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Publication Patterns of Ophthalmology Residency Dissertations in Turkey

Huseyin Bayramlar, Remzi Karadag, Ayse Yagmur Kanra Gurturk, Ayse Ocal, Yasar Dag, Unsal Sari

ABSTRACT

To investigate the frequency of converting a residency dissertation to a journal article in Turkey. To compare the different residency programs and their publications rates; to sub classify of dissertations according to sub-specialties. Ophthalmologists who graduated before 2010 conducted surveys. The surveys questions included graduation year, residency program, topic of the dissertations, type of the study (prospective, retrospective, or experimental), publication rate from the dissertations, and type of journal for published dissertations. Three-hundred-eight ophthalmologists conducted surveys. Fifty seven (18.5%) dissertations were published in SCI-Expanded Indexed journals (39 of them (23%) from the university hospital programs and 17 of them (13%) from state hospital programs (p=0.036)) and 97 of dissertations were published in national journals. 92 of 170 (54%) dissertations from the university based residency programs and 59 of 131 (45%) dissertations from the state hospital based residency programs were published in national journals or international journals indexed in the SCI-Expanded Index (p=0.17). A publication rate from dissertations was similar between big city university programs and small city university programs (23.3%; 22.6%). The most frequently studied topics of dissertations were cataract-refractive surgery (21.5%), followed by retina (21%), glaucoma (21%), cornea-anterior segment (19%), and strabismus (7%). Of the study design, 57% of them were prospective, 32% were retrospective, and 10.5% were experimental study. In this study, it seems to be that lesser than one fifth of Ophthalmology Residency dissertations in Turkey converted to journal articles in SCI-Expanded journals. It is obvious that the overall quality of the dissertations was inadequate to be published in indexed journals and it is necessary to take some measures to increase the scientific quality.

Key words: *Ophthalmology, residency, these, education*

Ülkemizde Göz İhtisas Tezlerinin Makaleye Dönüşme Sıklığı

ÖZET

Ülkemizde Göz Hastalıkları ihtisas tezlerinin makaleye dönüşme sıklığının araştırılması. Bu bağlamda ihtisas verilen yıllar boyunca ve ihtisas veren kurumlar arasında karşılaştırma yapılması; tez konularının alt dallara dağılımının ve dizayn şekillerinin incelenmesi. 2010 yılı ve öncesinde ülkemizde göz hastalıkları ihtisasını tamamlayan hekimler üzerinde anket yapıldı. Katılımcılara ihtisas yılı, kurumu, tez konusunun hangi dalda olduğu, prospektif mi, yoksa geriye doğru tarama şeklinde mi olduğu, tezin yayına dönüşüp dönüşmediği, yayın olduysa SCI-Expanded kapsamındaki bir dergide olup olmadığı soruları soruldu. Üçyüzsekiz göz hastalıkları uzmanına ulaşıldı. 57 tezin (%18.5) SCI-Expanded kapsamındaki dergilerde makale olarak yayınlandığı (39'u üniversite(%23), 17'si eğitim-araştırma hastanesi tezi (%13); p=0.036), 97 tezin (%31.5) diğer yurt içi hakemli dergilerde makale olduğu gözlendi. Üniversite ihtisaslarında 92/170 (%54), eğitim-araştırma hastanelerinde ise 59/131 (%45) tez, SCI-Expanded kapsamı dışındaki ulusal dergilerde makale olarak yayınlanmıştı (p=0.17). Türkiye'nin 3 büyük şehrindeki köklü üniversiteleri ile diğer illerin üniversitelerinde tezlerin yayına dönüşme oranı aynı bulundu (%23.3, %22.6). Tez çalışmalarının sıklık sırasıyla en fazla 1.katarakt-refraktif cerrahi (%21.5), 2. retina(%21), 3. glokom (%21), 4. kornea-ön segment(%19), ve 5. şaşılık (%5) alt başlıklarında yapıldığı görüldü. Çalışma dizaynı oranları %57 prospektif, %32 retrospektif ve %10.5 deneysel çalışma idi. Ülkemizde göz hastalıkları ihtisas tezlerinin beşte birinden azının SCI-Expanded kapsamındaki dergilerde makaleye dönüştüğü görüldü. Tezlerin uluslar arası indeksli dergilerde makaleye dönüşmesi için genelde yeterli kalitede olmadığı, bilimsel kalitesinin arttırılması gerektiği görülmektedir.

Anahtar kelimeler: *Oftalmoloji, ihtisas, tez, eğitim*

Istanbul Medeniyet University School Of Medicine, Goztepe Research and Training Hospital, Department of Ophthalmology, Goztepe, Istanbul, Turkey
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Correspondence: *Hüseyin Bayramlar*
Istanbul Medeniyet University Medical Faculty, Department of Ophthalmology, Istanbul, Turkiye.
Telephone: +90 216 5709067 Cell: 90 532 5601884
E-mail: hbayramlar@yahoo.com

INTRODUCTION

Today, the most important indicator of scientific production for individuals, academic centers, and countries is the number of publications in indexed journals. Residency dissertations are one of the most important sources of scientific publications. The completion of a dissertation is obligatory for ophthalmology training at both university and state hospital programs in Turkey. However, the scientific quality of dissertation is controversial. Converting a residency dissertation to a journal article is a reliable indicator of the scientific quality of dissertation. The data on publication rate from residency dissertation is limited (1-6). In this article, we investigated the frequency of converting the ophthalmology residency dissertations to journal articles with comprehensive survey***s***.

MATERIAL AND METHOD

The study was conducted among ophthalmologists who graduated in 2010 or before. Most of the ophthalmologists participated surveys at 2012 Turkish Ophthalmology Society meetings. Rests of the ophthalmologists were contacted directly or with cell phone. The questions of surveys included graduation year, residency program, study design (prospective, retrospective or experimental), type of the journal (whether in SCI-Expanded Index or not) for published paper, and topic of dissertation. If a physician published some part of the dissertation, it was accepted as a published article. Topics of dissertations were classified into 8 groups: 1) Cataract and refractive surgery, 2) Retina, 3) Glaucoma, 4) Corneal-anterior segment, 5) Strabismus, 6) Neuro-ophthalmology, 7) Uvea, and 8) Oculoplastic surgery.

Physician name or initials were used when entering data to avoid counting the same person twice. Additional columns were added to differentiate between university or state hospital based programs, and between big city and small city universities. Answered questions in the surveys were only analyzed.

We included SCI-Expanded Indexed journals in the study since SCI-Expanded Index has been widely accepted by most of the scientists and contains of peer-review, international and respected journals. Furthermore, a publication in SCI-Expanded journals is an important criterion for academic promotions in Turkey. The impact factors were not evaluated in this study.

In this study, "SSPS 20.0 for Windows" (SPSS Inc., Chicago, Illinois) statistical program was used for statistical analyses. Non-parametric data were analyzed with non- parametric tests. Percentage (%) was used for a descriptive statistic analysis of nonparametric data. Mann-Whitney-U test was used for comperative groups analyses. A p value less than 0.05 was accepted as statistically signifincat.

RESULTS

Three hundred and eight ophthalmologists participated in completing the surveys. This number is 11.8% (308/2606) of all ophthalmologists practiced in Turkey in 2010. Half of the dissertations (%50; 154 dissertations) were converted to the journal articles. Of the articles, 57 of them were published in journals indexed in SCI-Expanded Index (39 of 57 were from the university based residency programs and 17 of 57 were from the state hospital based residency programs (p=0.036)). A type of residency program was not detected in one of the published article. Of the dissertations, 97 of them (31.5%) were published in the national journals not indexed in the SCI-Expanded Index. Ninety two of 170 dissertations from the university based residency programs and 59 of 131 dissertations from state hospital based residency programs were published in national or international journals (p=0.17). The publication rate in the journals indexed in SCI-Expanded Index from dissertations was similar between the residency programs of the older universities of three big cities and newer universities of the other cities (23.3%; 22.6%) (Table 1).

When a distribution of dissertations according to years

Table 1*. Distribution of the dissertations according to the academic institutions*

Institution Type	*SCI-E / Dissertation Ratio*	*%*
Big City University	*20/86*	*23.3*
Small City University	*19/84*	*22.6*
State Hospital	*17/131*	*13*
	Publications including SCI/ Dissertation Ratio	*Dissertation Percentage*
Big City University	*46/86*	*53.5*
Small City University	*46/84*	*54.7*
Total University	*92/170*	*54*
State Hospital	*59/131*	*45*
Total Publications	*154/308*	*50*

Note: The reason of discrepency between total number and total number of institutions was due to incomplete answers of questions in surveys by some participants.

***Table 2**. Distribution of the Publications in SCI-Expanded Journals According to Years*

Years	SCI / Dissertation Ratio	%
1985 before	0/12	0
1986-1990	3/25	12
1991-1995	6/40	15
1996-2000	14/47	30
2001-2005	17/89	19
2006-2010	17/78	22

was analyzed, the oldest dissertation was performed in 1971. After 1990s, the participants' number was dramatically increased. The publication rate per year in peer-review journals did not show remarkable change over time (around 50-60%). The rate of publication in journals indexed in SCI-Expanded Index was increased between 1995 and 2000, and then it became stable after 2000 (Tables 2, 3).

The most frequently studied topics of dissertations were cataract-refractive surgery (21.5%), followed by retina (21%), glaucoma (21%), cornea-anterior segment (19%), and strabismus (7%) (Table 4). Of the study design, 57% of them were prospective (n=158), 32% were retrospective (n=89), and 10.5% were experimental study (n=29) (Table 5).

DISCUSSION

Since the study data was collected from surveys, our results may be subjective. This condition can be seen as a deficit, but it still can be a healthy way to access accurate data. Currently, patient's satisfaction studies and quality of life assessment studies are usually conducted based on subjective surveys. We previously reported that total ophthalmic article count had been significantly increased during the period of 1990 - 2013 (7). In addition,

***Table 3**. Distribution of the dissertation/publication ratio according to years*

Years	Publication/Dissertation Ratio	%
1985 before	5/12	42
1986-1990	13/25	52
1991-1995	20/40	50
1996-2000	28/47	60
2001-2005	44/89	49
2006-2010	40/78	51

***Table 4**. Distribution of the Dissertations According to Topics*

Topic	Topic/ Total Dissertations Number Ratio	%
Cataract and Refractive Surgery	47/219	21
Retina	46/219	21
Glaucoma	44/219	20
Cornea and Anterior Segment	41/219	19
Strabismus	16/219	7
Oculoplasty	10/219	5
Uvea	8/219	4
Neuroophthalmology	7/219	3

the previous related studies generally collected their data by searching from the central data base (1, 4, 6). Although more objective data can be collected by those ways, it may cause high false negative results that may be related to several factors including 1) searching with wrong name, last name, or article name, 2) differentiation of key words and titles, and 3) presence of similar names.

Our results were similar to the previous studies involving different branches of medicine. In Salmi et al.'s study investigating 300 medicine dissertations between 1990 and 1993, 17% of them were published as an article in indexed journals (1). Twenty four percent of dissertations from two medical schools in Croatia were published in indexed journal between 1990 and 1999 (2). In Peru, 17.6% of 482 dissertations were published in indexed journals between 2000 and 2003 (5). The rate of converting a dissertation to a journal article was reported 24% in one study from Finland and was 30% (highest rate in the literature) in one study from India (4). In Özgen et al study from Turkey, the publication rate was 6.2% in journals indexed in SCI-Expanded Index among 22625 registered dissertations (6). We believe this rate did not reflect the actual rate due to high false negative results related factors that we discussed above.

***Table 5**. Distributions of the Dissertations According to Study Design*

Type	Typer/Total Dissertations Number Ratio	%
Prospective	158/276	57
Retrospective	89/276	32
Experimental	29/276	11

Our study is the first article related to ophthalmology residency dissertations. In Ozgen et al.'s study, the publication rate in journals indexed in SCI-Expanded Index from ophthalmology dissertations was 3.8% (6). The factors that causing high false negative results while searching data base may cause this low rate, we believe our rate 18.5% would be more accurate rate.

In our study, the publication rate from residency dissertations in journals indexed in SCI-Expanded Index was similar between the big city university programs and the small city university programs. However, the publication rate was higher in the university hospital residency programs than the state hospital residency programs. The publication rate of ophthalmology dissertations was increased until 2000, and then it became stable. However, the publication rate per year in peer-review journals did not show remarkable change over time (around 50-60%). The rate of publication in journals indexed in SCI-Expanded Index was increased between 1995 and 2000, and then it became stable after 2000. In addition, most of the studies were prospective and only one-tenth of the studies were experimental. We believe that if experiment opportunities increase and more grants are provided for experiments, the ratio of experimental studies will increase.

The publication rate from dissertations in indexed journals is an important indicator of scientific achievements of individuals, academic centers, and countries. Required steps should be taken in order to use this source more effectively. When the publication rate in any journals (~50%) and in SCI-Expanded indexed journals (~20%) is considered, significant time and money have been wasted during residency training. Publications from residency dissertations are not considered during academic promotions in some countries such as Turkey and India that has caused remarkable decrease in publication rate (8). Özgen et al. suggested residency option without dissertation should be offered to physicians who do not consider academic career that may help to reserve sources such as time and money (6). We do not agree their suggestion because it may damage established dissertation tradition and development of scientific and analytic thinking skills in residents. Incentive awards from government and private institutions given to published articles may increase the rate of publication from residency dissertations.

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