

Perspectives on Rhinology Postgraduate Training and Education

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Abstract

Objective: This study aimed to discuss perspectives of the 2016-2018 Turkish Otorhinolaryngology Head and Neck Surgery Society Rhinology-Rhinoplasty-Allergy and Sleep School (RS) postgraduate training and education.

Material and Methods: This was a retrospective analysis of aspects related to the postgraduate rhinology training and education of students admitted to the RS for the 2016-2018 education periods. The following data was collected and reviewed: criteria for student admission to the school, student age and gender, institution of practice, qualification document status, training course content, pre-test, and post-test results, place of training activities in the total time, sites for clinic visitations and their durations, educational activities carried out during the visitations and student feedback.

Results: Fifteen students were accepted in the two consecutive semesters. The academic program of the RS comprised four days of lectures, a day of cadaver dissection, and five days of clinic visitations. The average scores of the feedback received for lectures were 3.95/5 and 4.05/5 for each semester, respectively. Regarding the correct result ratio for pre- and post-test students presented was a statistically positive change in the level of knowledge ($p=0.001$).

Conclusion: The training program of the RS, conducted by Otorhinolaryngology Schools (ORL-S), has contributed to the process of obtaining information on the day of training and was evaluated positively by the participants. The student presented positive feedback about the full curriculum, however revealed some organizational drawbacks. The main outcome, the impact on behavioral change, has not been evaluated and it has been observed that rhinology school education is not sufficiently structured to evaluate this. The sustainability of the training appears to be an important concern that needs to be addressed.

Keywords: Rhinology school, postgraduate training, otorhinolaryngology education, continuing education

INTRODUCTION

The present system of information technology poses a dilemma in health practice. On one hand, access to medical information for physicians providing healthcare services is restricted, making it difficult for them to update themselves on the latest medical trends and guidelines specific to their areas of expertise, which they can use to improve the health of their patients. On the other hand, the patient, who is expected to receive health services based on up to date information, can easily access any medical information that has not been scientifically validated. This leads to an increasing disparity in the knowledge base of the short-term healthcare provider and the patient, and a conflict between scientific and unvalidated information. To overcome this, physicians must commit to the professional approach of lifelong learning, a key element for a successful medical career (1).

The Otorhinolaryngology Schools (ORL-S) were established by the Turkish Otorhinolaryngology and Head and Neck Surgery (TORL-HNS) in 2014. One of its aims was to conduct postgraduate fellowship training programs and to provide for their standardization, accreditation, and certification. The ORL-S envisaged collaborating with the Ministry of Health to transform these programs into one year certified postgraduate fellowship training (2). For this purpose, the following five schools conducted annual programs: Head Neck and Thyroid Surgery, Laryngology and Phoniatriy, Otolaryngology and Neuro-otology, Rhinology-Rhinoplasty-Allergy and Sleep (RS), and Facial Plastic Surgery schools. Each year, the school accepted fifteen applicants for the program which included four days of lectures, cadaver dissection, and five days of observational clinic visitations. According to the guidelines for continuing medical education, every activity received a credit point, the program maximum being 92 points. Attendance for 80% of education activities was a prerequisite for certification (3).

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As in many other aspects of life, medicine is an evolving science. Patil (4) summarizes the characteristics of a credible postgraduate educational program as follows: a progressive curriculum with both formal and informal elements, a well-known educator and training unit, proactive control, balance between clinical tasks and educational activities, dedicated training-specific time, and defined output.

In this study, we evaluated the outcomes of the 2016-2017 and 2017-2018 training programs of the TORL-HNS RS, comparatively reviewed the literature on education, and established the extent to which the RS met the legal framework of ORL-5.

MATERIAL AND METHODS

Demographics

In this study, the following data for the 2016-2017 and 2017-2018 training periods were examined retrospectively: the criteria for student admission to the school, participants' age and gender, institution of work, qualification document status, training course content, pre-test, and post-test results, the location of the training activities in the total time, sites for clinic visitations and durations, educational activities, and student feedback during the visit. The application process for the postgraduate program was done online and applicants were requested to submit their applications prior to the cutoff dates. Criteria for admission was enumerated on the society's website.

Subject Matter Selection

The subject matter for the training course was determined by consensus among the instructors under the management of the RS, the head of the school and the two secretaries, in accordance with *Cummings Otolaryngology: Head and Neck Surgery, 6th Edition* (5). The administrative staff of the RS selected the lecture topics during a series of meetings. Further, topics were considered based on clinical importance and common diseases of practice, including topics that an average Ear, Nose, and Throat (ENT) specialist is expected to encounter (Table 1). Each lecture was delivered by an academic staff who was an expert in the specific topic area. The lecturers were allowed to organize the items related to the lecture topic as they deemed fit.

Clinic Visitations

Clinic visitations were coordinated for all students at the training clinics in Ankara, İstanbul, and İzmir over a 5 day period. During these visit the students visit different clinics on each working day in which variety of rhinologic operation conducted and observed by them.

Student Feedback

Student feedback, in the form of course ratings, was collected at each training event. The student were asked to grade each lecture by indicating as 1=poor, 2=fair, 3=good, 4=excellent and 5=outstanding.

Statistical Analysis

IBM Statistical Package for the Social Sciences software version 20 (IBM SPSS Corp.; Armonk, NY, USA) was used for the statistical analysis. The distribution of test answers (correct and wrong) for the tests (before and after the sessions) for each two years. Chi-square was used for categorical data. $p < 0.05$ was considered significant.

RESULTS

Between 2016 and 2018 two postgraduate training programs were conducted by the same administrative group (the authors) for the RS. The program included four days of lectures, cadaveric dissection (endoscopic sinus surgery and rhinoplasty) and five days of observational clinic visitations.

Demographic Data

In the first year (2016-2017) of the school program, of the 15 students (14 males and 1 female), 1 was from a private hospital, and 14 were from public institutions (universities, education and research centers, or public hospitals), while in the second year (2017-2018), of the subsequent batch of 15 students (10 males and 5 females), 2 students were from private hospital and 13 students were from the public sector (Table 2).

Topics Presented

The topics presented during semesters 1 and 2 are listed in Table 1.

Table 1. Topics of lectures in Rhinology School during first and second semesters

Semester 1	Semester 2
Nasal and paranasal sinus radiology	Preoperative evaluation in rhinoplasty, facial analysis, and photography surgical anatomy for rhinoplasty
Acute rhinosinusitis	
Diagnosis and treatment of rhinitis	Incisions and skin elevation in open and close rhinoplasty
Epistaxis	Open and closed septoplasty and evaluation of surgical results
Basic endoscopic sinus surgery	Osteotomy techniques and approach to the deviated nose
Smelling and taste disorders and approach	Grafts in rhinoplasty rinoplastide
Rhinologic tests	Tip surgery
Paranasal sinus findings of systemic diseases	New techniques in rhinoplasty and minimal invasive rhinoplasty
CSF rhinorea diagnosis and treatment	Complications and precautions of the septoplasty and rhinoplasty
Nasal and paranasal surgical anatomy	Correction of saddle nose deformity
Nasal polyps	Revision septoplasty
Endoscopik anterior skull base surgery	Revision rhinoplasty
Endoscopik sinus surgery complications and treatment	Sleep physiology and breathing sleep disorders
Chronic rhinosinusitis	Evaluating the PSG report
Lacrimal system and orbita	Diagnosis and clinical evaluation of the patients with snoring and OSA
Maxillofacial trauma and fractures	Sleep endoscopy
Nasal and paranasal sinus benign and malign tumors	Nasal surgery in the OSA
Sinonasal tumors surgery	Soft palate surgical techniques in OSAS
Pituitary surgery	Advanced surgical applications in OSAS
	Basic features of the PAP treatment

Table 2. Demographic factors of students enrolled in the Rhinology School 2016-2017 and 2017-2018 training programs

	Age	Sex		Institution			
		Male	Female	University	Research and training hospital	State hospital	Private
First	35.8 (+/- 2.5)	14 (93.3%)	1 (6.7%)	3 (20%)	5 (33.3%)	6 (40%)	1 (6.7%)
Second	36 (+/- 2.5)	11 (73.3%)	4 (26.7%)	5 (33.3%)	8 (53.3%)	2 (13.3%)	0

Table 3. The first and last sessions of rhinology school 2016-2017 and 2017-2018 semester. First and last test results for the first and second sessions of 2016-2017 and 2017-2018

	2016-2017				2017-2018			
	First session		Second session		First session		Second session	
	Before	After	Before	After	Before	After	Before	After
False	253	202	253	193	261	203	248	196
True	572	623	572	632	564	622	577	629
p	0.005		0.001		0.001		0.004	
OR	1.364		1.448		1.418		1.379	

p<0.05; OR: odds ratio

Table 4. The most prominent verbal feedbacks

• Unable to get institutional assignment from their hospitals. They obligated to use the annual vacation.
• Limited contribution for daily practice as advanced cases presented in the operation room.
• The cases were very useful.
• The satisfaction for the clinic visit depends on the how much interest presented by the host clinic chairmen.
• Salary loss due to clinical visits.

Student Feedback Ratings

For the 2016-2017 period, semester 1, students rated the 20 courses with a low of 2 (mean score=3.95) and a high of 5 (mean score=5). In the second semester, the 23 courses taught were rated with a low of 3 (mean score=4.05) and high of 5 (mean score=5).

For the 2017-2018 period, semester 1, students rated the 16 courses with a low of 2 (mean score=0.95) and a high of 5 (mean score=5) and in the second semester, the 23 courses were rated with a low of 2 (mean score=4.05) and a high of 5 (means score=5).

The first and last sessions of rhinology school 2016-2017 and 2017-2018 semester. First and last test results for the first and second sessions of 2016-2017 and 2017-2018 in Table 3.

The most prominent elements in the verbal feedback received are given in Table 4.

The cost to the Association for each student for one year was approximately 8500 TL (US\$ 2200) which was compensated by the Association. The students did not pay any type of course fee. This calculation does not include costs of clinic visitations and loss of income for the students who were away from their institutions during the five working days.

DISCUSSION

The feedback provided by the participating students during both academic semesters for curriculum content was positive. An assessment of the knowledge, skills, and experience gained by the students provides a fair tool for certification. However, the current TOR-HNS academic program framework does not have clear learning objectives and methodologies to achieve them. As a result, certification of the program as a formal postgraduate course has not yet been established, although the RS of the TORL-HNS stated that this was a fellowship program. Therefore, continuing medical education in any field, including otorhinolaryngology, requires regulated guidelines and appropriate certification.

Continuing education can take place in two ways. The first is face-to-face training (conferences, presentations, seminars, workshops, or class activities) and the other is self-learning (such as online learning programs and reading) (6). The main purpose of continuing education is to maintain professionalism and improve clinical behavior (7, 8). Consequently, the most important indicator of the acquisition of knowledge is the extent to which knowledge translates into changes in daily clinical practice; this was not considered in line with this study objective. However, the content of the presentation was structured to the extent allowed by the theoretical knowledge training period in rhinology.

Rhinology school presentations constituted forty percent of all school educational activities. In the planning stages, the subjects were chosen by the trainers in the RS Administration from the reference book titles. Adult education varies considerably to childhood education (9-12). Traditional face-to-face training for adults may be defined as didactic. Such trainings lead to higher levels of knowledge but little behavioral change. Therefore they rarely contribute to substantive changes in the daily practice of experts. On the other hand, case evaluations and role-playing sessions are educational activities that lead to more effective change (1). Adults generally learn from their mistakes (12); therefore, post-specialist training should include structured learning objectives that meet the daily clinical requirements of the physician and evaluate whether they are translated into behavioral change.

A meta-analysis of sixteen post-specialist training studies found that the impact of health care provision was examined in only three studies (13). With clinic visitations being within the scope of the RS, fifty percent of the entire academic program was dedicated to practical clinical training. Practical training usually involves applying acquired knowledge to clinical practice. Therefore, a problem-based education model was not adopted. Problem-based learning is defined as an instructional (and curriculum) learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem (14). In this method, the student tries to find a solution to the question and problem with his/her own knowledge and the acquired knowledge. As a result, learning that leads to behavior change is expected to improve. The clinic visits were carried out based on the observations of the practices in the visited clinics and the surgical techniques which were applied more. Such an application can be considered as learning via peer or master-apprentice relationship. Consequently, it was observed that clinic visitations, as part of the rhinology school activities, had positive feedback.

Post-specialist training presents two dilemmas. First, there is difficulty in sustaining financial support, which is an important determinant of continued training programs, even if a very effective and progressive program is implemented (15, 16). Second, is that the program content becomes outdated due to the evolving nature of medicine and disease. The hallmark of an effective program is putting processes into place to facilitate structuring of education requirements, which includes self-assessment processes, providing quality audit training and enabling the creation of different course modules for which a system of evaluation exists. There is a possibility that educational institutions, whose concrete functioning is not defined in this way, can be abandoned by its financial supporters (17-19). The cost (the expense for transportation, accommodation, catering and cadavers) of the rhinology school postgraduate training program for the year 2017-2018 was 8500 TL per student. This cost did not include the loss of income encountered by each student during their training period. From this point of view, it was estimated that the costs to the rhinology school for a single postgraduate program would be approximately 127,500 TL. Since 4-5 such school programs are carried out each year, the financial burden on the Association is significant and if the financial income cannot be sustained, it is expected that the ENT Schools will have to apply cost-cutting measures.

It will be useful to evaluate post-specialist training in the field of ENT medicine by prioritizing the expectations and needs of experts in line with the needs of the society. Although the training of specialist students in medicine meets the standards set by the Medical Expertise Commission, there are few studies that have evaluated the educational processes in this field (20, 21). Formal education requires periodic and planned evaluation for efficacy and reliability, which may show how education contributes to better learning. These may lead us to innovative learning methods compared with those employed in our current curriculum (22). We are attempting to shed light upon the current learning process and provide insight for the next generation of educators, that will continue the process in the future. However, being the administrative staff, we are aware of the obstacles and gaps that should be addressed for a better learning process. As mentioned earlier, one of the most valuable aspects of the program is mentorship, presenting the students with opportunities to observe more experienced colleagues in an operation theater. This opportunity allows junior specialists to improve their surgical skills. As most of the students are in the infancy of their surgical journey, many enjoy observing mainstream cases rather than expert cases that most of them do not or will

not perform. What is most valuable in this course is not only listening to the lectures presented, which can be obtained from variable sources, but gaining experiential learning through mentorship.

The limitation of this study was that the questionnaire was not validated, and the post-program impact of each course has not been evaluated. Further, the program was administrated by academic based tutors; a post-graduate training program of this stature, targeting the fellowship, should have its own academic board including representation from the Medical Education Department.

CONCLUSION

To conclude, the rhinology school training program carried out within the scope of the Turkish Otorhinolaryngology Head and Neck Surgery Society ENT Schools, contributed to the process of obtaining information on training needs on the day of training. Further, the training process was favorably evaluated by the participants. One of the main outcomes of this program, the impact on physician behavioral change, was not evaluated and it has been observed that the rhinology school education processes are not structured to obtain such information. The financial sustainability of the training program needs to be addressed. Further studies are needed to evaluate post-specialist training practice behavior and determine target endpoints.

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