Assessment of Approaches of Otorhinolaryngologists in Facial Plastic and Nasal Surgery: A Survey Study

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Original Investigation

Abstract

Objective: To assess approaches and experiences of otorhinolaryngologists in facial plastic and nasal surgery.

Methods: In total, 234 surgeons (191 males and 43 females; average age, 37.22±8.4 years; age range, 26-63 years) were included. All participants were given a questionnaire comprising 22 multiple choice and closed-ended questions. All responses to the questionnaires were analyzed.

Results: Of 234 participants, 42 (17.9%) were residents and 192 (82.1%) were specialists in otorhinolaryngology. The most challenging cases in rhinoplasty were crooked nose (33.8%), ideal nasal dorsum (18.8%), revision cases (13.2%), and skin deformities (11.1%). The photodocumentation rate by surgeons before and after procedures of facial plastic surgery was 86.3%, whereas the intraoperative photodocumentation rate by surgeons was 47%. The most common facial plastic surgery procedures other than rhinoplasty were otoplasty (68.4%), filler-Botox-fat injections (20.5%), and mentoplasty (18.4%).

Conclusion: This survey study is quite important because it assesses approaches of otorhinolaryngologists in facial plastic surgery. Although this study provides more valuable data for determining the current status, further studies with larger number of surgeons are required.

Keywords: Facial plastic surgery, rhinoplasty, education, photodocumentation

Introduction

The Association of Facial Plastic Surgery (FPS), which is a subspecialty organization under the Turkish Society of Otorhinolaryngology and Head and Neck Surgery, was founded in 2005. It aims to fulfill the needs of otorhinolaryngologists in this area and to establish standards for education, practice, research, and medical service in FPS and also national policies for providing more qualified care to patients (1). According to the history of the association on the website, FPS interventions began before the republican period in our country and many better-than-average FPS procedures are being performed currently.

Although the sources for surgical training are currently diversified with educational videos, simulations, cadaver studies, and clinical skills laboratories, the basis of surgical training is still the master-apprentice relationship. This model of the master-apprentice relationship, which is accepted to be the basic approach to surgical training, was firstly defined by Halsted and Osler in literature (2-4).

According to the data reported by the American Society of Plastic Surgeons in 2015, the interest shown in cosmetic surgery and the number of FPS procedures for cosmetic purposes increased between the years of 1997 and 2015. While rhinoplasty is the second most frequent plastic surgery among males, it is the sixth among females. Although the most common FPS intervention is septorhinoplasty, an increase is seen in the frequencies of other surgical procedures such as otoplasty and mentoplasty and also non-surgical procedures such as botox and filler applications. Otoplasty is ranked as the 14th most frequent cosmetic surgery among females, but as the sixth most common plastic surgery among males (5).

In literature, there are many studies on the costs and effectiveness of surgical procedures and on patients' satisfaction levels. However, the number

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of studies dealing with the opinions and evaluations of practitioners who perform these procedures are limited. In these, relatively a few studies, mostly the effect of residency education on these surgical interventions is investigated (6-8).

In this study, the approaches of otorhinolaryngologists to FPS and nasal surgery were assessed through a questionnaire consisting of 22 multiple-choice and closed-ended questions.

Methods

This cross-sectional questionnaire study was conducted with 234 otorhinolaryngologists participating in the FPS session in the 37th Turkish National Congress of Otorhinolaryngology and Head and Neck Surgery held by the Turkish Society of Otorhinolaryngology and Head and Neck Surgery and in the 9th National Meeting organized by the Association of FPS. Printed copies of the questionnaire were used, and the participants were requested not to write their names and surnames for confidentiality. Those who mistakenly wrote their names were excluded from the study. The questionnaire consisted of 22 multiple-choice and closed-ended questions evaluating the approaches of surgeons to FPS and nasal surgery. The responses given to the questions were analyzed. The study was conducted in accordance with the Guidelines for Good Clinical Practice and the Declaration of Helsinki. Ethical approval for the study was obtained from the local ethics committee. All participants were informed about the study, and their written informed consents were received.

Statistical analysis

The statistical software of Number Cruncher Statistical System (NCSS) 2007 (Kaysville, Utah, USA) was used for statistical analyses. While evaluating the data of the study, descriptive statistical methods (mean, standard deviation, median, frequency, and ratio) were used.

Results

The study was performed with a total of 234 otorhinolaryngologists, including 191 male (81.6%) and 43 female (18.4%) surgeons. The mean age was 37.22±8.4 years, and the age range was between 26 and 63 years. Forty-two (17.9%) of the participants were residents and 192 (82.1%) were specialists. Of the participants, whose experiences in FPS are presented in Table 1, 65 (27.8%) worked at private hospitals and 169 (72.2%) at public hospitals (public hospitals providing secondary and tertiary healthcare services and university hospitals).

It was found that 143 of the participants (61.1%) performed various FPS practices during their residency educations and the most common intervention among them was rhinoplasty. Considering the number of rhinoplasty operations performed in the recent year, the rate of surgeries was 59% between the ages of 0 and 20 years, 16.2% between the ages of 21 and 40 years, 6.8% between the ages of 41 and 60 years, and 3% between the ages of 61 and 80 years (Figure 1). For the question about the necessary number of rhinoplasty operations required for being a master, the largest group of the participants responded as 251-450 (27.4%) (Figure 2) (Table 2).

Table 1. Demographic features of participants

		Min-max	M±SD
Age		26-63	37.22±8.4
		Years	%
Gender	Female	43	18.4
	Male	191	81.6
Title	Resident	42	17.9
	Specialist	192	82.1
Experience	1-3 years	66	28.2
	3-5 years	68	29.1
	5-10 years	36	15.4
	10-20 years	48	20.5
	>20 years	16	6.8
Institution	Private	65	27.8
	Public	169	72.2

M: mean; SD: standard deviation

Table 2. Findings related to facial plastic surgery

		Min-max	M±SD
Performing FPS during residency education	Yes	143	61.1
	No	91	38.9
The most common FPS intervention	Rhinoplasty	226	96.6
	Otoplasty	2	0.9
	Blepharoplasty	1	0.4
	Filler-botox-fat transfer	3	1.3
	Other	2	0.9
Number of rhinoplasty performed in the recent year	0-20	138	59.0
	21-40	38	16.2
	41-60	16	6.8
	61-80	17	7.3
	81-100	7	3.0
	101-120	8	3.4
	121-150	1	0.4
	>150	9	3.8
The mean number of operations required for being a master	0-100	7	3.0
	101-250	54	23.1
	251-450	64	27.4
	451-800	40	17.1
	801-1000	16	6.8
	>1000	53	22.6

FPS: facial plastic surgery; M: mean; SD: standard deviation

The most challenging cases in rhinoplasty were found to be crooked nose (33.8%), ideal nasal dorsum (18.8%), revision cases (13.2%), and skin deformities (11.1%), respectively (Figure 3). For the question asking how many of 100 rhinoplasty practices were satisfying, the largest group of surgeons chose 10-30

(31.2%). For the question about the need for revision encountered in the last 100 rhinoplasty procedures, 47.4% of surgeons responded as 1-5 and 0.9% as 15-20 (Figure 4). While the rate of photodocumentation by surgeons was 86.3% before and after FPS, it was 47% during operation. The rate of surgeons documenting surgical epicrises in FPS procedures was 71.8%. On the other hand, the rate of surgeons conducting scientific studies related to FPS was 15.8%. The rates of these publications about FPS are given in Table 3.

Other FPS procedures other than rhinoplasty were otoplasty at the rate of 68.4%, filler-botox-fat injection at the rate of 20.5%, and mentoplasty at the rate of 18.4% (Figure 5). For the question asking about other FPS procedures, except rhinoplasty, about which an otorhinolaryngologist had to know, most of the surgeons responded as otoplasty with skin tumors and repair with flaps. Other interventions following otoplasty according to their frequencies are mentoplasty, blepharoplasty, botox injection, fat transfer, and filler applications (Table 4).

When FPS-related procedures that were wanted to be learned or improved were listed according to the order of their importance, rhinoplasty and otoplasty were found to be at the first rank. They were respectively followed by mentoplasty, blepharoplasty, face lift, brow lift, and filler-botox-fat transfer (Table 5).

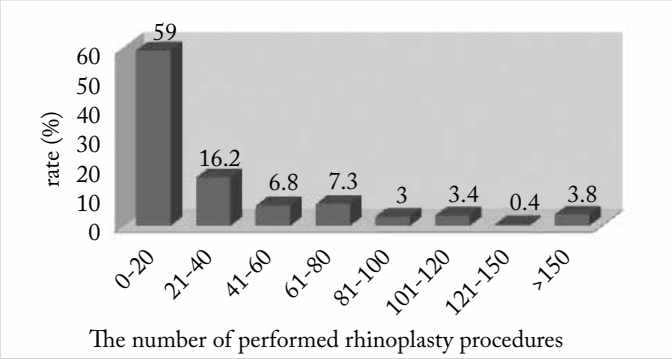

Figure 1. The number of rhinoplasty procedures performed by the participants in the recent year

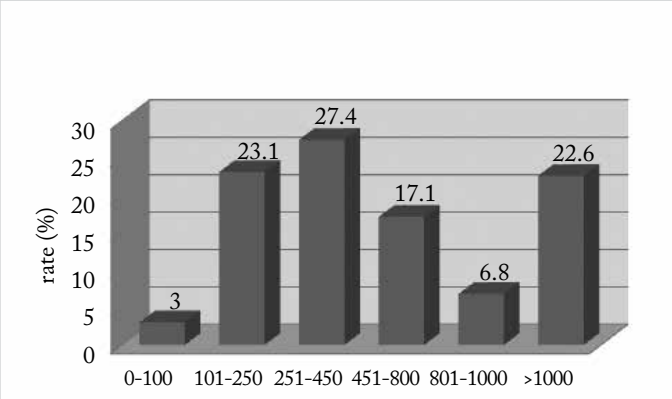

Figure 2. The mean number of operations required for being a master

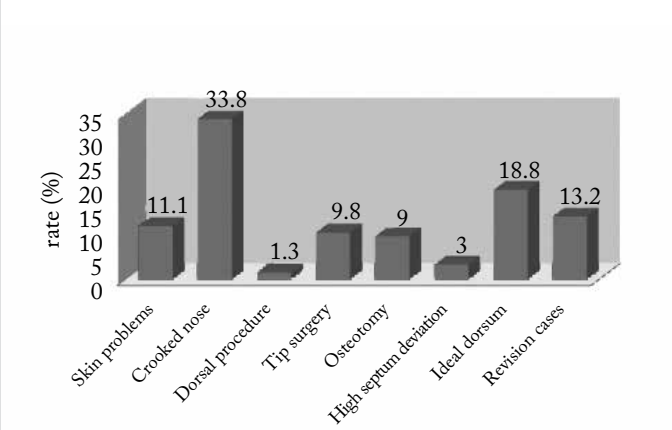

Figure 3. The most challenging situations while performing rhinoplasty

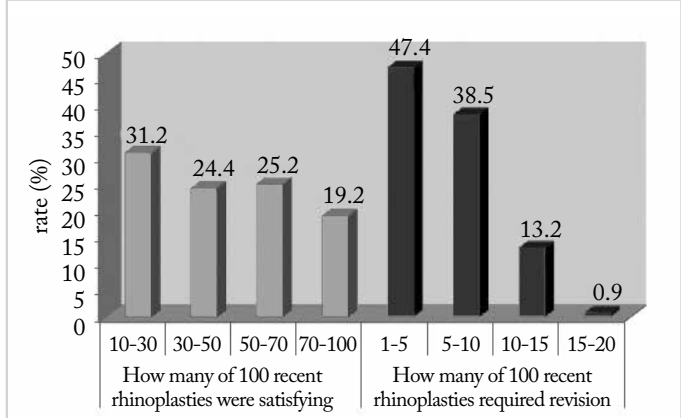

Figure 4. Evaluation of recently performed 100 rhinoplasties

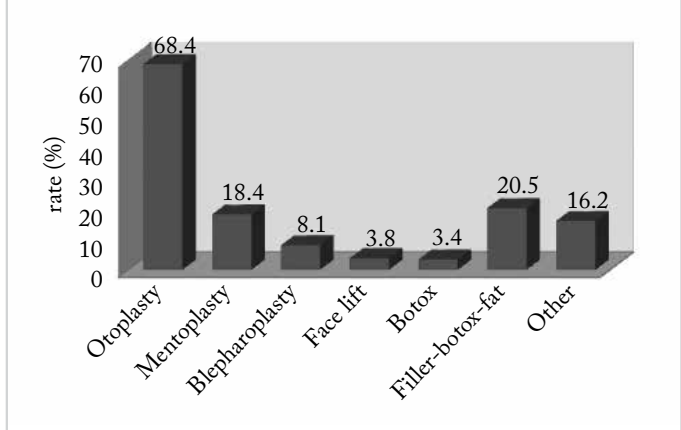

Figure 5. Facial plastic surgeries other than rhinoplasty

Discussion

Questionnaire studies provide valuable data, given that the questions are accurately designed considering the subject intended to be questioned. The presence of many questionnaire studies related to various subjects in literature indicates that they can provide important data if they are adequately and efficiently prepared. In addition, some diseases are diagnosed with questionnaires that question the symptoms and findings of disease (9-11). This study is a questionnaire-based study assessing the opinions of otorhinolaryngologists about FPS and nasal surgery.

Table 3. Evaluations related to facial plastic surgery procedures

		n	%
The most challenging situation while performing rhinoplasty	Skin problems	26	11.1
	Crooked nose	79	33.8
	Dorsal procedure	3	1.3
	Tip surgery	23	9.8
	Osteotomy	21	9.0
	High septum deviation	7	3.0
	Ideal dorsum	44	18.8
	Revision cases	31	13.2
How many of 100 recent rhinoplasties were satisfying?	10-30	73	31.2
	30-50	57	24.4
	50-70	59	25.2
	70-100	45	19.2
How many of 100 recent rhinoplasties required revision?	1-5	111	47.4
	5-10	90	38.5
	10-15	31	13.2
	15-20	2	0.9
Photodocumentation of patients before and after FPS	Yes	202	86.3
	No	32	13.7
Documentation of intraoperative views during FPS procedures	Yes	110	47.0
	No	124	53.0
Documentation of surgical epicrises in FPS interventions	Yes	168	71.8
	No	66	28.2
Making publications on FPS	Yes	37	15.8
	No	197	84.2
The number of publications on FPS (n=37)	1-3	25	67.9
	3-5	7	18.9
	5-7	2	5.4
	7-10	3	1.3

FPS: facial plastic surgery

Although it was conducted with a relatively few surgeons, unknown identities of participants provide the objectivity of the study. While most of the surgeons who participated in our study were male, 18.4% were female. This rate is consistent with a questionnaire study conducted previously on otorhinolaryngologists in our country. In the study conducted by Dokuzlar et al. (2), 74.32% of the surgeons were male and 25.68% were female.

The master-apprentice relationship still maintains its importance in surgical training. Surgeons should improve themselves and have certain experience for defining new techniques. It was detected in our study that 61.1% of the participants performed FPS procedures during their residency educations. This rate is important with regard to its demonstrating that core education program designed by the Board of Medical Specialties cannot be applied exactly in our country (12). Because of insufficient number of competent educators and inability to perform FPS procedures in all educational institutions, core education program is not completely applied. The efforts of the Association of FPS, such as cadaver studies and training activities, for filling this gap will increase this rate in the future.

Facial Plastic Surgery interventions are performed in public hospitals less frequently because these operations are not paid by the Social Security Institution, additional medical fee cannot be demanded from patients in public hospitals due to health services regulation, and these procedures have low performance scores in the performance assessment system. Although most of the participants in our study worked at public hospitals, further comments cannot be made on this issue because the questionnaire did not include any question asking the reasons for lower frequency of FPS procedures in public hospitals.

Rhinoplasty is one of the most commonly performed FPS interventions (5). Secondary rhinoplasty is a more difficult surgery because patient satisfaction level is lower than in primary rhinoplasty and it includes more major deformities. The main reasons for secondary rhinoplasty include unmet aesthetic expectations of patient, patient's fanciful expectations, differences between patient's and surgeon's expectations, difficult nose, low surgical experience, technical errors, and postoperative trauma (13-17). The rate of secondary rhinoplasty is reported to be between 10% and 18% in literature (15-17). There are differences between the pathologies encountered in primary and secondary rhinoplasty procedures. In the study conducted by Cingi et al. (13), while main pathologies were stated to be minimal nasal hump deformity (72.7%), septum deviation (31.1%), and bullous or large nasal tip (33.3%) in cases undergoing primary rhinoplasty, they were reported to be saddle nose deformity (21.2%), crooked nose (36.4%), and tip asymmetry (48.5%) in cases undergoing secondary rhinoplasty. In the study conducted by Yu et al. (15), tip asymmetry and crooked nose deformities were found to be more common in secondary rhinoplasty cases. Although there are various definitions of ideal candidates for rhinoplasty and many rhinoplasty techniques were defined in literature, the number of studies about the surgical technical difficulties that can be encountered during rhinoplasty is restricted.

Fanous et al. (18) examined easy and difficult septorhinoplasty candidates in their study. They evaluated cases with nasal hump, thick skin, and simple problems as easy septorhinoplasty cases and cases without nasal hump deformity but with severe tip deformity as difficult septorhinoplasty cases. While identifying the degree of difficulty, the frontal view of the nose, skin thickness, and profile view are considered. Patients without nasal hump deformity are difficult cases because they generally have other comorbid deformities, severe tip deformity, and expectations that are difficult to meet (18). Özkan et al. (19) reported that the factors affecting the difficulty of septorhinoplasty operations were mucosal adhesion developing secondary to previous septorhinoplasty operations, the presence of structural defects in the nasal bone and cartilages, the presence of severe deviation in the septum, asymmetries in the lower and upper lateral cartilages, bone deformities developing secondary to trauma, skin quality and thickness, and advanced age of patient. According to the responses of the participants in our study, the most challeng-

Table 4. Responses given to the question about other facial plastic surgery procedures, except rhinoplasty, that should be well known by an otorhinolaryngologist

		Order of importance								
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Skin tumors and repair with flaps	n	71	44	61	13	13	7	5	10	10
	%	30.3	18.8	26.1	5.6	5.6	3.0	2.1	4.3	4.3
Otoplasty	n	132	63	17	2	1	3	2	6	8
	%	56.4	26.9	7.3	0.9	0.4	1.3	0.9	2.6	3.4
Mentoplasty	n	9	80	51	35	22	8	11	6	12
	%	3.8	34.2	21.8	15.0	9.4	3.4	4.7	2.6	5.1
Blepharoplasty	n	0	9	29	59	40	28	28	30	11
	%	0	3.8	12.4	25.2	17.1	12.0	12.0	12.8	4.7
Face lift	n	4	6	6	15	42	48	35	25	53
	%	1.7	2.6	2.6	6.4	17.9	20.5	15.0	10.7	22.6
Botox	n	4	6	18	35	41	46	40	40	4
	%	1.7	2.6	7.7	15.0	17.5	19.7	17.1	17.1	1.7
Filler	n	2	5	6	15	31	33	52	29	61
	%	.9	2.1	2.6	6.4	13.2	14.1	22.2	12.4	26.1
Fat transfer	n	4	5	10	27	22	50	41	53	22
	%	1.7	2.1	4.3	11.5	9.4	21.4	17.5	22.6	9.4
Cosmetic repair of facial palsy	n	8	18	36	34	24	9	20	34	51
	%	3.4	7.7	15.4	14.5	10.3	3.8	8.5	14.5	21.8

Table 5. Responses given to the question about FPS-related procedures that are wanted to be learned or improved

		Order of importance						
		1	**2**	**3**	**4**	**5**	**6**	**7**
Rhinoplasty	n	92	16	18	16	12	17	63
	%	39.3	6.8	7.7	6.8	5.1	7.3	26.9
Otoplasty	n	36	104	18	17	18	38	3
	%	15.4	44.4	7.7	7.3	7.7	16.2	1.3
Mentoplasty	n	37	26	91	42	27	9	2
	%	15.8	11.1	38.9	17.9	11.5	3.8	.9
Blepharoplasty	n	16	41	35	82	43	13	4
	%	6.8	17.5	15.0	35.0	18.4	5.6	1.7
Face lift	n	28	11	15	23	61	52	44
	%	12.0	4.7	6.4	9.8	26.1	22.2	18.8
Brow lift	n	4	19	36	17	36	86	36
	%	1.7	8.1	15.4	7.3	15.4	36.8	15.4
Filler-botox-fat transfer	n	21	19	21	35	37	19	82
	%	9.0	8.1	9.0	15.0	15.8	8.1	35.0

ing situations in rhinoplasty are crooked nose, secondary rhinoplasty cases, and effort to reach the ideal dorsum.

In FPS practices, photodocumentation is very important in terms of evaluating medicolegal state and postoperative change. From medicolegal view, photodocumentation is an obligation for surgeon to be under protection and to assess the process (20-25). According to Humprey and Kriet (24), photodocumentation helps surgeons to develop themselves and to criticize themselves surgically. It is also used as objective evidence in academic studies. Although the causes of low rate of surgical epicrisis documentation and preoperative and intraoperative photodocumentation among the participants in our study are not well-known, we suggest that all surgeons should provide surgical epicrisis documentation and photodocumentation.

In our country, high numbers of studies are published by otorhinolaryngologists, but the rate of studies on FPS is relatively low. The low rate of publications performed by surgeons in our study supports this suggestion. Publication of scientific articles on FPS will make FPS practices more widespread and also lead up to new developments.

The most common surgical procedures other than rhinoplasty are otoplasty, mentoplasty, blepharoplasty, and auricular lobuloplasty. On the other hand, the most common non-surgical facial aesthetic procedures are filler-botox-fat transfer applications (5). The same sorting is true also for surgeons participating in our study. However, other FPS procedures are not performed as frequently as rhinoplasty. Facial aesthetics is formed depending on the symmetry and harmony of facial bones and soft tissues.

More widespread applications of FPS in the society will contribute to an increase in other FPS procedures other than rhinoplasty in training clinics and to the education of otorhinolaryngologists. In FPS practices, photodocumentation is highly important and it is a medicolegal necessity. Publications about FPS are required for improvement in education.

Conclusion

This questionnaire study is a notable study with regard to evaluating the approaches of otorhinolaryngologists to FPS practices. This study suggests that training clinics and the Association of FPS have great responsibilities for FPS education to become more widespread and to gain continuity. Further studies conducted on more surgeons are needed for obtaining detailed analysis of developments in FPS.

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