Effectiveness of the Instructional Program on Physical and Psychological Status of Patients Undergoing Upper Gastrointestinal Endoscopy at Baghdad Teaching Hospitals

فاعلية البرنامج التعليمي على الحالة الجسمية والنفسية للمرضى الخاضعين للتنظير المعدي المعوي العلوي في مستشفيات بغداد التعليمية

Ammar Kadhum Gaeed / College of Nursing / University of Baghdad
Assist Prof. Dr. Khalida Alwan Mansour College of Nursing/ University of Baghdad
Khalida_mansour@yahoo.com

الخلاصة:
الهدف: تهدف الدراسة إلى إيجاد أثر البرنامج التعليمي على الحالة الجسمية والنفسية للمرضى الخاضعين للتنظير المعدي المعوي العلوي في مستشفيات بغداد التعليمية.
المنهجية: أجريت دراسة شبه تجريبية في وحدات تنظير الجهاز الهضمي في مستشفى بغداد التعليمي ومستشفى الكندي التعليمي ومدينة الإمامين الكاظمين (ع) الطبية، وللمدة من الخامس من كانون الثاني 2014 ولغاية 17 آب 2014 . اختيرت عينة غرضيه غير احتمالية متكونة من 100 مريض مقسمين على أساس (50 مريض ضمن مجموعة الدراسة الذين تلقوا برنامج إرشادات حول تنظير الجهاز الهضمي العلوي و50 مريض ضمن المجموعة الضابطة لم يتعرضوا لبرنامج الاشادي، تم بناء البرنامج التعليمي من قبل الباحث. تم إرشاد وتدريب المريض من قبل 7 أيام وكذلك تزويد المريض بكتيب يتضمن من محورين هما المحورالمعلوماتي والمحور التدريبي ولتقيم اثرالبرنامج على الحالة الجسمية تم قياس شدة الألم من خلال المقياس البصري التماثلي بالإضافة إلى قياس عدد مرات التهوع ومحاولة مسك جهاز التنظير وحركة الجسم والأنين خلال التنظير وقياس معدل وضغط الدم النبض وتشبع الأوكسجين بالدم) وتم جمع المعلومات بطريقة الملاحظة المباشرة للمريض في وحدات تنظير الجهاز الهضمي أما تقيم اثر البرنامج على حالة المريض النفسية من خلال قياس قلق المريض (حالة وسمة) قبل وبعد التنظير وتم ملئ الاستبيان من قبل المريض. وحددت مصداقية الاستمارة الاستبيانية من خلال (28) خبيرا، وحددت ثبات أداة البحث باعتماد الدراسة المصغرة. ,تم تحليل البيانات باستخدام أساليب الإحصاء الوصفي والإحصاء الاستدلالي .
النتائج: أظهرت نتائج الدراسة بوجود فروق ذات دلالة معنوية عالية بمقياس شدة الألم بين مجموعة الدراسة والمجموعة الضابطة بما يخص قياس عدد مرات التهوع و محاولة مسك جهاز التنظير، وحركة جسم المريض والأنين، النتائج بينت فروقات ذات دلالة إحصائية عالية باستثناء التهوع. أما معدل النبض وضغط الدم و نسبة تشبع الأوكسجين بالدم بينت النتائج وجود دلالة إحصائية بين المجموعتي الدراسة والضابطة باستثناء قياس ضغط الدم .
أما بخصوص الحالة النفسية (القلق كحالة) لاتوجد دلالة إحصائية بين المجموعتين من خلال الاختبار القبلي ولكن توجد دلالة إحصائية عالية بين المجموعتين من خلال الاختبار البعدي، اما (سمة القلق) توجد دلالة إحصائية بين المجموعتين من خلال الاختبار القبلي ولكن لاتوجد دلالة إحصائية بين المجموعتين من خلال الاختبار البعدي .
الاستنتاج : أستنتجت الدراسة بأن هنالك تأثير ايجابي للبرنامج التعليمي المنفذ على المرضى من الناحية الجسمية والنفسية للمرضى الخاضعين للتنظير المعدي المعوي العلوي في مستشفيات بغداد التعليمية .
التوصيات : أوصت الدراسة بتعميم الكتيب المعد من قبل الباحث على وحدات التنظير الهضمي العلوي في مستشفيات بغداد التعليمية والتابعة لوزارة الصحة، والذي يعد كدليل للمرضى للامتثال لجميع التعليمات وذلك للتقليل من الآثار الجسمية والنفسية أثناء إجراء التنظير.

Abstract
Objective: The present study aims to investigate the effectiveness of instructional program on the physical and psychological status of patients undergoing upper gastrointestinal endoscopy.
Methodology: A quasi-experimental study was conducted in the outpatients and medical unite for the Gastroenterology and Hepatology unit in Baghdad teaching hospital and Al-Kindy teaching hospital Imamein Kadhimein Medical City for the period from the 5th of January 2014 to 17th August 2014. A non-probability sample was selected and composed of 100 patients divided into (50 patients within the study group who received the instructional program about upper gastrointestinal endoscopy and 50 patients within the control group were not exposed to the instructional program The instructional program was developed by the researcher and consisted of the information domain and trained domain and giving at least 7 day before the endoscopy procedure. A questionnaire was prepared for evaluating of patient physical status (through measuring the intensity of pain during the procedure by visual analogue scale and patient discomfort by (retching, attempt grabs the endoscope, body movement and moaning) and measuring the pulse rate and oxygen saturation blood pressure) during the procedure. While evaluating the psychological status (through measuring (state and trait anxiety) before and after the procedure. Identified validity of the questionnaire and instructional program by a panel of 28 experts, and identified the reliability of the search tool by adoption of a pilot study. Data were analyzed using descriptive statistics and inferential statistics.
Results: The results of the study in regards of physical status (measurement of the pain intensity) there is a high significant difference between the study group and the control group, while the measurement of the discomfort also a highly statistically significant were founded between the study and the control group related retching, attempt grab the endoscopy, the movement of the patient's body and moaning except retching were no statistical observed.

In addition the study revealed statistically significant between the study and control groups when measuring the pulse rate and oxygen saturation except measuring blood pressure As for the psychological status (anxiety state) There are no significant differences between the study and the control groups during the pre-test, but there are highly statistically significant between the each group during the post-test, while (anxiety trait) no statistical significance between the each group during the pretest, post-test.

Conclusion: The study concluded that there is a positive effect of instructional program implementing on physical and psychological status of patients undergoing upper gastrointestinal endoscopy in Baghdad teaching hospitals.

Recommendations: The study recommended to circulate the pamphlet that prepared by the researcher for upper gastrointestinal endoscopy units in Baghdad teaching hospitals affiliated to the Ministry of Health, which serves as a guide for patients to comply with all instructions to reduce patient discomfort during endoscopy procedure and also reduce anxiety.

Keywords: Effectiveness, Physical status, Psychological status, patient, Upper gastrointestinal endoscopy.

INTRODUCTION

The term "endoscopy" refers to particular technique to look inside the body part. "upper digestive tract (GI)" is the part of the gastrointestinal tract, and gastrointestinal tract, including the esophagus, stomach, and duodenum, and Starting small bowel. Esophagus holds food from the mouth to digestive process in the stomach and small intestine [(1)]

Upper gastrointestinal endoscopy also referred to as esophagogastroduodenoscopy (EGD), is implemented by passing a flexible endoscope by mouth into the esophagus, gastric, bulb, and second duodenal. This procedure is the best way to verify upper gastrointestinal mucosa [(2).]

The upper gastrointestinal (GI) endoscopy is usually use to diagnose and treat patients who suffer from group of conditions and symptoms [(3)]

Upper gastrointestinal endoscopy') is the investigation of choice and disturbances the upper gastrointestinal tract with the ability to treatment and mucosal biopsy. Findings include oesophagitis reflux, gastritis, ulcers and cancer. Osophagogastroduodenoscopy (OGD) curative uses for the treatment of upper GI bleeding and obstruction of both benign and malignant [(4)] Therapeutic endoscopy is frequently indicated for control of variceal and nonvariceal hemorrhage, dilation of strictures, elimination of some foreign bodies, and palliation of advanced malignancies with stents or tumor ablation, and appointment of a percutaneous gastrostomy tube. In addition to investigative upper gastrointestinal endoscopy are upper abdominal suffering associated with signs or symptoms of organic illness (weight loss, loss of appetite), intractable vomiting of unidentified cause, dysphasia or odynophagia, esophageal reflux symptoms unresponsive to treatment upper gastrointestinal bleeding, when sampling of duodenal or jejunal tissue or fluid is indicated, to get a histological diagnosis for radiographically established stomach or esophageal ulcers, upper intestinal tract strictures, or suspected neoplasm, to monitor for varices so that patients with cirrhosis can be recognized as possible candidates for prophylactic medical or endoscopic treatment, to assess acute injury after scathing ingestion Barrett esophagus and Familial adenomatous polyposis. [(5)]

Objective: The present study aims to investigate the effectiveness of instructional program on the physical and psychological status of patients undergoing upper gastrointestinal endoscopy.

METHODOLOGY:

A quasi-experimental design was conducted to determine the effectiveness of instructional program on physical and psychological status of patients undergoing upper gastrointestinal endoscopy at Baghdad teaching hospitals the present study starting from 5th January 2014 to the 17th August 2014

A non- probability (purposive) sample of 100 adult patients was at age (18 – 65) years, who are able to reading and writing and underwent the upper gastrointestinal endoscopy without sedation for the first time. The instructional program is constructing and the questionnaire format in order to reach the aims of the study, the questionnaires composed of instrument of measuring effectiveness of the instructional program physically and psychologically. Physically was consist of (measuring the pain during endoscopy procedure by visual analogue scale (V.A.S.), measuring the discomfort during upper gastrointestinal endoscopic procedure through (number of retching, attempts to grasp the endoscopy, and the number of moaning) and measuring the pulse, oxygen saturation (pre, during and post procedure) and blood pressure (pre and post procedure). psychological status was measure through the state and trait anxiety (fourteen item). Validity of questionnaires determined through panels of experts and reliability coefficient of measuring pain through the (VAS) was (0.86), distress through the (number of times retching was (0.88), attempts to grasp the endoscope was (0.87), body movement was (0.88) and the Moaning was (0.84), reliability Cronbach alpha of the state was (0.93) and trait anxiety scale was (0.92). Descriptive data analysis was done through (frequency, percentage, mean, standard deviation) and inferential data analysis was done by t- test) through application by SPSS version 19.

RESULTS

Table (1): Distribution of Case and control groups by Socio-demographic Characteristics.

Variable		**Control group (n=50)**	**Study group (n=50)**	**P.(C.S)**
Age (Mean ± S.D)		39.1 ± 13.9	40.0± 13.4	0.4 (N.S)
Gender Freq.(%)	**male**	24 (48.0)	25(50)	**0.7** (N.S)
	female	26 (52.0)	25(50)	
Marital Status Freq.(%)	**Married**	35 (70.0)	39 (78)	**0.2** (N.S)
	Single	11 (22.0)	9 (18)	
	Widowed	4 (8.0)	2 (4)	
Level of education Freq.(%)	**Reads and writes**	5(10.0	7 (14.0)	**0.1**(N.S)
	primary school	19 (28.0)	9 (18.0)	
	intermediate	11 (22.0)	13 (26.0)	
	Secondary	11(22.0)	10 (20.0)	
	Graduate	4 (8.0)	11(22.0)	

Freq.=Frequencies, **%=Percentages**, **C.S.: Comparison Significant, P= probability**, **N.S.= Not Significant at P > 0.05**

Table (1) analysis of the data founded that the higher proportion (20%) of the study group within the age group (25-31years), while the control group, the highest percentage (20%) within the age group (32-38 years). The majority (52%) of the study group were females, while the control group males and female were equal (50%).Concerning the level of education the

table revealed that a high percentage of the study and the control groups were primary school (48%) and (32%) respectively, most (70%) of the study group and (78%) those of the control group were married.

Related to occupational status, (44%) of the study group were housewife, and (34%) of the control of control group were housewife, the majority of the study and the control groups their residence were urban (88%) and (94%) respectively. No statistical significant difference was observed between different variable representing demographic characteristic of both groups

Table (2) Statistical Differences between effectiveness of an instructional program and pain intensity (during the procedure) for Case and Control groups.

Pain intensity	Score of Study group (Mean ± S.D)	Score of Control group (Mean ± S.D)	Statistical test			
			t	d.f	P.	C.S
Visual Analog Scale **(V.A.S)**	4.6± 1.96	5.94± 2.3	-3.2	49	0.003	(H.S)

$\bar{x} \mp S.D$ **= Arithmetic Mean and Standard Deviation, t = independent t- test, d.f = Degree of freedom , P = probability, C.S. = Comparison Significant , H.S.= high significant at P< 0.01** .

To evaluate the pain intensity during upper gastrointestinal endoscopy procedure of the study and the control groups through scoring method of Visual Analog Scale, the data of table (2) revealed that the pain intensity of the study group was less than that of the control group, high statistical significant differences were found between the study and the control groups of Visual Analog Scale score p.value (0.003).

Table (3) Statistical Differences between effectiveness of an instructional program and patients discomfort (during the procedure) for Case and Control groups.

Variable	Score of Study group	Score of Control group	Statistical test			
			t	d.f	P.value	C.S
Retching	5.26 ± 2.15	± 2.04 5.90	-1.6	49	0.1	N.S
Attempts to grasp the endoscope	1.50 ± 1.12	± 1.51 2.96	-5.4	49	0.00	H.S
The movement of the body	2.70 ± 1.72	± 2.28 4.74	-5.2	49	0.00	H.S
Moaning	2.58 ± 2.12	4.88 ± 2.64	-4.5	49	0.00	H.S

$\bar{x} \mp S.D$ **= Arithmetic Mean and Standard Deviation, t = independent t- test, d.f = Degree of freedom , C.S.= Comparison Significant, P = probability, N.S.= Non Significant at P > 0.05, H.S.= high significant at P< 0.01.**

Table (3) presented the patient discomfort during the procedure as defined by retching, trying to grab the device endoscopy, body movement and moaning, the results revealed a high statistical differences between the study and the control group related to attempts to grasp the endoscope, the movement of the body and moaning during procedure ($p \leq 0.00$), while no statistical difference between the study and the control group related to retching (gag) ($p \leq 0.1$)

Table (4) Differences between effectiveness of an instructional program and patients pulse, and O_2 saturation in (pre, intra, and post procedure) for Case and Control groups.

Variables	Groups	Score of Study group (Mean ± S.D)	Score of Control group (Mean ±	Statistical test			
				t	d.f	P.	C.S
Pulse Rate (P.R)	Pre - procedure	85.7± 13.9	87.6 ±11.6	-0.6	49	0.50	N.S
	Intra - procedure	104.8±13.1	116.2 ±13.7	-3.7	49	0.00	H.S
	Post – procedure	90.6 ±12.4	96.0 ±7.0	-2.4	49	0.01	S
SPO2%	Pre - procedure	98.1 ± 1.0	98.5 ± 1.2	-1.9	49	0.05	S
	Intra - procedure	97.6 ± 1.2	97.9 ± 1.8	-1.1	49	0.3	N.S
	Post – procedure	97.9 ±0.95	98.4 ± 0.97	-2.8	49	0.00	H.S

$\bar{x} \mp S.D$ = Arithmetic Mean and Standard Deviation, t = independent t- test, d.f = Degree of freedom, C.S. = Comparison Significant, P = probability, N.S.= Not Significant at P > 0.05, S: significant at P< 0.05, H.S.= high significant at P< 0.01 .

Table (4) reveals that the pulse and O2 saturation measurement in pre, intra and post procedure was bettering the study group as compared with the control group, this trend is quite clear during the intra and post procedure. Regarding pulse rate a statistical significant difference is observed only in intra and post procedure ($p \leq 0.001$ and $p \leq 0.01$) respectively, although high statistical significant differences between study and control group, but rate of pulse increase above normal in both groups in the procedure, concerning the proportions of O2 saturation, the table showed no statistical significant difference between the study and the control groups intra procedure. But, during pre and post procedure, the table revealed a high and a significant difference between study and control groups ($p \leq 0.001$ and $p \leq 0.01$).

Table (5) Differences between effectiveness of an instructional program and Blood pressure for Case and Control groups.

Variables	Groups	B.P. Score of Study group (Mean ± S.D)	B.P. Score of Control group (Mean ± S.D)	Statistical test			
				t	d.f	P.	C.S
B.P	Pre – systolic	122.8 ±10.8	122.2 ± 12.2	0.2	49	0.8	N.S
	Pre – diastolic	81.8 ± 6.4	80.7 ± 8.3	0.6	49	0.5	N.S
	Post – systolic	122.8 ±10.9	122.3 ± 11.7	0.2	49	0.8	N.S
	Post – diastolic	82.1 ± 6.4	81.0 ± 8.1	0.6	49	0.5	N.S

= Arithmetic Mean and Standard Deviation , t = independent t- test , d.f = Degree of freedom , $\bar{x} \mp S.D$ C.S. = Comparison Significant, P= probability, N.S.= Not Significant at P > 0.05, B.P= Blood pressure.

Table (5) the presented blood pressure measurement as defined by systolic and diastolic, the results indicated no statistical differences between the study and the control group ($p< 0.05$) in pre and post procedure level of blood pressure within normal.

Table (6) Differences between effectiveness of an instructional program regarding the duration of upper G.I. endoscopy procedure for Case and Control groups.

Variable	Score of Study group (Mean ± S.D)	Score of Control group (Mean ± S.D)	Statistical test			
			t	d.f	P.	C.S
Duration of upper G.I. endoscopy	6.60± 3.26	8.98± 3.92	-3.18	49	0.00	H.S

$\bar{x} \mp S.D$ = Arithmetic Mean and Standard Deviation, t = independent t- test ,d.f = Degree of freedom, C.S. = Comparison Significant, P = probability, H.S.= high Significant at P< 0.01.

To evaluate the duration of upper G.I. endoscopy of the study and the control groups, the data of table (6) revealed that the duration time of the study group was less than the control group, high statistical significant differences were founded between the study and the control groups is p.value was(0.002).

Table (7) Differences between effectiveness of an instructional regarding State and trait of anxiety for Case and Control groups.

	Groups	Pre-procedure	Post - procedure	Statistical test			
		$\bar{X} \mp$ S.D	$\bar{X} \mp$ \S.D	t	d.f	P.value	C.S
State anxiety	Study group	43.1 ± 10.9	37.7 ± 7.1	3.4	49	0.001	H.S
	Control group	43.2 ± 11.7	44.4 ± 11.6	1.6	49	0.1	N.S
Trait anxie	Study group	45.5 ± 11.5	44.7 ± 9.8	1.2	49	0.2	N.S
	Control group	40.9 ± 11.2	41.3 ± 10.7	-0.6	49	0.5	N.S

$\bar{x} \mp S.D$ = Arithmetic Mean and Standard Deviation, t = independent t- test, d.f = Degree of freedom , C.S. = Comparison Significant, P = probability, N.S.= Not Significant at P > 0.05 , H.S.= high Significant at P< 0.01.

Table (7) reflected the effectiveness of psychological status regarding the (state Anxiety) from pre to post of patients with upper gastrointestinal endoscopy procedure , As observed from the table, there were a high statistical significant differences from pre to post procedure for the study group related to state anxiety, the p. value was (0.001). While such significant differences were not observed in the control group from pre to post procedure, p. value was (0.1), table (7) shows there is no statistically significant differences between post procedure with regard to trait anxiety for both groups (study and control group).

DISCUSSION:

Analysis of demographic characteristics ensured equivalence in both groups and there were no significant differences between the study and the control groups for age, sex, marital status, educational level occupation and residency p≤ 0.05 (table-1).Similar findings were reported in the evidence is available in the studies which stated that have no statistically significant differences between the provision of information in different ways by oesophagogastrodeudenoscopy (O.G.D) ratio to the demographic data. [6, 7, 8, 9]

Data analysis had revealed that the implementation of the instructional program had a positive effect on patients undergoing upper gastrointestinal endoscopy procedure, through measuring the pain intensity by visual analogue scale, where the results showed that the mean score of the study group was less than the mean score of the control group and highly statistically significant between the two groups.

These results agree with the evidence is available in the study that founded that the mean of VAS score for comparing the severity of ache between the two groups because the result

represents the severity of moderate to severe pain for each patient [12]. Another study reported that the self-reported Scott- Huskisson Visual Analog Scale be used as a subjective assessment of pain [13].

Data analysis had revealed that the study group of upper gastrointestinal endoscopy procedure provides an instructional program has less discomfort during the procedure, and a highly statistically significant difference has been observed between the study and the control groups. The mean score of numbers of episodes of the study group was less than the control groups related to attempt to grab the endoscopy, the patient's body movement, and the moaning, while no statistically significant has been observed between the study and the control groups concerning retching.

Concerning retching the analysis of the researcher is that the medical instructions are given for the patient before the procedure may not benefit most patients because when entering endoscopy in the patient pharyngeal is stimulation of cranial nerve IX (glossopharyngeal nerve) automatically occurs and leads to vomiting.

The benefit of participants with in the study group for guidance and advice provided by the researcher before the procedure more than the control group

Effectiveness of the instructional program and the emphasized by giving the patient pamphlet is clearly observed through the results of table (4) as table shows the mean score of pulse rate in intra and post procedure, as less in the study group than the control group; the findings show statistical and highly statistically significant differences intra and post procedure ($p<0.01$) and ($p<0.001$) respectively

For measuring, the oxygen saturation in intra and post procedure the present results show no statistical significant differences intra procedure ($p<0.3$), but there are high statistically significant differences post procedure ($p<0.007$) between the study and the control groups. The present results agree with the evidence is available in the study that stated there was a significant increase in pulse rate for both groups as in (84.5 versus 94 min-1) ($p < 0.0001$) and as in (81 versus 88.5 min-1) ($p = 0.001$) during endoscopy, as compared with the pre-endoscopy pulse rate [15].

Another study reported that there is no statistically significant decrease in the oxygen saturation levels through upper G.I. endoscopy in the group without sedation, and a statistically significant decrease was found in the sedation group ($P =0.00$). In comparing both groups [16]

Regarding the results of blood pressure measurement before and after the upper gastroinstinal endoscopy procedure indicate the absence of statistically significant difference between systolic and diastolic blood pressure before and after the upper gastroinstinal endoscopy procedure. This result supported with the evidence is available in the study that indicates the mean of systolic blood does not alter significantly in upper endoscopy, and none of their patients, with high blood pressure develop any cardiovascular or cerebrovascular[17]

Researcher emphasized the mean and standard deviation of the upper endoscopies procedure duration of the study group are (6.60 ± 3.2) minutes, and the control group are (8.98±3.9) minutes. The present results are consistent with evidence is available in the study that state the mean and standard deviation of the un sedated upper endoscopies procedure duration are (4.3±2.1) minutes[18].

No difference was detected in mean trait anxiety scores between pre and post procedure for the study and the control groups of patients undergoing upper endoscopy. Mean trait anxiety scores were (45.5) pre procedure and (44.7) post procedure to the study group (p=0.2) and (40.90) pre procedure and (41.3) post procedure to the control group(p=0.5) (Table 7) researcher confirms the interpretation of the result is that all participants are the people who do not have any psychological status by mean of trait anxiety value and this express in pre and post procedure test for the study and the control groups.

This results have the same opinion with the prior study Who stated that a positive trend was evident for the relief of -endoscopic anxiety by the preparatory education program[19,20] And also constant with another study who established in their research that the comparison between the baseline and before-procedural state and trait anxiety scores of upper endoscopy, there was a moderate increase but significant degree of concern in the state before the upper gastrointestinal endoscopy, but without a change in personality traits degree of concern. [21].

CONCLUSION:

1. Analysis of demographic characteristics ensure equivalence in both groups; there are no significant differences between study and control groups in age ,sex, marital status, educational level occupation and residency $p \leq 0.05$.
2. Concerning the physical status such as (pain intensity, Patient discomfort, Pulse rate and oxygen saturation)**,** presence of statistical significance between case and control groups, while no presence statistical significance regarding blood pressure between each groups.

3. Presence of the relationship between the two groups within the state of anxiety, there is a highly statistical significance between the two groups before and after the procedure, Patients' trait of anxiety are two groups concern me (before and after the procedure); the results reveal that there is no statistical significance between the two groups.

RECOMMENDATIONS:

1. Provide teaching hospitals affiliated to the Ministry of Health educational booklet prepared by the researcher and to reduce the physical and psychological suffering.
2. Provide room of endoscopies with devices to measuring the pulse, oxygen saturation and blood pressure and to monitor condition of the patient during the procedure.

REFERENCES:

1. American Gastroenterological Association: [Online] , 2013, [cited 2014 March 19] Available from : URL: http:// www.gastro.org
2. Dan L. Longo, M , Anthony S. Fauci, M. HARRISON'S Gastroenterology and Hepatology, 17th ed,2010, PP:94
3. Bot M , Kruijshaar M , Bac D , Wismans P , Borg F, Steyerberg E , and Siersema P : **Different perceptions of the burden of upper GI endoscopy: an empirical study in three patient groups**, (2007)16:1310.
4. Kumer P,Clark M :**Clinical Medicine**,8th ed,2012, PP:232
5. Tadataka Y. and John M. Inadomi; **Yamada's Handbook of Gastroenterology**, 3rded, Edited by John Wiley & Sons, Ltd. Published, 2013, P.P: 181-182 .
6. Felley C , Perneger T *, Goulet I, Rouillard C, Pey N, Dorta G, Hadengue A: Combined written and oral information prior to gastrointestinal endoscopy compared with oral information alone: a randomized trial, **BMC Gastroenterology** 2008, **8**:22
7. Pehlıvan S, Ovayolu N, Koruk M, Pehlıvan Y, Ovayolu O, Gülşen MT.**:** Effect of providing information to the patient about upper gastrointestinal endoscopy on the patient's perception, compliance and anxiety level associated with the procedure**, Turk J Gastroenterol**, Vol.22 (1), 2011, pp:10-17**.**
8. Tazakori Z, Amani F, Karimollahi M: The Effect of Music Therapy on Patients' Blood Pressure in Endoscopy Unit in Bou-Ali hospital, Ardebil, **Iranian Journal of Nursing and Midwifery Research**, Vol 12 (1), 2007, pp:10-12
9. Maguire D, Walsh J, Little C.,: The effect of information and behavioral training on endoscopy patients' clinical outcomes**, Patient Education and Counseling,** Vol. 54, 2004, pp.: 61–65 **.**
10. Arabul M, Kandemir A, Celik M,Torun S, Beyazit Y, Alper E, Camci M, Ünsal B**:** Impact of video information before unsedated upper gastrointestinal endoscopy on patient satisfaction and anxiety: a prospective randomized trial**, Przeglad Gastroenterology Journal**, Vol. 8 (1), 2013,pp: 44-49**.**

11. Chiu J, Lee C, Wu1 C, Lai1 Y, Yang R, and Tu1, T: Identification of factors that impact on patient satisfaction of un sedated upperGastrointestinal endoscopy, **(The science blog),** Vol.20, 2009 pp**:**359-36
12. Amornyotin S, Tuangthip P, Wongnuch P.: Pain score within twenty-four hours post-endoscopic retrograde cholangiopancreatography: a comparison between diagnostic and therapeutic procedures , **Gastroenterology Insights** volume 1:e7astro 2009.
13. Wang K, Jin Z, Du Y, Zhan X, Zou D, Liu Y, Wang D et al :EUS-guided celiac ganglion irradiation with iodine-125 seeds for pain control in pancreatic carcinoma: a prospective pilot study, **Gastrointestinal endoscopy Journal**, Volume 76, No. 5 : 2012, P.P: 947
14. Tarçin O, Gurbuz A, Poçan S, Keskin O, Demirturk L: Acustimulation of the neiguan point during gastroscopy: Its effects on nausea and retching, **Turkish Journal of Gastroenterology**,Vol.15 (4), 2004, pp:258-259.
15. Neuenschwander A, Christensen M , Schulze S, Rosenberg J & Trap R . Less tachycardia during trans nasal versus conventional gastroscopy, **Danish medical Journal** Vol (59) 6 june 2012. .p:A4432
16. Yetkin G, Oba S,. Uludag M,. Paksoy I,. Akgün I and. Eren N: Effects of sedation during upper gastrointestinal endoscopy on endocrine response and cardiorespiratory function, **Brazilian Journal of Medical and Biological Research** Vol.40, 2007, PP: 1649 .
17. Osinaike B, Akere A, Olajumoke T, & Oyebamiji E: Cardiorespiratory changes during upper gastrointestinal Endoscopy, **African Health Sciences,** Vol.7(2**),** June 2007, pp:115-119.
18. Chiu J, Lee C, Wu1 C, Lai1 Y,Yang R, and Tu1, T: Identification of factors that impact on patient satisfaction of un sedated upper Gastrointestinal endoscopy, **(The science blog),** Vol.20, 2009 pp**:**359-36
19. Lee J, Min-WhonAnhn, Kim E , Kim D, Kweon H,**:** The Effect of Preparatory Education Program on Discomfort and Retching of Examinees during Upper Gastrointestinal Endoscopy**, Korean Journal of Family Medicine**,Vol.33(4), 2012, pp: 219-228.
20. Maguire D, Walsh J, Little C.,: The effect of information and behavioral training on endoscopy patients' clinical outcomes**, Patient Education and Counseling,** Vol. 54, 2004, pp: 61–65 **.**
21. Ersöz F. Toros A, Aydoan G, Bektafi H, Ozcan O, Arikan S,Assessment of anxiety levels in patients during elective for endoscopy, **Turk J Gastroenterol**, Vol. 21 (1), 2010, pp:29-33 .