

Effect of Video-Based Information on Postoperative Nasal Packing Removal Anxiety

Video ile Bilgilendirme Yapılmasının Postoperatif Tampon Çıkarılma Anksiyetesine Etkisi

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ABSTRACT Objective: Anxiety is a feeling when a person experiences uneasiness towards an uncertain menace. The effect of visual and auditory information on instant anxiety level of patient during postoperative nasal packing removal was evaluated. **Material and Methods:** 56 patients who underwent septoplasty or septorhinoplasty were recruited between May and June 2019. A video of nasal packing removal performed by the surgeon previously was watched by the patient (n=28) and Spielberg State-Trait Anxiety Inventory (STAI) was filled out before nasal packing removal. The control group (n=28) filled out STAI without watching the video before nasal packing removal. **Results:** Mean total STAI score was 69.8 in the video received group and 69.7 in the control group. The mean total STAI score of two groups were at the serious anxiety level, but there was no statistically significant difference between the groups (p=0.977). Mean STAI-S score was 31.5 in the video received group and 32.1 in the control group. The mean STAI-S score of two groups were at the serious anxiety level, but there was no statistically significant difference (p=0.794). The mean STAI-T score of two groups were at the serious anxiety level, but there was no statistically significant difference (p=0.750). **Conclusion:** Nasal packing removal after septo/septorhinoplasty increases anxiety to serious levels and video information is not significantly reducing anxiety before removal of the packing.

ÖZET Amaç: Anksiyete diğer adı ile kaygı, belirsiz bir tehdit karşısında kişinin hissettiği duygu olarak tanımlanır. Hastaların septoplasti sonrası video-eğitim ile bu işlem hakkında bilgilendirilmesinin anksiyete üzerine etkisini değerlendirmeyi amaçladık. **Gereç ve Yöntemler:** Bu çalışma, Mayıs 2019 ve Haziran 2019 tarihleri arasında septoplasti veya septorhinoplasti operasyonu geçiren 56 hasta üzerinde yapıldı. Çalışma grubundaki (n=28) hastalara, işlem öncesinde tampon çıkarma videosu izletildikten sonra Spielberg Durumluk-Sürekli Kaygı Envanteri [Spielberg State-Trait Anxiety Inventory (STAI)] uygulandı. Kontrol grubundaki hastalara (n=28) video izletilmeden STAI formu doldurtuldu. **Bulgular:** Video-eğitim verilen gruptaki ortalama total STAI skoru 69,8 idi. Kontrol grubunun ortalama total STAI skoru 69,7 idi. Her 2 grubun skoru ciddi kaygı seviyesiyle uyumluydu ve aralarında anlamlı fark yoktu (p=0,977). Video-eğitim verilen gruptaki ortalama total STAI-S skoru 31,5 idi. Kontrol grubunun ortalama total STAI-S skoru 32,1 idi. Her 2 grubun skoru ciddi kaygı seviyesiyle uyumluydu ve aralarında anlamlı fark yoktu (p=0,794). Her 2 grubun skoru ciddi kaygı seviyesiyle uyumluydu ve aralarında anlamlı fark yoktu (p=0,750). **Sonuç:** Burun ameliyatı sonrasında tamponun çıkarılması, hastaların kaygı seviyesini ciddi derecede yükseltmektedir. Video-eğitim yapılmasının bu kaygı seviyesini azaltıcı yönde anlamlı bir etkisi bulunamamıştır.

Keywords: Nasal septum; patient health questionnaire; patient education handout

Anahtar Kelimeler: Nazal septum; hasta sağlığı anketi; hasta eğitim broşürü

Anxiety is a feeling when a person experiences uneasiness towards an uncertain menace.¹ Major and even minor procedures could cause anxiety. Fear of

pain, uncertainty about the procedure, awareness of complications could lead to this symptom. Septoplasty or septorhinoplasty is a very common outpa-

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tient procedure in ear-nose and throat clinics.² Intranasal packing is generally applied to stabilize the septum, avoid synechia and to control bleeding at the end of this procedure.³ Individuals are usually concerned about the size of the nasal packing and process of the removal of the nasal packing and the pain during removal.⁴ Therefore, removal of the nasal packing can often lead to anxiety. Patients are informed about the procedure by the surgeon through either mutual conversation or by written info. Several studies have shown that visual and audial information such as a video record reduces anxiety levels significantly before different types of major or minor procedures.^{5,6} In this prospective study; we aimed to evaluate the effect of the video of the removal of the nasal packing recorded by the surgeon him/herself on patients' anxiety levels.

MATERIAL AND METHODS

Başkent University Ethics Committee approved the study and written informed consent was obtained from each participants. This study was performed according to Helsinki Declaration. This was a prospective randomized clinical trial (clinical trial #NCT03861104) (05/12/2018, KA18/390). Fifty six patients who underwent septo/septorhinoplasty and received silicon nasal packing at Başkent University Hospital, Department of Otorhinolarygology between May and June 2019 were recruited. The exclusion criteria included; patients who did not want to participate in the study, revision surgeries, patients who were taking antidepressants during the last 6 months, patients who had a history of a disease that could affect anxiety levels. Patients were also asked if they had watched video of nasal packing removal previously from YouTube or any other source of information and if so those patients were excluded as well. The patients were divided into two groups, the video group and non-video group. The video group was asked to watch a pack removal video. The video was shot previously by the nurse of the surgeon while the surgeon was removing the nasal packing from the patient. The visual content of the video only included the surgeon, the procedure and only the nose of a patient, the audial part included the conversation at that moment between the surgeon and

the patient related with the procedure. The duration of the video was 50 seconds. The video group patients watched the video from a smart phone in the examination room.

The patients who were recruited were asked to fill out the validated Turkish version of Spielberg's State-Trait Anxiety Inventory (STAI).^{7,8} It is developed by Spielberger et al. and evaluates anxiety in individuals over 14 years of age. It has two parts: Spielberg's State-Trait Anxiety Inventory-State (STAI-S) and Spielberg's State-Trait Anxiety Inventory-Trait (STAI-T). STAI-S evaluates the anxiety level at the specific moment and STAI-T evaluates the anxiety generally. STAI total score was calculated by adding up STAI-S and STAI-T subscores. There are 20 questions in each section. The answers for the questions are as; "not at all" 1 point, "somewhat" 2 points, "moderately" 3 points, "very much so" 4 points. The scores range between 20 and 80 and 20-29 means no anxiety, 30-37 slight anxiety, 38-44 moderate anxiety, 45-80 serious anxiety.¹ Both groups were filled the inventory in the exam room.

Number Cruncher Statistical System 2007 (Kaysville, Utah, USA) was used for the statistical analysis. Shapiro-Wilks test was used to evaluate if parameters were eligible for normal distribution. Student-t test was used to compare two groups with quantitative variables showing normal distribution and Mann-Whitney U test was used for the comparison of two groups with quantitative variables without normal distribution. Statistical significance was accepted as $p < 0.05$. Power analysis was performed by G*Power (v3.1.7) program and at least 26 subjects had to be included in each group in order to have a power of 80%.

RESULTS

There were 56 patients, 28 in each group. Of them, 42.9% (n=24) were female and 57.1% (n=32) were male. The age range was between 18 and 64 with a mean of 34.63 ± 10.60 ; 55.4% (n=31) was less than 35 years old, 44.6% (n=25) was over 35 years old; 75% (n=42) had a job and 25% was unemployed.

Mean total STAI score was 69.8 in the video received group and 69.7 in the control group. The mean total STAI score of two groups were at the serious anxiety level, but there was no statistically significant difference between the groups ($p=0.977$). Mean STAI-S score was 31.5 in the video received group and 32.1 in the control group. The mean STAI-S score of two groups were at the serious anxiety level, but there was no statistically significant difference between the groups ($p=0.794$). Mean STAI-T score was 38.3 in the video received group and 37.6 in the control group. The mean STAI-T score of two groups were at the serious anxiety level, but there was no statistically significant difference between the groups ($p=0.750$) (Table 1, Figure 1). Similarly, there was no statistically significant difference of STAI-S, STAI-T and STAI regarding age, gender and employment status (Table 2).

DISCUSSION

In this prospective randomized study, we evaluated the effect of video based information on anxiety levels before nasal packing removal applied after septoplasty or septorhinoplasty. Septo/septorhinoplasty is a very common surgery in otorhinolaryngology clinics. Generally, the removal of nasal packing is known as a painful and a scary procedure and depending on this knowledge, patient could have hesitations for even having surgery. That’s why there has been many research regarding this issue and there are many forms of nasal packing like Merocel® packs, Doyle packs (Medtronic, Minneapolis, MN, USA) etc. in order to reduce the pain and to give comfort. In the same intention; trans septal suturing has been an alternative to nasal packs. Therefore, it can be said that every effort has been performed to reduce the pain, anxiety level and reduce patient discomfort for this minor procedure. Recently, a study showed the influence of nasal pack removal on anxiety levels after septoplasty and they found that anxiety levels decreased significantly after nasal pack removal.⁴ Another study compared the trans-septal suturing with traditional nasal packing regarding the patient anxiety levels and found that suturing reduces anxiety levels.²

TABLE 1: The effect of video watching on STAI-S, STAI-T and STAI scores.

	Watched (n=28)	Unwatched (n=28)	Test value (p)
STAI-S	31.5±8.1	32.1±9.2	a 0.794
STAI-T	38.3±8.7	37.6±8.0	a 0.795
STAI (Total)	69.8±14.9	69.7±13.0	a 0.977

*Student-t test; *All data was given in mean±standard deviation; STAI-S: State-Trait Anxiety Inventory-State; STAI-T: State-Trait Anxiety Inventory-Trait; STAI: State-Trait Anxiety Inventory.

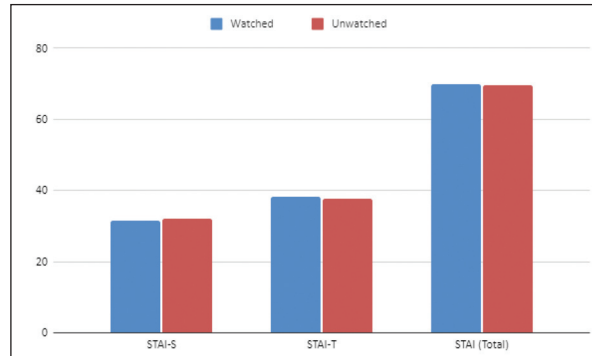


FIGURE 1: The bar chart of STAI-S, STAI-T, STAI-Total scores.

STAI-S: State-Trait Anxiety Inventory-State; STAI-T: State-Trait Anxiety Inventory-Trait; STAI: State-Trait Anxiety Inventory.

Through the last decade, there has been a rising trend to use the popular internet sites as YouTube, Google as a new electronic learning for medical information. Individuals are searching the major and even the minor procedures before presenting to a doctor. The quality of information found on YouTube or other sources could be low and make people more anxious before even a minor procedure. There are hospital resources like informative brochures, animation-based information or just text sharing through their websites. Hereby; there are many publications from a variety of divisions looking for the effect of video based information on patients’ anxiety levels before different types of procedures. Some reported positive affect and some of them reported as no effect.^{9,10}

There is no study on video information based investigations in the field of otorhinolaryngology in the English literature, however, similar studies have been conducted in opthalmology and general surgery branches. In the video information study conducted

TABLE 2: STAI-S, STAI-T and STAI scores versus age, gender and employment.

	Age			Female (n=24)	Gender		Employment		
	<35 y.o. (n=31)	≥35 y.o. (n=25)	Test value (p)		Male (n=32)	Test value (p)	Employed (n=42)	Unemployed (n=14)	Test value (p)
STAI-S	31.8±9.6	31.8±7.3	a 1.000	34.2±10.2	30.1±6.8	a 0.079	32.2±8.9	30.6±7.8	b 0.636
STAI-T	36.9±8.8	39.2±7.6	a 0.292	38.5±9.58	37.5±7.3	a 0.683	37.8±8.7	38.3±7.1	b 0.865
STAI (Total)	68.7±15.9	71.1±11.0	a 0.529	72.6±16.4	67.6±11.4	a 0.184	70.1±14.3	68.9±13.0	b 0.769

^aStudent-t test; ^bMann-Whitney U test; ^aAll data was given in mean±standard deviation; STAI-S: State-Trait Anxiety Inventory-State; STAI-T: State-Trait Anxiety Inventory-Trait; STAI: State-Trait Anxiety Inventory.

by Ahmed et al. on 200 patients who undergo cataract surgery, it was reported that video information significantly reduced patient anxiety.¹¹ In this study, information was provided through a video where the physician presented an informative video and experiences of real patients who underwent the procedure were included. In the study conducted by Yeşilyurt et al., in 70 patients before abdominal surgery, it was concluded that video information increased patient satisfaction and decreased patient anxiety.¹² In this video-based information study, it was aimed to demonstrate the experience of the patient in a theatrical way by the actors. When both studies are examined, it is seen that they differ significantly from our study. The main difference is that our video information was a real video of the procedure performed on another patient. Since the video was real, it might have increased the anxiety level more compared to these two studies. This assumption can explain the inconsistency of our result with the results in the literature.

The patient's level of education, age and gender might have a positive or negative effect on anxiety level. Hosemann et al. reported the anxiety levels in patients undergoing sinus surgery and they found that female gender had a higher postoperative anxiety level.¹³

Ignorance, in other words; relying on the medical authority might reduce anxiety levels and additionally extra knowledge might increase it.⁴ We hypothesized that a medical educational video specifically prepared by the surgeon him/herself might have a positive effect. Of course watching nasal packing removal may cause additional anxiety level if there would be bleeding or vasovagal

symptoms during the removal itself. Thus; the videos that were shot by the surgeons' nurses were selected by surgeons beforehand. There were 3 surgeons in this study and every surgeon showed their own videos to their patients. The videos were the ones which had no bleedings or vasovagal symptoms in it. By doing so there were no complications in the videos that can create an additional anxiety for the patient. The visual content of the video only included the surgeon, the procedure and only the nose of a patient, the audial part included the conversation at that moment between surgeon and the patient related with the procedure. There were no other additional music or animation in the video itself. To our knowledge this is the first study looking for the effect of video-based information on anxiety levels regarding an ear nose and throat procedure.

Our findings revealed that video information specifically prepared by the surgeon did not significantly reduce the anxiety level before nasal packing removal. A possible explanation for the ineffective video information in the study might be the quality of the video. On the other hand none of the removal videos contained active bloody or mucous discharging sections to trigger anxiety. Another explanation could be, however, we have video informed the patients with the removal videos, they may still consider their rumored bias as referral thoughts.

Virtual medicine applications are getting more and more popularity nowadays. Medical examinations and some other minor procedures could be performed by the help of visual information provided by the applications on smart phones and laptops in the

future. This is a rapidly developing field and our study could inspire some other studies that would use video-based information. Our study demonstrated that nasal packing removal increases patient anxiety levels to serious levels and thus we should consider to find an effective method to reduce the anxiety level.

CONCLUSION

Anxiety prior to nasal packing removal is a feeling that we could achieve to objectively measure. Nasal packing removal after septo/septorhinoplasty increases anxiety to serious levels and video information is not reducing anxiety before removal of the packing.

MAIN POINTS

- After septoplasty/septorhinoplasty surgeries nasal packing is commonly applied at the end of the procedure.
- Nasal packing removal is unknown as a painful intervention and triggers anxiety in patients.
- Acknowledging patients via video information prior nasal packing removal does not reduce the anxiety levels of the patients.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Pelin Koçdor; **Design:** Pelin Koçdor, Berke Özücer; **Control/Supervision:** Pelin Koçdor, Osman Halit, Berke Özücer; **Data Collection and/or Processing:** Pelin Koçdor, Osman Halit, Berke Özücer; **Analysis and/or Interpretation:** Pelin Koçdor, Osman Halit, Berke Özücer; **Literature Review:** Pelin Koçdor; **Writing the Article:** Pelin Koçdor; **Critical Review:** Pelin Koçdor, Berke Özücer; **References and Findings:** Pelin Koçdor, Osman Halit, Berke Özücer; **Materials:** Pelin Koçdor, Berke Özücer, Osman Halit.

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