedom results in alteration in the physiological parameters (Auden, 2010)

Upper gastrointestinal endoscopy can be an uncomfortable, unpleasant and painful procedure. Patient acceptability of endoscopic procedures may be reduced due to fears of embarrassment, discomfort, and worry which in turn reflect disturbances in physiological response.

Adequate information about endoscopic procedures may reduce anxiety; fear and worrying that may lead to good co-operation and active willing to undergo the procedure. So as a nurse and health care personnel it is our role to explain the procedure to the patient, thereby reduces pre-procedural anxiety thereby maintains stable physiological response and gain co-operation which will be adversely helpful in early diagnosis and for effective treatment.

NEED FOR THE STUDY

Upper GI endoscopy in combination with biopsy through endoscopy plays an important role in the early diagnosis of GI disorders and provides an opportunity for a broad range of treatment options and cure.

Anxiety is a common problem in patients undergoing invasive medical procedures. Endoscopy is a demanding procedure and requires a patient's good cooperation for successful results. Anxiety before upper gastrointestinal endoscopy may have adverse consequences and can sometimes hamper successful completion of the procedure (Mahmut Arabul, 2013)

A person's cognitive processes can alter the perceived meaning of a threatening stimulus and reduce the physiological response. The best way to reduce the anxiety of the patient is to educate about the procedure and provide psychological support during the procedure stated by Roshan John (2012), in Cognitive theory of Emotion.

Abdominal pain and gastro esophageal reflux was the most common GI symptom at USA. There were 6.9 million underwent upper endoscopy, 11.5 million lower endoscopy, and 228,000 biliary endoscopies performed in 2009. The total cost for outpatient GI endoscopy examinations was \$32.4 billion. It concludes, GI diseases are the source of substantial morbidity, mortality, and cost in the United States. (Peery, 2012)

In India, 60% - 70% of people were suffering from digestive disorders and cause significant mortality. Narrated 50% of the rural populations are unaware of the diagnostic procedure and not willing to come forward because of anxiety. Education of the patient prior to the procedure about the things they will see, feel and hear during the procedure has a significant role in reducing anxiety and fear. (Pignone, 2012)

In Tamilnadu, around 50-60% of people suffering from digestive disorders. Esophageal and stomach cancers are the third and fourth most common cancers in our country. Early detection and treatment reduces morbidity and mortality. The latest fibrotic endoscopes allow us to obtain targeted biopsies and other therapeutic procedures effectively. (Dr. George Chandy, MIOT Hospital, Chennai, 2011)

In Puducherry, more than 60 to 70% of patients suffered from alcohol-related gastroenterological disorders and has carried out 500 endoscopy procedures in the last few months at Pondicherry Institute of Medical Sciences. Awareness should be created through the media regarding benefits of early detection with endoscopy. (Thomas Alexander, Hindu, 2010)

During the clinical experience the Investigator has observed that many patients scheduled for upper gastrointestinal endoscopy are having anxiety, as a consequence of the procedure has to be repeated, or the patient experiences more discomfort during the procedure. According to the investigator, this is the result of inadequate information being given prior to the procedure. Hence the investigator felt that pre-procedural teaching will reduce anxiety level and increase self-confidence and co-operation to the procedure.

So video is the best method where the message will reach the public faster and effectively. The researcher selected this topic in order to create awareness and make the people to lead the life happily by early detection of GI disorder through upper gastro endoscopy.

OBJECTIVES:

- To assess the effectiveness of video assisted preparatory teaching module regarding upper gastro endoscopy on the level of anxiety among clients in the experimental group in comparison with the control group.
- To assess the effectiveness of video assisted preparatory teaching module regarding upper gastro endoscopy on physiological response among clients in the experimental group in comparison with the control group.
- To correlate the level of anxiety with physiological response among the clients undergoing upper gastro endoscopy in both the group.

RESEARCH METHODOLOGY

RESEARCH APPROACH:

The Selection of research approach an essential procedure for the conduction of research enquiry as it guides the researcher to analyze and interpret the result. Thus the quantitative research approach was adopted to achieve the aim of the present study.

RESEARCH DESIGN:

In the present study the experimental research design (**Post test only control design**) was adopted. This can be represented as,

GROUP	TREATMENT VIDEO ASSISTED PREPARATORY TEACHING MODULE	POST TEST
Experimental group	X	O ₁
Control group	-	O ₂

X - Video assisted preparatory teaching module

O₁ - Post test score on experimental group

O₂ - Post test score on control group

E (Effectiveness) = Comparison of O₁ and O₂

SETTING OF THE STUDY

The study was conducted at selected hospitals (Sri Balaji Gastro and Endoscopic Center) in Puducherry. It was approximately 4 km from the new Puducherry bus stand, it can be identified with the land mark of Kamban Kalai Arangam.

POPULATION OF THE STUDY:

The population for the present study was the Clients planned to undergoing upper gastro endoscopic procedure at selected hospitals in Puducherry constitutes the population.

VARIABLES:

- Independent variables - Video assisted preparatory teaching module
- Dependent variables- Level of Anxiety and Physiological response

SAMPLE:

Sample for the present study were the clients planned to undergoing upper gastro endoscopic procedure and who fulfill the inclusion criteria.

SAMPLE SIZE:

60 study participants were selected for the study, 30 samples were allotted for experimental group who have watched the upper gastro endoscopy video, and 30 samples were selected for the control group who receives regular hospital instruction about the procedure.

SAMPLING TECHNIQUE:

Simple random assignment technique was adopted by using lottery method.

CRITERIA FOR SELECTION OF SAMPLE

INCLUSION CRITERIA:

- ❖ Patient those who are posted for endoscopy procedure.
- ❖ Patient those who can understand and speak Tamil.
- ❖ Patient who are willing to participate in the study
- ❖ Patient available at the time of data collection.
- ❖ Patient age above 20 and below 61 years.

EXCLUSION CRITERIA:

- ❖ Patient who are associated with systemic complications like coronary heart disease, epilepsy etc.,
- ❖ Mentally ill patient.
- ❖ Previous experience of endoscopy
- ❖ Visual and hearing impaired clients

DESCRIPTION OF THE TOOL:

Section-A: It include the demographic variables of client undergoing upper gastro endoscopy such as age, sex, educational status, etc.,

Section-B :

- **PART-I** : Modified STAI-Y-I scale to assess the level of anxiety
- **PART-II** : Assessing the physiological response (pulse, respiration and blood pressure)
- **PART-III** : Clients behaviour during the procedure through observation check list

PROCEDURE FOR THE DATA COLLECTION:**ETHICAL CONSIDERATION:**

- The study was approved by the institutional research committee member
- Written permission for conducting the study was obtained .
- All participants were informed about the study.
- Informed consent was received from the participants.

METHODS OF DATA COLLECTION:

Data collection was carried out within the given period of 4 weeks at Sri Balaji gastro and endoscopic center , puducherry. Self introduction and information about the study was explained to the participants , so as to get co-operation in the procedure of data collection. Data will be collected in three phases,

- **First phase** :

Demographic data was collected from the client in both experimental and control group.

- **Second phase:**

VAPTM shown to the experimental group clients 1 hour before the procedure. The average time taken for the video was 20 mts .

- **Third phase** :

- ⇒ Level of anxiety was assessed by modified STAI – Y- 1 scale and physiological response (just before and immediately after the procedure) was assessed from both group.
- ⇒ The behaviour of the client during the procedure was observed with the help of observation check list from both group.

DATA ANALYSIS AND INTERPRETATION

OBJECTIVE. 1: To assess the effectiveness of video assisted preparatory teaching module regarding upper gastro endoscopy on the level of anxiety among clients in the experimental group in comparison with the control group.

Table 4. 2. 1: Distribution of the level of anxiety for the client undergoing upper gastro endoscopy by group wise (N=60)

Anxiety level	Experimental group		Control group		Chi-square test value	Degrees of freedom	P-value
	f	%	f	%			
No anxiety (0-20)	4	13.3	0	-	52.57	2	<0.001** S
Mild anxiety (21-40)	26	86.7	2	6.7			
Moderate anxiety (41-60)	-	-	-	-			
Severe anxiety (61-80)	0	-	28	93.3			

(P < 0.05 Significant , * * Highly significant)

Table 4. 2. 1 shows the anxiety status of the upper gastro endoscopy clients by group wise. In the experimental group, 86.7% of them show mild anxiety and 13.3% shows no anxiety. Whereas in control group, majority (93%) of them shows severe anxiety. The significant p-value of the chi-square test infers that most of the clients in the control group were severely anxious, Hence the research hypothesis H₁ was accepted .

OBJECTIVE. 2: To assess the effectiveness of video assisted preparatory teaching module regarding upper gastro endoscopy on physiological response among clients in the experimental group in comparison with the control group.

Table 4.3.1: Distribution of physiological response for the clients just before the procedure by group wise (N = 60)

Physiological responses	Experimental group		Control group		Chi-square test value	Degrees of freedom	P-value
	f	%	f	%			
Pulse (beats/ mt)							
< 60	-	-	-	-	6.67	1	0.01* S
60-100	28	93	20	67			
>100	2	7	10	33			
Respiration (breath/mt)					18.20	2	<0.001** S
<12	3	10	0	0			
12-20 beats	26	87	25	83			
>20	1	3	5	17			
Systolic (mm of Hg)					16.295	2	<0.001** S
<120	6	20	3	10			
120-139	24	80	21	70			
>139	0	0	6	20			
Diastolic (mm of Hg)					9.253	2	0.010* S
<80	18	60	11	37			
80-89	11	37	9	30			
>89	1	3	10	33			

(P < 0.05 Significant , * * Highly significant)

Table 4.3.1 shows in both the group, majority of the clients shows the physiological response were within normal range of values. The significant p-value of the chi-square test for the physiological responses was slightly higher in the control group than the experimental group just before endoscopy procedure.

Table 4.3.2: Distribution of physiological response for the clients immediately after the procedure by group wise.

N=60

Physiological responses	Experimental group		Control group		Chi-square test value	Degrees of freedom	P-value
	f	%	f	%			
Pulse (beats/ mt)							
< 60	-	-	-	-	9.23	1	0.002** S
60-100	30	100	22	73			
>100	0	0	8	27			
Respiration (breath/mt)					7.17	2	0.028* S
<12	2	7	0	0			
12-20 beats	28	93	25	84			
>20	0	0	5	16			
Systolic (mm of Hg)					9.210	2	0.010* S
<120	6	20	2	7			
120-139	24	80	21	70			
>139	0	0	7	23			
Diastolic (mm of Hg)					5.926	2	0.052 NS
<80	14	47	14	47			
80-89	16	53	11	37			
>89	0	0	5	16			

(P < 0.05 Significant , * * Highly significant, NS – Non significant)

Table 4.3.2 reveals the physiological responses were slightly higher for the control group. The significant p-value of chi-square test for the pulse rate, respiration, systolic blood pressure infers higher responses in the control group. Though diastolic blood pressure p-value is non-significant. In general, all the physiological response except diastolic blood pressure were in the higher side for the control group clients compared to the experimental group.

Table 4.3.3: Difference between the physiological response (just before and immediately after the procedure) by group wise

N= 60

Physiological responses	Experimental group		Control group		Mann-Whitney test	P-value
	Mean	SD	Mean	SD		
Pulse	- 0.40	4.6	1.36	8.6	429.5	0.75 NS
Respiration	- 0.26	2.9	0.93	3.2	330.5	0.07 NS
Systolic	- 0.20	7.0	0.06	11.9	394.5	0.41 NS
Diastolic	- 0.40	6.2	2.80	6.8	310.5	0.03 S

(P < 0.05 Significant , * * Highly significant, NS – Non significant)

Table 4.3.3 shows the non-significant p-value except for diastolic blood pressure infers that the mean changes for two groups were similar on pulse rate, respiration rate and systolic blood pressure. The mean diastolic changes occurs has been -0.4 and 2.8 respectively for the experimental and control group. Hence the researcher rejects the research hypothesis H_2 and accept the null hypothesis.

Table 4.3.4: Behaviour of the client during the procedure by group wise

(N = 60)

Behaviour during the procedure	Experimental group		Control group		Chi-square test value	Degrees of freedom	P-value
	f	%	f	%			
Non-cooperative	--	-	24	80	54.0	2	<0.001** S
Partially cooperative	2	6.7	6	20			
Fully cooperative	28	93.3	-	-			

(P < 0.05 Significant , * * Highly significant, NS – Non significant)

Table 4.3.4 shows the behaviour of the clients during the endoscopy procedure by group wise. It has been observed in the experimental group 93% of the clients were fully cooperative, whereas in the control group 80% of the clients were non-cooperative. The significant p-value (<0.001) reveals that the experimental group clients were highly cooperative during the endoscopy procedure. This clearly indicates the video teaching assistance was much effective among the upper gastro endoscopy clients.

OBJECTIVE 3: To correlate the level of anxiety with physiological response among the client undergoing upper gastro endoscopy in both the group.

Table 4.4.1: Correlation between the level of anxiety with physiological response for the client undergoing upper gastro endoscopy in both the group (combined data) (N = 60)

Correlation coefficient	Behaviour (Cooperation)	Pulse	Respiration	Systolic	Diastolic
Anxiety r - value	- 0.892**	0.480**	0.721**	0.593**	0.313*
p - value	<0.001	<0.001	<0.001	<0.001	0.015

(P < 0.05 Significant , * * Highly significant, NS – Non significant)

Table 4.4.1 shows significant p-value for each variable infers that there was a significant relationship exists between the anxiety levels with physiological response. The negative relationship exists between the anxiety level with behaviour, infers that whenever the anxiety of the patient increases their cooperation to the procedure has been reduced. The positive relationship exists between the anxiety level with the selected physiological response infers that whenever the anxiety level of the endoscopy clients increases their physiological response (pulse, respiration, blood pressure) were also increases. Hence the research hypothesis H_3 was accepted.

MAJOR FINDINGS OF THE STUDY:

Findings related to demographic variables by group wise.

- Majority of the clients (43.3 %) in experimental and in control group (33.3 %) belongs to the age group between 31-40 years and most of them were male in both group.
- Regarding educational status, most of the clients in the experimental (66.7%) and control group (50%) were graduates.
- Majority of the clients (77%) in the experimental and in control group (93%) were residing in urban.
- Majority (66 %) of the clients in the experimental and control group (50%) were earns between Rs. 10, 001 –15, 000 per month respectively.
- Majority of the clients (76 %) were alcoholic in both group.
- 43% of the clients were consuming alcohol for more than 6- 10 years in experimental group and in control group (57%) were consuming for 1-5 years.
- Most of the clients (43 %) came for endoscopy procedure with the complaints of stomach pain in experimental group and in control group, majority of the clients (43 %) came with other GI symptoms.
- 67 % of the clients were aware of the endoscopy procedure in experimental group and 86 % in the control group.
- Maximum numbers of clients were getting the information regarding endoscopy through family members and friends in both groups.

Findings related to level of anxiety

Majority (86.7 %) of the client shows mild anxiety and 13.3% shows no anxiety in the experimental group. Whereas in control group, majority (93%) of them shows severe anxiety. The significant p-value (<0.001) infers that two group were statistically different and revealed most of the clients in the control group were severely anxious. Hence the research hypothesis H_1 was accepted.

Findings related to physiological response

The non-significant p-value except for diastolic blood pressure infers that the mean changes for two group were similar on pulse rate, respiration rate and systolic blood pressure (just before and immediately after the procedure). It reveals that most of the values were within normal range on pulse, respiration rate and systolic blood pressure except diastolic blood pressure in both groups. Hence the research hypothesis H_2 was rejected and the researcher accepts the null hypothesis.

Findings related to behaviour of the clients during the endoscopy procedure.

In the experimental group majority (93%) of the clients were fully cooperative, whereas in the control group 80% of the clients were non-cooperative. The significant p-value (<0.001) reveals that the experimental group clients were highly cooperative during the endoscopy procedure. This clearly indicates the video assisted preparatory teaching module was much effective among the upper gastro endoscopy clients.

DISCUSSION:

The study finding reveals, 86.7% of the clients in the experimental group shows mild anxiety and 13.3% shows no anxiety. Whereas in control group, majority (93%) of them shows severe anxiety. The significant p-value of the chi-square test infers that two group were statistically different. Hence, it concluded that most of the clients in the control group were severely anxious about the procedure where as in experimental group majority shows mild anxiety.

The study findings were consistent with **Mahmut arabul, August 2013** conducted a prospective study to assess the impact of video information before unsedated upper gastrointestinal endoscopy on patient satisfaction and anxiety among four hundred and forty patients. The result reveals there was a significant difference in the patient watched video ($p = 0.003$). It concludes that information by video helps to reduce the anxiety of the patient and increases patient satisfaction.

The study findings suggested that video assisted teaching shows reduced level of anxiety among the experimental group clients compared with the control group clients undergoing upper gastro endoscopy, Hence the research hypothesis H_1 was accepted.

The study findings reveals, the difference between the physiological responses (just before and immediately after the endoscopy procedure) has been observed that majority of the clients were within normal limits in both group. The non-significant p-value except for diastolic blood pressure and behaviour of the client during the procedure infers that the mean changes for two group were similar on pulse rate, respiration rate and systolic blood pressure.

The findings reveals that the pulse rate, respiration rate and systolic blood pressure except diastolic blood pressure were within normal limits in majority of the clients in both group. Hence the research hypothesis H_2 was rejected and the researcher accept the null hypothesis.

The findings reveals, The negative relationship exists between the anxiety level with behaviour (cooperation level) and positive relationship exists between the anxiety level with the selected physiological response.

CONCLUSION:

Significant p-value infers that there is a negative relationship exists between the anxiety level with cooperation and positive relationship exists between the level of anxiety with the selected physiological response.

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