From Thesis to Publication: Publication Rates and Determinants of Otorhinolaryngology Residency Theses in Türkiye (2016-2020)

Original Investigation

Aykut Yankuncu[1], Çağrı Becerik[2]

[1]Bingöl State Hospital, Clinic of Otorhinolaryngology, Bingöl, Türkiye
[2]Bandırma Onyedi Eylül University, Department of Otorhinolaryngology, Balıkesir, Türkiye

Abstract

Objective: To identify the publication rates and determinants of otorhinolaryngology/ear, nose and throat (ENT) residency theses completed in Türkiye between 2016 and 2020.

Methods: A retrospective review was conducted on 460 ENT theses listed in the National Thesis Center database of the Council of Higher Education. Publication statuses were determined through searches in PubMed, Web of Science, TRDizin and Google Scholar on May 10, 2025, using thesis titles, author names, and keywords. Variables including subspecialty, study design, completion year, institution type, city, and journal indexation were recorded.

Results: Among 460 theses, 43.5% were published, with an average time to publication of 3.2±1.7 years. Institution type and city did not significantly affect publication rates (p=0.566, p=0.088). Pediatric ENT (63.6%) and head and neck surgery (57.7%) showed significantly higher publication rates (p=0.019). Cadaveric (66.7%), animal (50%), and prospective (43.5%) studies had higher publication rates than average, but without statistical significance (p=0.292). Most published theses (72%) appeared in international journals and 134 were indexed in the Science Citation Index Expanded.

Conclusion: This study showed that 43.5% of ENT residency theses in Türkiye were published, with an average publication time of 3.2 years. No significant institutional differences were observed. Higher publication rates were noted in pediatric and head and neck surgery theses. Supporting residents in disseminating their research remains essential for fostering academic development.

Keywords: Otorhinolaryngology, academic dissertation, scientific publication, medical education, bibliometrics

ORCID IDs of the authors:
A.Y. 0000-0002-3681-5418
Ç.B. 0000-0003-3889-7143

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Corresponding Author:
Aykut Yankuncu, MD;
aykutyankuncu@gmail.com

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Introduction

In Türkiye, a dissertation is required for the completion of a medical residency program. This requirement aims to teach scientific methodology and contribute to the advancement of science in the residency program. Every year, residents invest time, money and resources to prepare their theses. Although the theses are not required to be published in scientific journals, publication makes the results more accessible and shareable (1,2). The results of a thesis can only be shared with the scientific community when published in peer-reviewed journals.

Medical residency education in Türkiye is coordinated under the Council of Higher Education (YÖK) and the Ministry of Health. Residency training is conducted in university hospitals, training and research hospitals affiliated with the Ministry of Health, and foundation universities (3). Otorhinolaryngology residency is typically structured as a five-year program that combines clinical practice, surgical training and research. As part of this training, the completion of a dissertation is mandatory, providing residents with the opportunity to acquire research experience and academic writing skills.

Although theses are crucial for the scientific database, their publication rates are low (4,5). The transformation of a thesis into a scientific article is the best indicator of its scientific value. The index, quartile, and impact factor of the publishing journal are also important factors to consider. These scientific parameters indicate the quality and strength of the work.

In our study, we aimed to identify the factors that influence the conversion of [otorhinolaryngology/ear, nose and throat (ENT)] theses into scientific publications.

Methods

A retrospective analysis was performed on the theses completed in the field of ENT following a residency program in Türkiye between January 1, 2016, and December 31, 2020. Our study included the theses that were listed in the YÖK National Thesis Center's internet database (http://tez.yok.gov.tr/UlusalTezMerkezi/). To access the theses, the subject "otorhinolaryngology" was selected in the subject tab of the detailed search page in the YÖK thesis center database, and the thesis type was specified as medical residency. The listed theses were then reviewed.

The publication status of each thesis was searched on Google Scholar, PubMed, Web of Science (WoS) and TRDizin platforms using both the English and Turkish titles of the thesis, the names of the thesis author and supervisor, and the specified keywords. The search was conducted on May 10, 2025. The following information was recorded as a result of the search: the subspeciality of the thesis related to ENT [otology/neurotology, rhinology/obstructive sleep apnea syndrome (OSAS), head and neck surgery, laryngology, facial plastics, pediatric ENT and general ENT], the year the thesis was completed, the institution type (state university, training and research hospital, or foundation university), the city (İstanbul, Ankara, İzmir, other), thesis design (prospective, retrospective, animal experiment, genetic, cadaveric, *in vitro*), the year of publication, the journal in which the article was published, whether the journal was a national or an international one, and the index of the journal. In this study, journals indexed in TRDizin were classified as national, whereas those indexed in Science Citation Index Expanded (SCIE), Scopus, or similar international databases were classified as international. If an article related to the thesis could not be found on Google Scholar, PubMed, WoS, or TRDizin, it was concluded that no such article existed.

This retrospective study used publicly available data and did not involve human subjects directly; thus, institutional review board approval was not required. The study adhered to the guidelines of the Declaration of Helsinki.

Statistical Analysis

Data are presented as numbers, percentages, mean and standard deviation (minimum-maximum) using Microsoft Office Excel 2016 (Microsoft Corp., United States) and SPSS 21.0 (IBM Corp., Armonk, NY, USA) software. Fisher's exact test was used to compare categorical variables. Pearson's chi-square test and Fisher's exact test were used to compare categorical variables. $P<0.05$ was considered statistically significant.

Results

A total of 460 ENT theses were completed between 2016 and 2020. Of these, 147 (32%) were conducted in a training and research hospital affiliated with the Ministry of Health, 295 (64.1%) in a state university, and 18 (3.9%) in a foundation university. In terms of location, 102 (22.2%) of these theses were written in Ankara, 91 (19.8%) in İstanbul, 38 (8.3%) in İzmir, and 229 (49.8%) in other cities (Table 1).

When analyzed by years, 102 ENT residency theses were uploaded to the system in 2016, 108 in 2017, 83 in 2018, 88 in 2019, and 79 in 2020. The rate of conversion of these into publications was 43.5% (200/460). Among the theses uploaded, the proportion that resulted in publication was 58.8% in 2016, 44.4% in 2017, 38.5% in 2018, 40.9% in 2019, and 30.4% in 2020. The average publication time after uploading was found as 3.2±1.7 (range: 0-8) years (Table 2).

Table 1. Distribution of theses by city and institution, publication rates

	Theses		Published theses	
	n	%	n	%
Institution type				
State University Hospital	295	64.1	126	63
Training and Research Hospital	147	32.0	64	32
Foundation University Hospital	18	3.9	10	5
City of institution				
Ankara	102	22.2	49	24.5
İstanbul	91	19.8	46	23
İzmir	38	8.3	11	5.5
Other	229	49.8	94	47

Of the institutions where the published theses were prepared, 126 were state universities, 64 were training and research hospitals, and 10 were foundation universities. There was no statistically significant difference in terms of institution types (p=0.566). The publication rates were 42.7% for state universities, 43.5% for training and research hospitals, and 55.6% for foundation universities (Table 3).

In terms of the cities where the published theses were prepared, 50.5% were prepared in İstanbul, 48% in Ankara, 41% in İzmir, and 28.9% in other provinces; no statistically significant differences were found in terms of the cities (p=0.088) (Table 3).

The ratio of the number of publications of the theses in each subspeciality to the number of theses on that subject was analyzed. Pediatric ENT theses were found to have the highest publication rate (63.6%), followed by head and neck surgery (57.7%), facial plastic surgery (46.7%), laryngology (42.3%), rhinology/OSAS (39.4%) and otology/neurotology (38.6%). A statistically significant difference was observed

Table 2. Distribution of thesis and publication numbers by years

Years	Theses		Published theses	
	n	%	n	%
2016	102	22.2	60	30
2017	108	23.5	48	24
2018	83	18	32	16
2019	88	19.1	36	18
2020	79	17.2	24	12
Total	460	100	200	100

Table 3. Statistical differences in published theses

	Yes, n (%)	No, n (%)	Total	p-value
Institution type				
Training and Research Hospital	64 (43.5)	83 (56.5)	147	0.566[1]
State University Hospital	126 (42.7)	169 (57.3)	295	
Foundation University Hospital	10 (55.6)	8 (8)	18	
City of institution				
İstanbul	46 (50.5)	45 (49.5)	91	0.088[1]
Ankara	49 (48)	53 (52)	102	
İzmir	94 (41)	135 (59)	229	
Other	11 (28.9)	27 (71.1)	38	
Subspeciality				
Otology/neurotology	73 (38.6)	116 (61.4)	189	0.019[1]
Rhinology/OSAS	50 (39.4)	77 (60.6)	127	
Head and neck surgery	45 (57.7)	33 (42.3)	78	
Laryngology	11 (42.3)	15 (57.7)	26	
Pediatric ENT	14 (63.6)	8 (36.4)	22	
Facial plastic surgery	7 (46.7)	8 (53.3)	15	
General ENT	0 (0)	3 (100)	3	
Thesis design				
Retrospective	38 (35.8)	68 (64.2)	106	0.292[2]
Prospective	98 (43.6)	127 (56.4)	225	
Animal	52 (50)	52 (50)	104	
Genetic	7 (41.2)	10 (58.8)	17	
In vitro	1 (50)	1 (50)	2	
Cadaver	4 (66.7)	2 (33.3)	6	
Animal type				
Rabbit	11(68.8)	5 (31.2)	16	0.037[2]
Rat	41 (50.6)	40 (49.4)	81	
Guinea pig	0 (0)	5 (100)	5	
Mouse	0 (0)	2 (100)	2	

Data are presented as numbers (percentages). Row percentages are given.

[1]Pearson's Chi-square test, [2]Fisher's exact test

OSAS: Obstructive sleep apnea syndrome, ENT: Ear, nose and throat

between these subspeciality groups (p=0.019) (Table 3 and Figure 1).

Analysis of the publications to theses ratio according to study design reveals that 66.7% (4/6) of cadaveric studies, 50% (52/104) of animal experiments, 43.6% (98/225) of prospective studies and 35.8% (38/106) of retrospective studies were converted into publications. There were no statistically significant differences in the publication rates among the study design variables (p=0.292) (Table 3).

Among experimental animal studies, 50.6% (41/81) of the studies conducted with rats and 68.8% (11/16) of the studies conducted with rabbits were published, but none of the studies conducted with guinea pigs or mice were published and the difference between them was found to be statistically significant (p=0.037) (Table 3).

Of the published studies, 56 were published in national (ULAKBİM) and 144 in international journals. When evaluated according to the indexes in international journals, 134 were published in SCIE, seven in Emerging Sources Citation Index (ESCI) and three in non-SCI/SCIE/ESCI international journals (Table 4).

The journals in which the studies were published had different publication rates. The journals with the highest number of ENT theses were European Archives of Oto-Rhino-Laryngology, which published 10% of the studies (n=20), Turkish Archives of Otorhinolaryngology, which published 6% (n=12), Brazilian Journal of Otorhinolaryngology, which published 5% (n=10), ENT Journal, which published 5% (n=10), and ENT Updates, which published 3.5% (n=7). This information is shown in Table 5.

Table 4. Distribution of the indexes in which the publications are included

	n	%
National (TRDizin)	56	28
International	144	72
Index of the international journal		
SCIE	134	67
ESCI	7	3.5
non-SCI-SCIE-ESCI	3	1.5

SCI: Science Citation Index, SCIE: Science Citation Index Expanded, ESCI: Emerging Sources Citation Index

Table 5. Distribution of the journals in which the studies were published

Journal name	n	%
European Archives of Oto-rhino-laryngology	20	10
Turkish Archives of Otorhinolaryngology	12	6
Brazilian Journal of Otorhinolaryngology	10	5
Ear, Nose & Throat Journal	10	5
ENT updates	7	3.5
Acta Oto-Laryngologica	6	3
B-ENT	6	3
International Journal of Pediatric Otorhinolaryngology	6	3
Journal of Ear Nose Throat Head and Neck Surgery	5	2.5
The Journal of International Advanced Otology	5	2.5

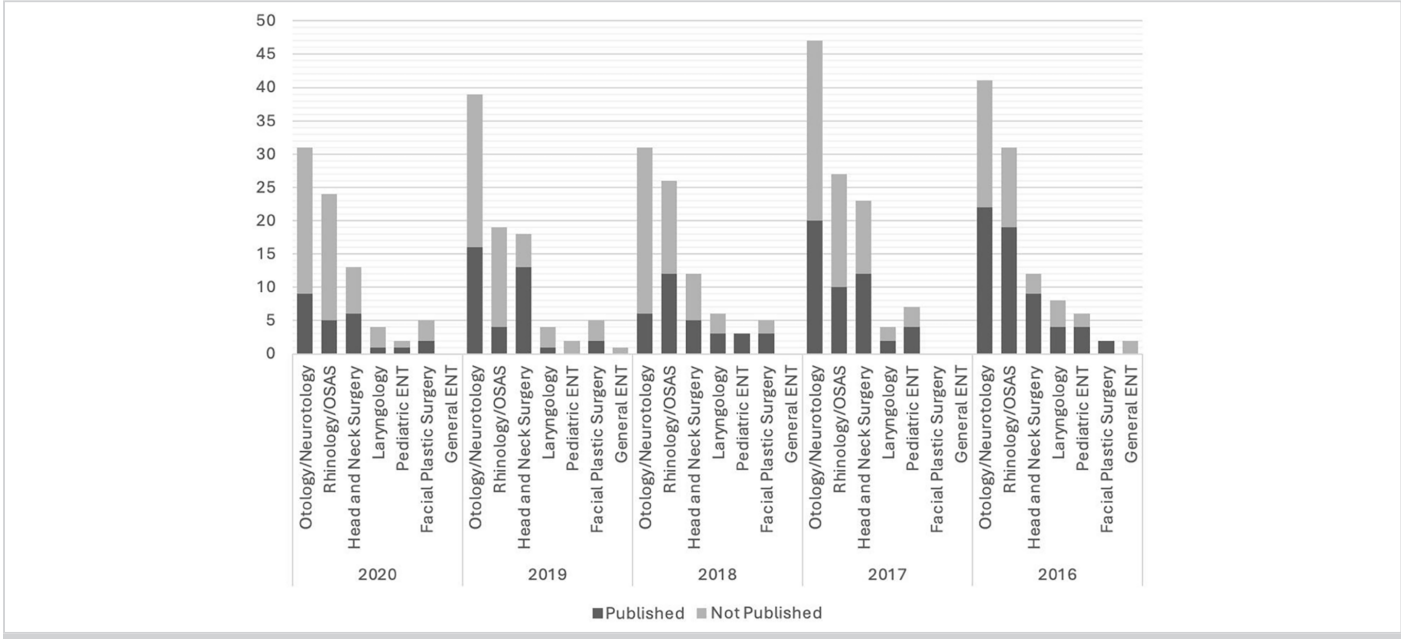

Figure 1. Subspeciality and publication rates of these by year
OSAS: Obstructive sleep apnea syndrome, ENT: Ear, nose and throat

Discussion

This study investigated the publication outcomes of ENT residency theses in Türkiye from 2016 to 2020, identifying the factors that influenced their conversion into scientific publications. Our study observed an overall publication rate of 43.5%, which is relatively higher compared to several other medical specialties, such as neurosurgery and microbiology/infectious diseases (1,6).

The specialty thesis is one of the first experiences of a physician as a scientist in the scientific community. Publishing the thesis in peer-reviewed journals is crucial for converting the work performed during the thesis production process into scientific data. Throughout the process of developing a specialty thesis from hypothesis to publication, adherence to scientific methodology and research integrity should be emphasized.

The conversion of a medical residency thesis into a publication has been reported to vary considerably across institutions and periods. Previous studies indicated that theses from university or military hospitals were more often converted into publications, whereas theses from state hospitals showed lower rates (2,7,8). However, in line with more recent studies, our analysis showed no statistically significant institutional differences that could indicate a shift in research culture and an increasing homogenization of training standards across Türkiye (9). Nevertheless, variations in infrastructure, academic tradition and workload balance between service-oriented and academically focused centers likely continue to play a role.

In terms of timing, our mean time-to-publication of 3.2 years was consistent with previous reports (7-10). Methodological differences among studies, such as whether only SCI/SCIE-indexed journals were considered, may partly explain the discrepancies in the reported publication rates. Restricting analysis to higher-impact journals naturally yields lower publication proportions, reflecting the greater scientific rigor required.

When compared with other medical specialties, ENT remains distinctive for its relatively higher thesis publication rates, surpassing fields such as neurosurgery (18%), emergency medicine (27.1%), microbiology and infectious diseases (11.4%), and even general medical theses in Türkiye (6.2%) (1,2,6,11). These findings suggest that ENT residency training in Türkiye has maintained a relatively strong research output, comparable to or exceeding international benchmarks, such as the 17% rate reported in France (5).

An important contribution of our study was the identification of the thesis subject areas with higher publication potential. In line with previous studies, we observed that theses in pediatric otorhinolaryngology and head and neck surgery were statistically more likely to be published (7-10). These subspecialties often address problems with high clinical impact and objective endpoints (e.g., airway patency, hearing thresholds, oncologic management), concentrate on cases in tertiary referral pathways with multidisciplinary follow-up, and generate projects perceived as novel or practice-changing (e.g., airway reconstruction, cochlear implantation, organ-preserving oncologic strategies), aligning with editorial priorities for originality and broader readership appeal. In addition, cadaveric, animal-based and prospective studies tended to yield higher publication rates than retrospective designs, but statistical significance was not identified. This suggests that beyond study design, novelty and clinical relevance may increasingly drive the likelihood of publication.

The statistically significant difference observed between animal types may be partly explained by the uneven distribution of the studies. Rats and rabbits are the most widely used and standardized models in otorhinolaryngology research, which likely facilitates methodological rigor and publication acceptance. By contrast, studies using guinea pigs and mice were few, and often addressed narrower research questions, which may have limited their publication potential.

Our finding that the European Archives of Oto-Rhino-Laryngology is the journal featuring the highest number of ENT theses aligns with existing literature (10). This is due to the journal's recognition and fast response time. In addition to European Archives of Oto-Rhino-Laryngology, several theses were also published in national journals indexed in TRDizin. This suggests that both international and national journals are preferred as publication platforms for ENT theses in Türkiye. However, it should be noted that the distinction between national and international journals is somewhat interpretative, given that some ENT journals based in Türkiye have been included in international indexing services in recent years. This evolving situation should be taken into account when interpreting the findings.

One potential limitation of our study is the absence of a geographic analysis of thesis origin within Türkiye. Regional variations in healthcare infrastructure and academic culture may influence research productivity. For instance, metropolitan universities with higher research budgets may provide greater opportunities for publication compared with smaller regional centers. Future studies could explore these differences to provide a more comprehensive understanding of national research output.

The strengths of our study lie in its contemporaneity, large sample size, and systematic evaluation of thesis-to-publication conversion. Nevertheless, several limitations should be acknowledged. Firstly, as a retrospective study, our findings rely on database accuracy. Secondly, by including only indexed publications, the actual publication rate may be underestimated. And thirdly, although the five-year follow-up period was based on the average publication interval, some theses were published

up to eight years after completion, suggesting that additional publications may appear in the future. These limitations notwithstanding, our study provides valuable insight into the academic productivity of ENT residency training in Türkiye and offers guidance for young physicians aiming to publish their theses.

Conclusion

This study shows that 43.5% of ENT residency theses in Türkiye were published, with an average publication time of 3.2 years. No significant differences in publication rates were found between institution types. Higher publication rates were observed in pediatric otorhinolaryngology and head and neck surgery theses. Supporting residents in the dissemination of research remains essential for their academic development.

Ethics

Ethics Committee Approval: Ethical approval was not required.

Informed Consent: Retrospective study.

Footnotes

Authorship Contributions

Surgical and Medical Practices: A.Y., Ç.B., Concept: A.Y., Ç.B., Design: A.Y., Ç.B., Data Collection and/or Processing: A.Y., Ç.B., Analysis and/or Interpretation: A.Y., Ç.B., Literature Search: A.Y., Ç.B., Writing: A.Y., Ç.B.

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Main Points

- This study analyzed 460 ear, nose and throat residency theses in Türkiye between 2016 and 2020 to evaluate their publication outcomes.
- The overall publication rate was 43.5%, which is higher than the rates reported in many other medical specialties.
- Pediatric otorhinolaryngology and head and neck surgery theses had significantly higher publication rates compared to other subspecialties.
- Institution type and city location did not significantly affect the likelihood of publication.
- The average time from thesis completion to publication was approximately 3.2 years, consistent with previous literature.

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