Original Article

The Relationship between Pre-Procedural Anxiety Levels of the Patients to whom Esophagogastroduodenoscopy is to be Applied and the Procedural Status of Conscious Sedation

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Abstract

Backround: Esophagogastroduodenoscopy (EGD) permits endoscopic investigation of the esophagus, stomach and duodenum via the oral route. However, it can give rise to procedure-related anxiety, sensitivity, embarrassment and discomfort, and this can have an adverse impact on the patient's compliance with the procedure

Objective: Conscious sedation should be applied in endoscopic procedures only in case of serious and significant anxiety. The purpose of this study was to determine the relationship between patients' anxiety levels before endoscopy and the application of conscious sedation.

Methodology: Two hundred forty study patients scheduled for EGD in two public hospitals in Istanbul. Data collected using a data collection form and the Spielberger State and Trait Inventory were expressed as mean, standard deviation, and percentage. Statistical analysis was performed using analysis of variance, Pearson's correlation test, Fisher's exact chi-square test.

Results: Patients' mean state anxiety score was 43.7±10.15 and the mean trait anxiety score was 39.05±7.37. State anxiety was high in women ($p<0.001$), and in patients with no previous experience of endoscopy ($p<0.001$). State anxiety in patients requesting sedation and analgesia was severe and statistically significant ($p<0.001$). Conscious sedation was applied to 79.13% of patients whose state anxiety was at a severe level and clinically significant (n=230), but was not applied to 20.87%, the difference between the two being clinically, but not statistically significant.

Conclusion: The study shows that the decision to apply conscious sedation was not made in consideration of preoperative anxiety levels.

Key Words: Esophagogastroduodenoscopy, anxiety, conscious sedation, nursing.

Introduction

The American Association of Anesthesiologists (ASA) 'Sedation and Analgesia' guideline describes conscious sedation as a condition in which adequate cardiopulmonary function is maintained, appropriate responses are elicited to commands and tactile stimuli, and which permits procedures causing discomfort to be tolerated by the patient (Apfelbaum et. al., 2013; Oztekin, 2011). The conscious sedation routinely used in endoscopic procedures is an important nursing procedure performed in terms of sedating the patient in line with the physician's requirements, overcoming severe and clinically significant anxiety (Dunbar et al., 2009; Saxon et al., 2017; Spielberger, 1983; Tarway et al., 2017), maintenance of analgesia, patient comfort and compliance with the procedure, and enhancing the performance of the endoscopist (Chan et al., 2017, Leung, 2017).

Esophagogastroduodenoscopy (EGD) permits endoscopic investigation of the esophagus,

stomach and duodenum via the oral route. However, it can give rise to procedure-related anxiety, sensitivity, embarrassment and discomfort, and this can have an adverse impact on the patient's compliance with the procedure (Pascarenco et. al., 2014). The Spanish 'Law on Patient Autonomy' states that sedation should be applied after assessment if not contraindicated and if the patient agrees to be sedated (Benito de Benito & Aguado Romo, 2009). Since severe anxiety can result in the patient experiencing physical and emotional distress during the procedure (Kim et. al., 2016), periprocedural conscious sedation can overcome anxiety, pain sensation, fear and worry, bring undesired responses and motor behaviors under control, induce amnesia, facilitate collaboration with the patient and can reduce hemodynamic changes associated with activation of the autonomous nervous system to a minimum (Early et. al., 2018).

Pharmacological agents used during sedation are reported to cause thrombophlebitis, circulatory depression, laryngospasm, and bronchospasm (Leslie & Kave, 2017; Mudambi et. al., 2016). In the preprocedural period, it is particularly important for the patient to be informed concerning the type of sedation to be applied with pharmacological agents and the possible complications thereof, for the sedation risk to be determined, and for potential medical problems to be identified, and for nursing requirements to be identified, particularly in terms of sedation (Apfelbaum et. al., 2013; Yoo, 2014). Particular care is required in terms of the decision regarding type of sedation (Benito de Benito & Aguado Romo, 2009; Oztekin, 2011).

Conscious sedation should be applied in the event of severe and clinically significant anxiety (≥40) (Dunbar et. al., 2009; Seto et. al., 2013; Spielberger, 1983). Severe anxiety has been identified in previous studies as one of the indications for conscious sedation (Koga et. al. 2017; Dunbar et. al. 2009). The majority of patients who are informed about the advantages and risks of conscious sedation prefer the EGD procedure to be performed under pharyngeal anesthesia only, and EGD is reported to be capable of being performed quickly and safely without sedation (Benito de Benito & Aguado Romo, 2009; Liu et. al., 2018). The number of cases in which physicians decide to apply sedation is considerably higher than the number genuinely requiring sedation (Benito de Benito & Aguado Romo, 2009; Ramaiah & Bhananker, 211). Patients' anxiety levels before endoscopy are not considered, and we encountered no previous nursing studies examining sedation application in severe anxiety. The purpose of this study was to determine the relation between pre-endoscopy anxiety levels and application of sedation, and for the results obtained to be reflected in nursing care and practice and to shed light on future studies.

Research questions:

- Is there a meaningful difference between the sociodemographic characteristics of patients with OGD and the application of conscious sedation?

- Is there a difference between conscious sedation and anxiety levels before OGD?

Methods

Aim and Type of Research

The purpose of this study was to determine the relation between anxiety levels and application of sedation in patients scheduled for EGD, and for the results obtained to be reflected in nursing care and practice and to shed light on future studies.

Time and Place of the Research

The study was performed in the endoscopy units of two public hospitals in Turkey, the Ministry of Health Haseki Training and Research Hospital and the Ministry of Health İstanbul Training and Research Hospital. We allowed İstanbul University Cerrahpaşa Medical Faculty Ethic Committee (03/299).

Population and Sample Selection

The study population consisted of patients admitted to the Ministry of Health XXX Training and Research Hospital and Ministry of Health XXX Training and Research Hospital endocopy units for EGD procedures.

All individuals arriving on an outpatient basis and hospitalized in the internal diseases and general surgery departments between April, 2012, and January, 2014, presenting to the endoscopy unit for diagnosis and treatment, agreeing to participate in the research and meeting the requisite criteria were enrolled as the sample group. The size of the study population was determined at 240, the incidence of anxiety at 0.50 and standard deviation at 0.09 (95% confidence interval).

Data Collection

Preparation of the Data Collection Form:

This form prepared by the authors consisted of a total 38 questions, 12 intended to elicit descriptive characteristics of the patients in the study, three concerning incidence of previous experience of endoscopic procedures, 22 concerning preoperative information requirements and one concerning application of conscious sedation.

The State-Trait Anxiety Inventory (STAI) was used to determine the patient's anxiety level before the procedure in the period following application of the data collection form. The State Anxiety Scale determines how the individual feels, on a temporary basis, at a specific time and under specific conditions, while the Trait Anxiety Scale determines how the individual feels, independently of the situation and conditions, in a more general sense than state anxiety. The inventory has been translated into more than 40 languages and is used worldwide to measure anxiety. It consists of 40 questions with four resonse (Dunbar et. al., 2009; Spielberger, 1983).

Data analysis and evaluation

Statistical analysis of the data obtained in the stdy was performed on Statistical Package for Social Sciences for Windows version 16.0.

Variables concerning patients' descriptive characteristics and receipt of information regarding endoscopy were expressed as mean, standard deviation and percentages, and analysis was performed using analysis of variance, Fisher's exact chi square test and the chi square test.

Relations between state and trait anxiety scales, descriptive characteristics and receipt of information regarding the procedure were analyzed using the independent samples t test and one-way analysis of variance (ANOVA). The relation between age and state and trait anxiety was analysed using Pearson's correlation test.

Results were evaluated at a 95% confidence interval. A Cronbach alpha (α) internal consistency coefficient of 0.938 was determined for the state anxiety scale and of 0.885 for the trait anxiety scale.

Mean state and trait anxiety scores ≥40 were interpreted as indicating severe and clinically significant anxiety (Dunbar et. al., 2009; Spielberger, 1983).

Results

Patients' ages ranged between 18 and 65, with a median age of 38; 51.7% (n=124) were men, 55.8% (n=134) were elementary school graduates, 67.9% (n=163) were married, 30% (n=72) were housewives, 79.2% (n=190) had average income levels, and 82.9% (n=199) had no previous experience of endoscopic procedures.

A highly significant, inverse correlation was observed between age and mean state anxiety scores (r:-0.181; **p<0.01).** Patients aged under 30 had higher, severe and clinically significant state anxiety levels compared to those in the advanced age group (STAI-I: 45.10±10.42).

Mean state and trait anxiety scores of female patients (STAI-I: 46.66±8.59 and STAI-II: 40.71±6.21, respectively) were very significantly higher than those of male patients (STAI-I: 40.69±10.68 and STAI-II: 37.51±8.03, respectively), and women were determined to possess severe and clinically significant anxiety ($p<0.001$ and $p<0.01$).

State anxiety was higher among literate subjects and university graduates (STAI-I: 45.70±11.80 and STAI-I: 45.76±8.86) than in the patients in the other education level groups. Education level produced no difference in terms of anxiety levels, and trait anxiety was only severe and clinically significant in literate patients.

No significant relation was determined between occupation status and mean state anxiety scores ($p>0.05$). State anxiety was severe and clinically significant. Occupation groups exhibited no difference in terms of state anxiety, while a statistically highly significant relation was observed between occupation groups and mean trait anxiety scores ($p<0.01$). Housewives had significantly higher trait anxiety (STAI-II: 41.53±6.26) compared to the other occupation groups, and this anxiety was severe and clinically significant.

Mean trait anxiety scores exhibited a statistically highly significant relation with income levels ($p<0.01$), and patients with low income levels exhibited severe and clinically significant trait

anxiety (STAI-II: 43.35±6.84). STAI-II: - II:36.68±7,29) (p<0.05) (Table 3).

Table 1: Mean state and trait anxiety scores in terms of descriptive characteristics of patients scheduled for EGD (n=240)

							STAI-I		STAI-II	
Age (n=240)	n	%	Mean	SD	R	p	Mean	SD	r	p
<30	58	24.2	**45.10**	10.42			38.00	7.11		
31-40	74	**30.8**	44.82	8.71			39.46	6.95		
41-50	49	20.4	43.22	9.23	**-0.181**	**0.005****	38.98	7.59	0.060	0.354
51-60	39	16.3	42.03	11.57			40.77	8.19		
>61	20	8.3	38.35	12.21			37.45	7.29		
Sex (n=240)	n	%	Ort	SS	T	p	Ort	SS	t	P
Female	116	48.3	**46.66**	8.59	**4.752**	**<0.001*****	**40.71**	6.21	**3.435**	**0.001****
Male	124	**51.7**	40.69	10.68			37.51	8.03		
Education level (n=240)	n	%	Mean	SD	F	p	Mean	SD	F	p
Literate	23	9.6	45.70	11.80			**43.48**	8.61		
Elementary school graduate	134	**55.8**	42.24	10.01	1.876	0.134	38.54	7.02	**3.533**	**0.016***
High school graduate	49	20.4	44.63	10.37			37.96	7.59		
University graduate	34	14.2	45.76	8.86			39.76	6.75		
Occupation status (N=240)	n	%	Ort	SS	F	p	Ort	SS	F	p
Clerical	17	7.1	41.65	9.22			38.94	5.75		
Housewife	72	**30.0**	45.92	9.11	2.111	0.080	**41.53**	6.26	**4.730**	**0.001****
Self-employed	62	25.8	41.18	8.69			36.52	6.91		
Manual	31	12.9	42.81	12.11			40.45	8.55		
Other	58	24.2	44.19	11.49			37.98	7.95		
Income level (m=240)	n	%	Ort	SS	F	p	Ort	SS	F	p
Low	31	12.9	44.06	11.71	0.813	0.445	**43.35**	6.84	**6.565**	**0.002****
Average	190	**79.2**	43.77	9.96			38.52	7.34		
High	19	7.9	40.74	9.48			37.37	6.26		
Previous experience of endoscopy (N=240)	n	%	Ort	SS	T	p	Ort	SS	t	p
Yes	41	17.1	35.85	9.48	**5.683**	**<0.001*****	36.95	8.81	**2.019**	**0.045***
No	199	**82.9**	**45.16**	9.56			**39.49**	6.98		
Incidence of previous endoscopic procedures (n=41)	n	%	Ort	SS	T	p	Ort	SS	t	p
Once	20	48.8	**39.45**	7.10	**2.525**	**0.016***	38.30	8.78	0.956	0.345
Twice or more	21	51.2	32.43	10.32			35.67	8.84		

*****p<0.001; **p<0.01; *p<0.05 Mean: Arithmetic mean, SD: Standard deviation**

Table 2: Total score distributions of state and trait anxiety of patients scheduled for EGD (N=240)

Scales	Mean	SD	Lowest value	Highest value
State Anxiety	**43.57**	10.15	20	69
Trait Anxiety	39.05	7.37	23	58

Mean: Arithmetic mean SD: Standard deviation

Table 3. Mean state and trait anxiety scores depending on preprocedural information requirements of the patients scheduled for EGD

Information requirement			STAI-I				STAI-II			
%		N	Mean	SD	t	p	Mean	SD	T	p
Yes	84.58	203	44.16	9.70	**2.130**	**0.034***	39.49	7.32	**2.151**	**0.033***
No	15.42	37	40.32	12.00			36.68	7.29		

***p<0.05** **Mean: Arithmetic mean,** **SD: Standard deviation**

Table 4. Mean state and trait anxiety scores and preprocedural sedation and analgesia requests among patients scheduled for EGD (N=240)

			STAI-I				STAI-II			
Sedation and analgesia requests	%	n	Mean	SD	T	p	Mean	SD	t	p
Requested	76.25	183	45.64	8.97	**6.063**	**<0.001*****	39.50	6.99	1.675	0.095
Not requested	23.75	57	36.93	10.94			37.63	8.38		

****p<0.001** **Mean: Arithmetic mean** **SD: Standard deviation**

Table 5: Mean state and trait anxiety scores in terms of conscious sedation application among patients undergoing EGD (N=240)

Conscious sedation			STAI-I				STAI-II			
	%	n	Mean	SD	T	P	Mean	SD	t	p
Applied	79.58	191	43.75	10.49	0.535	0.593	39.52	7.75	1.937	0.054
Not applied	20.42	49	42.88	8.78			37.24	5.32		

	STAI-I					STAI-II					
	Score ≥40		Score <40			Score ≥40		Score <40			
Conscious sedation	n	%	n	%	p	N	%	n	%	p	
Applied	182	79.13	9	90	0.69	191	105	75.53	86	85.15	0.07	191
Not applied	48	20.87	1	10		49	34	24.47	15	14.85		49
Total	230	100.0	10	100.0		**240**	139	100.0	101	100.0		**240**

p>0.05 Mean: Arithmetic mean. SD: Standard deviation

A statistically significant relation was determined between patients having previous experience of endoscopic procedures and mean state anxirty scores (STAI-I: 35.85±9.48 vs STAI-I: 45.16±9.56) (p<0.001). A statistically significant difference was determined between these two subgroups' mean trait anxiety scores (STAI-II: 36.95±8.81 vs STAI-II: 39.49±6.98) (p<0.05). Patients with no previous experience of endoscopic prodedures exhibiting higher, severe and clinically significant state anxiety levels compared to this with previous experience.

A statistically significant relation was observed between numbers of previous endoscopic procedures and mean state anxiety scores (p<0.05). Patients with one previous experience of endoscopic procedures had higher state anxiety levels (STAI-I: 39.45±7.10) than patients with two or more previous endoscopic procedures (STAI-I: 32.43±10.32); no statistically significant association was determined between mean trait anxiety scores (STAI-II: 38.30±8.78; STAI-II: 35.67±8.84) and previous experience of endoscopic procedures (p>0.05) (Table 1).

The mean score on the state anxiety scale (STAI-I) of the 240 patients scheduled for EGD was 43.57±10.15, while the mean trait anxiety score (STAI-II) was 39.05±7.37. Patients' mean state anxiety score indicated severe and clinically significant anxiety (Table 2).

Requirements for information about endoscopy were determined in 84.58% of patients. A statistically significant relation was determined between information requirement and mean state and trait anxiety scores (p<0.05). Patients requiring information had significantly higher mean state anxiety scores (STAI-I: 44.16±9.70) compared to patients not requiring information (STAI-I: 40.32±12), and their state anxiety was severe and clinically significant. The mean trait anxiety scores of the patients requiring information (STAI-II: 39.49±7.32) was significantly higher than those of the patients not requiring information (STAI

The majority of patients, 76.25% (n=183), requested sedation and analgesia. The mean state anxiety scores of the patients requesting sedation and analgesia (STAI-I: 45.64±8.97) was higher than those of the patients not requesting sedation and analgesia (STAI-I: 36.93±10.94), and the state anxiety was severe and clinically significant. The difference between the two groups was statistically highly significant ($p<0.001$). Mean trait anxiety scores (STAI-II: 39.50±6.99; STAI-II: 37.63±8.38) exhibited no statistically significant correlation with patients' sedation and analgesia requests ($p>0.05$) (Table 4).

Conscious sedation was applied to 79.58% (n=191) of patients. Mean state and trait anxiety scores of the patients undergoing sedation (STAI-I: 43.75±10.49; STAI-II: 39.52±7.75) were higher than those of patients not receiving sedation (STAI-I: 42.88±8.78; STAI-II: 37.24±5.32). No statistically significant correlation was determined between mean state and trait anxiety scores and application of conscious sedation ($p>0.05$, $p>0.05$, respectively). No relation was observed between anxiety and application of conscious sedation. However, state anxiety was severe and clinically significant in 79.13% (n=182) of the patients undergoing conscious sedation, while trait anxiety was severe and clinically significant in 75.53 (n=105). At the same time, state anxiety was severe and clinically significant in 20.87% (n=48) of the patients not undergoing conscious sedation, while trait anxiety was severe and clinically significant in 24.47% (n=34); the relation between anxiety levels and application of conscious sedation was not statistically significant ($p>0.05$; $p>0.05$) (Table 5).

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Mean trait anxiety scores exhibited a statistically highly significant relation with income levels ($p<0.01$), and patients with low income levels exhibited severe and clinically significant trait anxiety (STAI-II: 43.35±6.84).

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statistically significant association was determined between mean trait anxiety scores (STAI-II: 38.30±8.78; STAI-II: 35.67±8.84) and previous experience of endoscopic procedures (p>0.05) (Table 1).

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Discussion

Gastroscopy is an endoscopic procedure that is frequently frightening and causes feelings of anxiety (Libânio & Dinis-Ribeiro, 2018). Severe anxiety leads to difficulties and pain during the procedure (Oztekin, 2011). Previous studies have shown that pain and anxiety are inter-related, and that patients with experience of high anxiety levels will also experience high levels of pain (Kim et. al., 2016; Moon et. al., 2017). The great majority of patients experience anxiety regarding the endoscopy procedure (Ketelaars et. al., 2017; Kim et. al., 2016).

The fact that patients under 30 had higher, severe and clinically significant state anxiety compared to the patients in the advanced age group in our study suggests that anxiety is inversely correlated with age. This suggests that patients in the young age group feel greater endoscopic procedure-related anxiety, and that such anxiety decreases with age. This finding is compatible with previous data in the literature and implies that anxiety levels of patients in the younger age group in the preparatory period before endoscopic procedures may rise, and that the decision may be therefore be taken to administer conscious sedation.

We observed that trait anxiety increased as income levels decreased. This finding is compatible with the previous literature (Kim et. al., 2016; Langley,2012). In their study of variation in coping with stress-inducing medical procedures with socioeconomic status, Langley et al. (2011) noted higher pre-procedural anxiety levels in subjects with low socioeconomic status (44.06±11.71).

Patients without children had significantly higher state anxiety scores (45.70±9.71) than patients with children (42.53±10.24) (p<0,05), and this was severe and clinically significant. This

finding was in agreement with the previous literature (Koga et. al., 2017) and suggests that having children results in lower anxiety as part of the social support system.

In their study of preparation for gastrointestinal endoscopy examined the effects of provision of information concerning medical conditions and emphasized that experience of endoscopic procedures was an anxiety-dependent variable (Kim et. al., 2016).

Tarhan et al. (2014) investigated the effectiveness of patient education programs aimed at preventing failure of endoscopic procedures and reported that previous experience of endoscopy reduced anxiety levels. Behrouzian et al. (2017) investigated the factors affecting tolerance of upper gastrointestinal procedures, and reported that 54% of their study sample underwent endoscopy for the first time, while 46% had previous experience. They determined low procedure tolerance in 31% of patients undergoing endoscopy for the first time and in 26% of those with previous experience. Factors identified as reducing tolerance included first experience of endoscopy, young age, female gender and failure to provide sufficient information regarding the procedure. They concluded that these factors all played a role in elevation of anxiety levels (Behrouzian et. al., 2017).

In our study, the mean state anxiety scores of patients with no previous experience of endoscopy were higher than those of patients with such experience, and their anxiety was severe and clinically significant; mean trait anxiety scores were also significantly higher ($p<0.01$; $p<0.05$).

Providing information for patients is important in terms of the success and safety of endoscopic procedures. In their study of the effect of the provision of written and verbal information before gastrointestinal gastroscopy, Kim et al. (2016) reported that pre-procedural information had no effect on anxiety, but that the provision of structured and comprehensive written information was beneficial for patients. Patient education should commence at the time when endoscopy indication is established, before informed signed consent is obtained, in line with the patient's capacity to understand the need for the procedure, the probable risks and other options (Ketelaars et. al., 2017; Oztekin, 2011; Verldhuijzen et. al., 2018).

The most important measure aimed at reducing the anxiety felt by patients scheduled for endoscopy is pre-procedural education and psychological support during it (Hansberry et. al., 2017). Behrouzian et al. (2017) reported that failure to provide sufficient information before the procedure causes an increase in fear and anxiety and a decrease in patient compliance and tolerance, and that this impairs communication between the patient and the team performing the endocopy, reduces patient comfort and has an adverse impact on the performance of the endoscopist.

We determined significant correlation between patients' information requirements and state and trait anxiety ($p<0.05$), with patients with information requirements exhibiting higher state and trait anxiety (SAS: 44.16±9.70; DAS: 39.49±7.32) than patients who did not require information (SAS: 40.32±12; DAS: 36.68±7.29) ($p<0.05$), their anxiety being severe and clinically significant. Ou findings confirm those in the previous literature, and suggest that failure to provide adequate pre-procedural information leads to an increase in fear and anxiety, obstructs efficient communication during the procedure and reduces patient comfort.

Pehlivan et al. (2011) investigated the effect of information provision in upper gastrointestinal endoscopy on patients' perception of the procedure, compliance and anxiety levels. They reported that the most the effective factor in the reduction of anxiety, at a rate of 63%, was requesting sedation during the procedure.

High pain levels have been reported in patients with high anxiety (Nørgaard et. al., 2018), for which reason sedation is recommended in the literature (Hinkelbein et. al., 2017). The level of sedation to be administered varies depending on patient characteristics and particular emphasis has been laid on agreement between patients' expectations regarding edation levels and the anticipated level of sedation (Oztekin, 2011).

Pehlivan et al. (2011) reported that desire for sedation was effective in reducing anxiety. In that study, conscious sedation was administered to 79.8% of patients requesting sedation and analgesia during the procedure and to 78.9% of patients not requesting these, and the difference between the two was not statistically significant ($p>0.05$). This finding is not compatible with data in the previous literature, in which it is reported that the decision to administer conscious

sedation must be taken in the light of patient expectations of the need to administer it in case of high anxiety (Kim et. al., 2016).

Patients undergoing GI endoscopy, who experience severe pain and fear of the procedure, also suffer a high pevel of preprocedural anxiety. These factors should be taken into consideration in the application of conscious sedation (Early et. al., 2018).

In this study, state anxiety in patients requesting sedation and analgesia (SAS: 45.64±8.97) was very much highere than in patients not requesting sedation and analgesia (SAS: 36.93±10.94) ($p<0,001$), and that anxiety was severe and clinically significant. An increase in requests for sedation and analgesia was observed in patients with high anxiety. These findings support the previous literature; the identification of patients experiencing a severe level of anxiety and awareness of their expectaions regarding conscious sedation on the part of physicians and nurses is important in the administration of pre-procedural sedation and analgesia.

Gastrointestinal endoscopy causes anxiety in the patient (Behrouzian et. al., 2017; Padam et. al., 2017). The American Society of Anesthesiology (ASA) (2013) reported that the majority of painful procedures require moderate sedation and analgesia (Early et. al., 2018). It

has been reported that the use of agents producing conscious sedation is still controversial, that sedation increases patient comfort, but also has severe side-effects (Knebel et. al., 2011), that some endoscopic procedures can also be performed without sedation (Early et. al., 2018; Oztekin, 2011; Pehlivan et. al., 2011), and that patients without anxiety tolerate endoscopy with no or weak sedation better than non-anxious patients (Early et. al., 2018; Oztekin, 2011).

In this study, conscious sedation was administered to 79.58 (n=191) of the patients (n=240), and not to 20.42%. No significant association was observed in terms of state and trait anxiety betwqeen patients receiving conscious sedation (SAS: 43.75±10.49; TAS: 39.52±7.75) and those not receiving conscious sedation (SAS: 42.88±8.78; TAS: 37.24±5.32) ($p>0.05$ and $p>0.05$). State anxiety was severe and clinicaly significant in 79.13% (n=182) of the patients receiving conscious sedation (n=182), while trait anxiety was severe and clinically severe in 75.53% (n=105). State anxiety was severe and clinicaly significant in 20.87% of the patients who did not receive conscious sedation (n=49), while trait anxiety was severe and clinically significant in 24.47% (n=34). No significant relation was determined in this study between anxiety levels and application of conscious sedation ($p>0.05$ and $p>0.05$). We think that the decision to apply conscious sedation is not made on the basis of pre-procedural anxiety levels.

Conscious sedation was applied to approximately four patients in five and was omitted in approximately one in five. While this is not statistically significant, this proportion is clinically significant. Approximately one in five patients were deprived of the right to conscious sedation despite having severe state and trait anxiety. This finding is not in agreement with the porevious literature, and we think that it has an adverse the procedure, and coolaboration with the team, as well as causing pain and reducing the performance of the endoscopist.

Conclusion

Anxiety regarding the procedure (state anxiety) was severe in both patients receiving conscious sedation and in those not receiving it. However, this was not at the level of statistical significance ($p<0.05$).

Conscious sedation was applied to 79.13% of these patients (n: 230), and not to 20.87%. On the basis of this finding, which was clinically, albeit not statistically significant, sedation was not administered to one in five of the patients with severe anxiety. Pre-procedural anxiety should therefore be taken into consideration in the decision to apply conscious sedation.

We recommend pre-procedural patient identification, determination of anxiety levels, and that the decision to apply conscious sedation to all patients with anxiety be included among team decisions.

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