

National and International Publication Differences of Otolaryngology

Otolaringoloji Alanında Ulusal ve Uluslararası Yayın Farklılıkları

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ABSTRACT Objective: Varying criteria for associate professorship have directed researchers to write more articles and to publish in international and national journals. The aim of this study was to compare and reveal any differences between articles written by Turkish authors in the field of otolaryngology, which have been accepted for publication in national and international journals in the last 6 years. **Material and Methods:** In the study, 16 journals in the 2018 Science Citation Index and 6 national journals in the field of otolaryngology were examined. A record was made of which journal the article was published in, the date, the number of authors, where the authors worked, the subject of the article, and whether or not it was an animal study. **Results:** A total of 398 original research articles were published in the 16 SCI journals and 675 in the 6 national journals in the field of otolaryngology between 1 January 2014, and 1 September 2019. When the articles were classified according to subject, the most articles were seen to be on the subject of pediatric otolaryngology (38.69%) in international journals and otology (29.03%) in national journals. From 2014 to date, compared to national journals, there can be seen to be a higher number of authors in articles accepted by international journals, independently of the change in associate professorship criteria. **Conclusion:** The change in associate professorship criteria caused a decrease in the number of authors of articles in both national and international journals. Science requires teamwork and the resulting different ideas and different points of view increase the quality of articles.

Keywords: Academic promotion; bibliometrics; Turkey; publications

ÖZET Amaç: Doçentlik kriterlerinin değişimi araştırmacıları daha çok makale yazmaya ve ulusal-uluslararası dergilerde yayınlamaya itmektedir. Bu çalışmanın amacı, Türk yazarlar tarafından yazılan ve son 6 yılda otolaringoloji alanında ulusal ve uluslararası dergilerde kabul edilen makaleleri karşılaştırmak ve farklılıkları saptamaktır. **Gereç ve Yöntemler:** Çalışmada, otolaringoloji alanında 2018 yılında Science Citation Index'te taranan 16 dergi ile 6 Türk otolaringoloji dergisi değerlendirilmiştir. Makalenin hangi dergide yayımlandığı, tarihi, yazar sayısı, yazarın çalıştığı kurum, makalenin konu başlığı ve hayvan çalışması olup olmadığı kayıt altına alınmıştır. **Bulgular:** 1 Ocak 2014-1 Eylül 2019 tarihleri arasında 16 Science Citation Index dergisinde yayımlanan 398 ve 6 Türk otolaringoloji dergisinde yayımlanan 675 orijinal araştırma makalesi değerlendirildi. Makaleler konusuna göre gruplandırıldığında, uluslararası dergilerde pediatrik otolaringoloji alanında (%38,69), ulusal dergilerde ise otoloji alanında (%29,03) yayınların olduğu görüldü. 2014 yılından bugüne, ulusal dergilere göre karşılaştırıldığında, doçentlik kriter değişiminden bağımsız olarak yazar sayısının uluslararası dergilerde kabul edilen makalelerde daha fazla olduğu görüldü. **Sonuç:** Doçentlik kriterlerinin değişimi hem Türk hem de uluslararası dergilerde yazar sayısında azalmaya sebep olmaktadır. Bilim, ekip çalışması gerektirir ve değişik bakış açıları ile oluşan farklı fikirler makalelerin kalitesini artıracaktır.

Anahtar Kelimeler: Akademik ilerleme; bibliyometrik; Türkiye; yayınlar

The preparation, writing and publication of articles is an important stage in academic advancement.¹ Those who wish to be an academician and contribute to science prepare articles to be published in national and international journals. Varying criteria for associate professorship have directed researchers to write

more articles and to publish in national or international journals. The authors plan and write manuscripts according to the journal to which it is to be submitted.² When national and international publications are examined, there are seen to be differences in respect of both the subgroups of the subject

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Peer review under responsibility of Journal of Ear Nose Throat and Head Neck Surgery.

Received: 05 Jun.2020

Received in revised form: 14 Aug 2020

Accepted: 19 Aug 2020

Available online: 23 Dec 2020

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and the number of authors.³⁻⁵ In a general sense, science is a universal case and there is not expected to be a difference. The aim of this study was to compare and reveal any differences between articles written by Turkish authors in the field of otolaryngology, which have been accepted for publication in national journals in the last 6 years, and international articles in the Science Citation Index (SCI) category.

MATERIAL AND METHODS

For this retrospective, bibliometric analysis, 16 journals in the 2018 Science Citation Index and 6 national journals in the field of otolaryngology were examined (Table 1). These journals were defined by examining the Clarivate Analytics, Web of Science Master Journal List. For the inclusion of national studies for evaluation, the internet sites were accessed of 6 Turkish journals that publish in the field of otolaryngology, that have been screened continuously since 2014 by ULAKBIM (Turkish Academic Net-

work and Information Center) and the Turkish Head and Neck Surgery Association. Publications from Turkey published between 01.01.2014 and 01.09.2019 in these journals were included in the study for evaluation. Only original research articles were included and any case reports, reviews, book chapters, letters to Editors, clinical images or abstracts were excluded from the study. Otolaryngologic Clinics of North America journal, which published only review articles, was excluded from the study in which only original studies were evaluated.

The criteria for associate professorship changed in December 2016. The criteria for publication of international articles before and after 2016 are shown in Table 2. The years 2014, 2015 and 2016 were evaluated as before the change in criteria, and 2017, 2018, and the first 9 months of 2019 were evaluated as the period after the change in criteria. Studies published from Turkey where the leading author was Turkish were included in the evaluations.

Screening was performed by 2 researchers separately scanning the websites of the journals between the defined dates to examine each edition in the archives, and by scanning the National Library of Medicine - National Institutes of Health, PubMed using the journal name. For national otolaryngology journals, the archives were scanned of the journal websites and the Dergipark internet address. The data obtained were collated with cross-checks. A record was made of which journal the article was published in, the date, the number of authors, where the authors worked, the subject of the article, and whether or not it was an animal study. Subject groups were defined as otology, rhinology/allergy, head and neck, laryngology, facial plastic surgery, general otolaryngology and pediatric otolaryngology. The places of employment of the authors were classified as university, training and research hospital, private university, state hospital, private hospital and private practice. Changes in the number of authors were evaluated according to the years. The areas in which animal studies were conducted were defined.

The results are presented as percentages, mean and the number (%) of patients. A paired t-test was used to evaluate for differences between mean num-

TABLE 1: Science Citation Index journals and national journals in the field of otolaryngology.

n	Name of the Journal/ Science Citation Index	Publisher	Country
1	Acta Oto-Laryngologica	Taylor-Francis	England
2	American Journal of Rhinology&Allergy	Sage	USA
3	Annals of Otolaryngology and Laryngology	Sage	USA
4	Audiology and Neuro-Otology	Karger	Switzerland
5	Clinical Otolaryngology	Wiley	USA
6	Dysphagia	Springer	USA
7	Ear and Hearing	Lippincott Williams	USA
8	Head and Neck – Journal for the Sciences	Wiley	USA
9	Hearing Research	Elsevier	Holland
10	International Journal of Pediatric Otorhinolaryngology	Elsevier Ireland	Ireland
11	JAMA Otolaryngology-Head & Neck Surgery	Amer Medical	USA
12	JARO – Journal of the Association for Research in Otolaryngology	Springer	USA
13	Laryngoscope	Wiley	USA
14	Otolaryngologic Clinics of North America	W B Saunders	USA
15	Otolaryngology – Head and Neck Surgery	Sage	England
16	Otology & Neurotology	Lippincott Williams	USA
n	Name of the Journal/ National Journals	Publisher	Country
1	Turkish Journal of Ear Nose and Throat	Baycınar	Turkey
2	Turkish Archives of Otorhinolaryngology	AVES	Turkey
3	Praxis of Otorhinolaryngology	Baycınar	Turkey
4	KBB Forum- Electronic Journal of Otolaryngology – Head and Neck Surgery	Pleksus Bilişim Teknolojileri A.Ş	Turkey
5	Journal of Ear Nose Throat and Head Neck Surgery	Türkiye Klinikleri	Turkey
6	ENT Updates Journal	CESRA	Turkey

TABLE 2: International and national publication criteria for associate professorship before and after 2016.

2016 April and before	2016 December and after
To have been named as the first author on at least one original research article published in an SCI-Expanded, SSCI or AHCI journal related to the scientific area for which associate professorship is applied, and which has not been produced from the specialist or doctorate thesis of the candidate (this does not include sub-branch specialism theses), and to have published at least three original research articles after obtaining doctorate or medical specialist	<p><i>International Publication Criteria</i></p> <p>1. Full research articles not produced from the doctorate thesis in the scientific area for which associate professorship is applied (not including letters to the Editor, abstract, review, or book review)</p> <p>a) Original research article published in an SSCI, SCI, SCI-Expanded, or AHCI journal (20 points)</p> <p>b) Original research article published in a journal scanned by an international index (other than the indexes stated in 1a) (10 points)</p> <p>c) Case presentation published in a journal as defined in 1a (5 points)</p> <p>With at least 20 points obtained as the leading author in the scope of 1a, at least 40 points must be obtained in this item.</p> <p><i>National Publication Criteria:</i></p> <p>1. Provided that it is related to the scientific area for which the associate professorship is being applied and has not been produced from the doctorate or specialist theses of the candidate,</p> <p>a) an original research article published in peer-reviewed journals screened by ULAKBIM (8 points).</p> <p>In the context of clause a) of this item, at least 8 points should be taken.</p>

ber of authors and articles according to years. $P < 0.05$ was considered a significant difference for the results. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS 17.0 for Windows; IBM, Armonk, NY, USA) software. As this was bibliometric analysis, Ethics Committee approval was not required.

RESULTS

A total of 398 original research articles were published in the 16 SCI journals and 675 in the 6 national journals in the field of otolaryngology between 01.01.2014 and 01.09.2019. In the distribution according to SCI journal, 141 (35.42%) were published in the International Journal of Pediatric Otorhinolaryngology. In the specified study period, no article had been accepted by the Ear and Hearing, Hearing Research and JARO – Journal of the Association for Research in Otolaryngology. In the distribution according to national otolaryngology journal, 167 (24.74%) were published in the Turkish Journal of Ear Nose and Throat, and 137 (20.29%) in the ENT Updates journal (Table 3).

When the institution of the leading author was examined, there were seen to be more articles ac-

cepted from universities (Figure 1). Of the 398 articles in the field of otolaryngology in SCI journals, 204 (51.25%) were from universities, 113 (28.39%) from training and research hospitals, 35 (8.79%) from state hospitals, 34 (8.54%) from private universities, and 12 (3.01%) from private hospitals/private practices. Of the 675 articles in national otolaryngology journals, 252 (37.33%) were from universities, 222 (32.88%) from training and research hospitals, 69 (10.22%) from state hospitals, 95 (14.07%) from private universities, and 37 (5.48%) from private hospitals/private practices.

When the articles were classified according to subject, the most articles in the field of otolaryngology in SCI journals, were seen to be on the subject of pediatric otolaryngology (154/398, 38.69%) followed by otology (n:90, 22.61%), rhinology/allergy (n:63, 15.82%), laryngology (n:33, 8.29%), head and neck (n:30, 7.53%), general otolaryngology (n:14, 3.51%), and facial plastic surgery (n:14, 3.51%). When the articles were classified according to subject in national otolaryngology journals, the most articles were seen to be on the subject of otology (196/675, 29.03%) followed by rhinology/allergy (n:159, 23.55%), head and neck (n:120, 17.77%), pediatric otolaryngology

TABLE 3: Number of articles according to journals and years (2019*: first nine months period of year).

Name of the Journal	Number of articles according to years in Science Citation Index Journals						Total
	2019*	2018	2017	2016	2015	2014	
Acta Oto-Laryngologica	5	7	11	16	12	6	57
American Journal of Rhinology&Allergy	3	3	1	16	9	10	42
Annals of Otology Rhinology and Laryngology	4	1	2	3	6	8	24
Audiology and Neuro-Otology	1	1	0	1	1	0	4
Clinical Otolaryngology	10	8	4	5	3	2	32
Dysphagia	0	0	1	0	0	0	1
Ear and Hearing	0	0	0	0	0	0	0
Head and Neck – Journal for the Sciences	1	1	3	5	6	0	16
Hearing Research	0	0	0	0	0	0	0
International Journal of Pediatric Otorhino	28	15	19	21	29	29	141
JAMA Otolaryngology-Head & Neck Surgery	0	0	2	3	0	0	5
JARO – Journal of the Association for Research	0	0	0	0	0	0	0
Laryngoscope	9	2	9	12	15	9	56
Otolaryngology – Head and Neck Surgery	0	1	0	1	0	0	2
Otology & Neurotology	2	2	2	4	2	6	18
Total Number of Years	63	41	54	87	83	70	398
Name of the Journal	Number of articles according to years in National Journals						Total
	2019*	2018	2017	2016	2015	2014	
Turkish Journal of Ear Nose and Throat	13	22	27	32	39	34	167
Turkish Archives of Otorhinolaryngology	10	28	22	20	20	16	116
Praxis of Otorhinolaryngology	22	16	14	16	12	13	93
KBB Forum- Electronic Journal of Otolaryngology – Head and Neck Surgery	37	24	18	13	12	12	116
Journal of Ear Nose Throat and Head Neck Surgery	8	12	2	7	12	5	46
ENT Updates Journal	25	26	20	24	22	20	137
Total Number of Years	115	128	103	112	117	100	675

(n:90, 13.33%), general otolaryngology (n:71, 10.51%), and laryngology (n:39, 5.77%) (Figure 2).

When the number of authors was evaluated according to the year of publication in SCI journals, there was determined to be mean 6.04 authors in 2014, 5.72 in 2015, 6.61 in 2016, 5.62 in 2017, 5.21 in 2018 and 5.07 in the first 9 months of 2019 (Figure 3). The number reached 6.61 in 2016, then gradually reduced to 5.07 in 2019. The number of authors declining after 2016 was statistically significant (paired t-test 2019-2016: $p<0.05$, 2018-2016: $p<0.05$, 2017-2016: $p<0.05$). When the number of authors was evaluated according to the year of publication in national otolaryngology journals, there was determined to be mean 5.19 authors in 2014, 5.2 in 2015, 5.18 in 2016, 4.75 in 2017, 4.52 in 2018 and 4.05 in

the first 9 months of 2019. The number of authors declining after 2016 was statistically significant (paired t-test 2019-2016: $p<0.05$, 2018-2016: $p<0.05$, 2017-2016: $p<0.05$).

Of the total 398 articles examined, 50 (12.56%) were animal studies in SCI journals. In this period, 28 of these experimental animal studies were published in the International Journal of Pediatric Otorhinolaryngology, constituting 19.85% (28/141) of all the studies published in the journal. The subjects of the animal studies were otology in 34 (68%) articles, rhinology/allergy in 7 (14%), the neck in 5 (10%), laryngology in 2 (4%) and general otolaryngology in 2 (4%). Of the total 675 articles examined, 28 (4.14%) were animal studies in national otolaryngology journals. In this period, 7 of these experimental

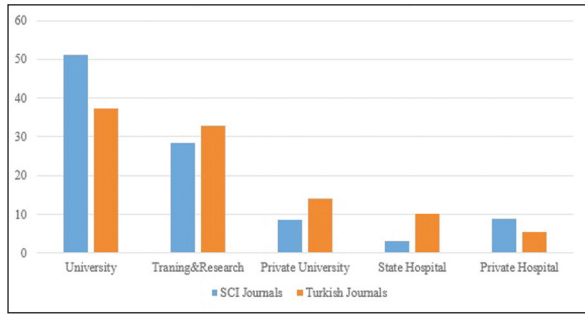


FIGURE 1: Percentage of institute of the leading author.

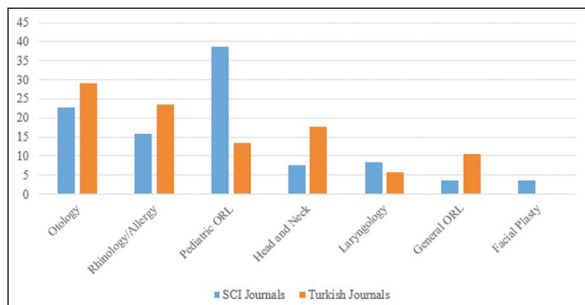


FIGURE 2: Percentage of the subjects.

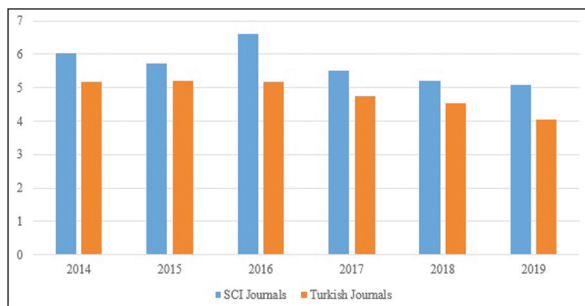


FIGURE 3: The mean number of authors according to year.

animal studies were published in the KBB Forum-Electronic Journal of Otolaryngology – Head and Neck Surgery, constituting 6.03% (7/116) of all the studies published in the journal. The subjects of the animal studies were otology in 17 (60.71%) articles, rhinology/allergy in 6 (21.42%), laryngology in 2 (7.14%), general otolaryngology in 2 (7.14%) and the neck in 1 (3.57%).

DISCUSSION

In academic progression, the publication of articles is important in respect of contributing to the presentation of science and for the motivation of the authors.^{1,2} At the stage of article preparation, authors

plan to submit the article sometimes to national and sometimes to international journals, and sometimes as a result of rejection from an international, the article is submitted to a national journal where there is thought to be a higher likelihood of publication. With the changing of the criteria for associate professorship in Turkey, as lower points are taken for national journal publication, authors submit first to international journals (Table 2). It can be seen that international journals are more weighted to articles that are more innovative, prospective, with a long follow-up period, or are at the genetic or molecular level.⁵ Articles prepared as retrospective, record scanning, clinical approaches and small case series are submitted more to national journals. While still at the conceptual stage, authors sometimes have an idea whether the article will be more appropriate for a national or international journal. There is more meticulous examination of the written language of the article, the quality of the statistics, and evaluation of the contribution to literature in international journals than in national journals.²

When evaluation was made of the number of authors, there was seen to be a statistically significant decrease in both national and international journals following the change in associate professorship criteria in December 2016. From 2014 to date, compared to national journals, there can be seen to be a higher number of authors in articles accepted by international journals, independently of the change in associate professorship criteria. In international publications the number of authors is increased as there is a need for more and different opinions in the ideas, discussion and establishing the points that will contribute to science, the inclusion of more researchers will accelerate the data collection process and contacting a large case series during follow-up, a more professional approach is required in respect of the written language and statistics, and a more scientific effort is made with the participation of other branches.

The change in associate professorship criteria pushed researchers who wanted to be able to collect more points for an article to conduct studies in a more restricted environment. By conducting studies with fewer authors, innovations engendered by different

ideas are eliminated. This excludes researchers from studies that require long-term follow-up and directs them to short-term, retrospective studies that can achieve quick results. The possibility of acceptance in SCI journals of this short-term and retrospective studies is considered low. The change in associate professorship criteria can be evaluated as having made a change in the type of studies conducted subsequently. On the other hand, the main purpose of the criteria is to perform scientific work and writing articles as a lifestyle. Decreasing the number of authors by calculating points according to the number of authors with changing criteria, ensures that participation in the study prevents the title of authorship without deserving. Multidisciplinary studies increase the scientific quality of the articles and have a positive effect on the citability. Getting higher points from the articles published in SCI journals, directs researchers to perform internationally accepted studies.

In articles published in the field of otolaryngology, university hospitals and training and research hospitals were seen to be the leading institutions with 70.21% in national journals and 79.64% in SCI journals. State hospitals and private universities and hospitals were seen to contribute more to national publications. Patients with health problems that cannot be resolved in state hospitals and private hospitals are transferred to higher level centres, which increases the range of cases in university and training and research hospitals. A range of cases helps different ideas to emerge and allows extensive case series to be formed. In addition, the experience, foresight and scientific capability of faculty members supporting the writing and publishing of articles constitute an advantage for authors.⁶

Turkish universities have not reached the desired level on the subject of publications in the field of medicine, biology and other natural sciences, and according to the Nature Index published in Nature journal, of the total 60,473 articles published in 2018, had a share of only 1.16/1000 with 70 articles published (<https://www.natureindex.com/annual-tables/2018/institution/academic/nature-science/countries-Turkey>). When otolaryngology is considered specifically, in an evaluation by Saunders et al, Turkey was in 10th place in the classification of the number of ar-

ticles, and in 18th place in respect of the impact factor of the articles published.⁶

The publication of most articles in SCI journals in the International Journal of Pediatric Otorhinolaryngology has led to a weighting in the field of pediatric otolaryngology. When subgroups are examined within pediatric otolaryngology, there is seen to be weighting in otology.⁷⁻¹⁰ In the national otolaryngology journals, otology is the leading subject followed by rhinology. Evaluation of the 100 most cited otolaryngology articles published from Turkey showed that they were predominantly otology.⁴ As the field of otology within otolaryngology includes diseases for which the etiology and treatment has still not been clearly resolved, this has attracted the attention of researchers. Areas open for development such as congenital and acquired hearing losses, ototoxicity, tinnitus, dizziness, facial nerve diseases, and cochlear implant and newly developed endoscopic ear surgeries have led to an intensification in the field of otology. When diseases encountered in daily practice are evaluated, otolaryngology practice is generally formed of otological and rhinological diseases.¹¹⁻¹⁵ There are very few articles in the fields of laryngology and facial plastic surgery in national otolaryngology journals and this has directed authors on these subjects to SCI journals.

There can be seen to be a tendency towards SCI journals in the authors of articles on animal research. These studies, which have high scientific value, often show a multidisciplinary approach with the participation of pathology, histology-embryology, biochemistry and audiology departments. The inclusion of different departments increases the number of authors, and this increased number of authors directs the authors to international journals because of the expectation of points in respect of the associate professorship criteria. There can be seen to have been an intensification of animal studies in the field of otology in both national and international journals. Studies made on ototoxicity and hearing form the basis of animal studies. The costs, ethical approval process and accessibility to animal laboratories has led to these type of studies being conducted more in universities. The support of research funds in state and

private universities enables this scientific contribution in the field of otolaryngology.

There were some limitations to this study. A 6-year period was examined, as 3 years before and 3 years after the change in associate professorship criteria. Examination of a longer period may provide clearer results in the field of otolaryngology. Evaluation was made in the study of 6 national and 16 SCI-screened journals in the field of otolaryngology. Journals of other branches, SCI-expanded journals and general medical journals were not included, and any articles in the field of otolaryngology in those journals were not evaluated.

CONCLUSION

The change in associate professorship criteria caused a decrease in the number of authors of articles in both national and international journals. Science requires teamwork and the resulting different ideas and different points of view increase the quality of articles. Universities and training and research hospitals are at the forefront as the institutions contributing to science. Otolaryngology is the area attracting the most attention of authors. Researchers conduct-

ing experimental animal studies tend towards international journals as they are multidisciplinary studies of scientific value.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

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: Mert Cemal Gökgöz, Hamdi Taşlı, Ömer Karakoç; **Design:** Mert Cemal Gökgöz, Ömer Karakoç; **Control/Supervision:** Mert Cemal Gökgöz, Ömer Karakoç; **Data Collection and/or Processing:** Mert Cemal Gökgöz, Hamdi Taşlı; **Analysis and/or Interpretation:** Mert Cemal Gökgöz, Hamdi Taşlı, Ömer Karakoç; **Literature Review:** Mert Cemal Gökgöz, Hamdi Taşlı; **Writing the Article:** Mert Cemal Gökgöz, Hamdi Taşlı; **Critical Review:** Ömer Karakoç.

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