



# Publication rates of dissertations written in medical faculties of Turkey in the field of urology between the years 2008, and 2011, and citation analysis: A cross-sectional study

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## ABSTRACT

**Objective:** In our country, preparing dissertation is essential for the research assistants in order to complete their expertise in medicine. It is aimed to produce hypothesis for researchers via writing their dissertations, to collect data for the hypothesis established, to make the analysis and interpretation of these data, and to gain the ability for the comparison of the findings obtained with the literature. In this study, we want to investigate the publication rates and citations of urology dissertations that are written at the university hospitals in our country between 2008 and 2011.

**Material and methods:** Urology dissertations that are written at the university hospitals between 2008 and 2011 were reviewed by entering the website of Board of Higher Education Dissertation between 23-27 March 2017 and 229 dissertations were reported. The publication rates of these dissertations were analysed.

**Results:** Hundred and fourteen of 229 dissertations (49.7%) analysed were published. Of these publications, 75 (32.7%) in Science Citation Index Expanded, 24 (10.4%) in international, 15 (6.5%) are published in national indexed peer-reviewed journals. While the publication rate of 81 dissertations written in universities located in 3 metropolitan cities (Istanbul, Ankara, and Izmir) of Turkey was 50.6%, the publication rate of 148 dissertations written in remaining universities was 49.3%; and no statistically significant difference was found between the two groups (p=0.96).

**Conclusion:** Preparing dissertation is a challenging process that requires considerable effort and time. At the end of this process, it is necessary to publish the dissertation in order to have it reach more people and to contribute to the literature. Even though publication rate of dissertations written in urology at university hospitals in Turkey was at acceptable level, there have still been problems required to solve.

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## Introduction

In our country, writing dissertations is mandatory for research assistants in order to complete their expertise in medicine. The objective of demanding research workers to write dissertations is to upskill them in producing hypothesis, collection of data for the established hypothesis, analyzing, and interpreting these data, and comparing these data obtained with those of the literature. During the preparation process of dissertation, research assistant works in collaboration with a lecturer, and benefits from his/her practical experiences which also contribute to his/her future scientific life as a specialist.<sup>[1]</sup>

Writing a dissertation is an important part of specialization training, and also a serious source for production of knowledge. Publication of a dissertation makes it more accessible, and more benefitable within its scientific context.<sup>[1]</sup> Although many analyses have been conducted about dissertations produced in our country concerning various fields of specialization<sup>[1-5]</sup>, such an analysis has not been performed in the field of urology. In this study we wanted to investigate publication rates of dissertations written by the urology residents of university hospitals between the years 2008, and 2011.

## Material and methods

Between March 23, and March 27, 2017 we entered into website of Dissertation Center of Board of Higher Education (<http://tez.yok.gov.tr/UlusalTezMerkezi/>), and dissertations were screened using the term “Urology”. Dissertations ensourcing from scientific fields apart from “Urology” were excluded from the analysis. A total of 229 dissertations written in the field of urology in university hospitals were included in the study. The medical centers where these dissertations were written, date of writing, and their subject matter were recorded. Dissertations were classified based on the type of the study as laboratory (animal, cadaver or embryo), and clinical studies (prospective, retrospective). Publication rates of dissertations were analyzed by screening databases of PubMed, Turkmedline, Google Scholar, Science Citation Index Expanded (SCI-E). Publication date of the dissertation, and the database (national, international or SCI-E-indexed) where it was published, number of citations it received, and the first names of the publications were recorded.

Our study was written in compliance with the principles of World Medical Association of Helsinki Declaration, and since our paper is a review article on dissertations, theses, and publications, ethics committee approval was not obtained.

### Statistical Analysis

For statistical analysis Statistical Package for Social Sciences (SPSS Inc.; Chicago, IL, USA) 16.0 program was used, and categorical data were analyzed using chi-square test. P values less than 0.05 were considered to be statistically significant.

## Results

Hundred and fourteen (49.7%) out of 229 dissertations were published. In 90 (78.9%) publications the author of the dissertation was the first name, in 15 publications (13.1%) dissertation advisor, in 9 (7.8%) publications external author were the first names. Sixty-five (28.3%) laboratory, 109 (47.5%) prospective, and 55 (24%) retrospective studies were observed. Publication rates based on the study type have been demonstrated in Table 1. Articles have been published a median of 2.8 years after writing of the dissertation.

The dissertations were published in SCI-E (n=75; 32.7%), journals indexed in international (n=24; 10.4%), and national (n=15; 6.5%) databases. The impact factor scores for each dissertation published in SCI-E, international, and national journals were 7.21 (0-33), 1.33, and 0.33, respectively.

When the dissertations were analyzed based on their subject matters, they were on prostate cancer (n=33; 14.4%), urinary system stone disease, and endourology (n=29; 12.6%), benign prostatic hyperplasia (n=20; 8.7%), bladder cancer (n=19; 8.2%), reproductive function, and dysfunction (n=18; 7.8%), pathology, physiology, and treatment of upper urinary tract (n=15; 6.5%), and erectile dysfunction (n= 13; 5.6%). Publication rates of dissertations are analyzed in Table 2. Three dissertations on the medical treatment of premature ejaculation have been published in SCI-E indexed journals, and their impact factor scores were  $\geq 30$ . Besides, all studies performed on testicular torsion were experimental studies.

More than half (50.6%) of 81 doctoral dissertations written in university hospitals of our three metropolitan cities (İstanbul, Ankara, and İzmir), and 49.3% of 148 dissertations written in the university hospitals of the remaining cities were published without any statistically significant difference between both groups (p=0.96). However, 35.8% of the dissertations written in the universities of these three metropolitan cities, and 31% of the theses produced in other cities could find a place in SCI-E indexed journals, without any statistically significant difference between these groups (p=0.56).

## Discussion

Many studies have investigated publication rates of dissertations prepared for various fields of specialization.<sup>[1-8]</sup> In these studies publication rates of dissertations vary between 6.5, and 32.7 percent. The findings of the abovementioned studies are summarized in Table 3. Some of these data were derived from Board of Higher Education database<sup>[1-3,5,6]</sup>, while some of them were gathered from the responses given by the specialists to the questions of a survey<sup>[4,8]</sup> or via phone interviews<sup>[4]</sup> We found publication rates of urology doctoral dissertations in university hospitals in Turkey as 32.7% in SCI-E indexed journals, and total publication rates in national international, and SCI-E indexed journals as 49.7 percent. Publication rates of dissertations in Peru, India, and Finland change between 17.6,

**Table 1. Publication rates of dissertations based on study types, and citation analysis**

	Number of dissertations	Publication rate, % (n)	Rates of publication in SCI-E-indexed journals % (n)	Citation score per publication
Laboratory	65	66.1 (43)	49.2 (32)	5
Retrospective	55	29 (16)	9 (5)	2
Prospective	109	68.8 (75)	34.8 (38)	6

**Table 2. Publication rates of dissertations based on the study subject, and citation analysis**

Subject	Publication rate (n)	Rates of	
		publication in SCI-E-indexed journals % (n)	Citation score per publication
Pathology, physiology, and treatment of upper urinary system diseases	53.3 (8)	33.3 (5)	2.2
Genitourinary system infections	16.6 (1)	16.6 (1)	1.1
Overactive bladder	62.5 (5)	50 (4)	1.7
Stress incontinence	40 (2)	40 (2)	3.2
Voiding function, and dysfunction	57.1 (4)	57.1 (4)	2.4
Benign prostatic hyperplasia	50 (10)	25 (5)	1
Reproductive function, and dysfunction	50 (9)	27.7 (5)	3.2
Erectile dysfunction	46.1 (6)	30.7 (4)	2
Premature ejaculation	100 (3)	100 (3)	28
Sexual function, and dysfunction (other)	33.3 (1)	33.3 (1)	1.6
Ureteropelvic junction obstruction	66.6 (4)	50 (3)	1.3
Pediatric urology, other	37.5 (3)	25 (2)	1.6
Renal tumors	33.3 (3)	11.1 (1)	1
Bladder carcinoma	57.8 (11)	36.8 (7)	3.2
Prostate carcinoma	30.3 (10)	18.1 (6)	1.3
Urinary system stone disease, and endourology	51.7 (15)	34.4 (10)	2.7
Renal transplantation	100 (3)	0	0.6
Testicular torsion	90 (9)	80 (8)	5.5
Other	53.8 (7)	30.7 (4)	1.9

and 30 percent.<sup>[9,10]</sup> When all these rates are taken into consideration, publication rates of urology doctoral dissertations are apparently at a good condition. While evaluating these rates, we think that some of these data were obtained from the publications performed before the year 2001 when academic promotion criteria of Board of Higher Education were implemented. However we only evaluated dissertations prepared between the years 2008, and 2011.

When Table 3 was examined, it appears that the number of dissertations we analyzed are comparable to those investigated in many studies performed in Turkey. Our main goal in this study was to reveal most updated results. Evaluation of a period of 4 years, allowed us to investigate a sufficiently large data pool. Evaluation of the time period before 2001 would made us move

**Table 3. Overview of the studies investigating publication rates of doctoral dissertations in various fields of medicine in Turkey**

Field of Medicine	Number of dissertations	Time interval	Publication rates
Neurosurgery <sup>[2]</sup>	164	2004-2013	18%*
Public Health <sup>[3]</sup>	538	1978-2009	11.9%#
Eye Diseases <sup>[5]</sup>	308	?-2010	18.5%*
General Surgery <sup>[6]</sup>	232	2006-2008	22%*
Medical Microbiology <sup>[7]</sup>	309	1997-2007	10.7%*
Infection Diseases <sup>[7]</sup>	266	1997-2007	10.2%*
Family medicine <sup>[8]</sup>	240	1981-2008	3.5%*
Ear, Nose, and Throat Diseases <sup>[9]</sup>	227	1990-2010	36.3%#
Urology	229	2008-2011	32.7%*
All fields of medicine <sup>[4]</sup>	22625	1980-2005	6.5%*

\*Publication rates in SCI-E-indexed journals # Publication rates in the journals indexed in international databases

away from the current situation. Scherer et al.<sup>[11]</sup> revealed that at least 5 years should pass for a study to be published. Starting from this information we haven't included data gathered after the year 2011 in our analysis.

Laboratory, and prospective studies are considered to have higher scientific value when compared with retrospective studies. Accordingly, our dissertations prepared using retrospective method had lower publication rates. In our study we observed that the great majority of the dissertations was based on prospective, and laboratory studies. In our country publications based on prospective studies should fight against many obstacles as ethics committee approval, and financial constraints. While preparing dissertations, construction of a more detailed study design appears to be an influential factor in obtaining ethics committee approval. Besides, in case of failure to obtain approval, draft of the study may be sent many times with various modifications to the ethics committee. Despite all of these attempts, the issue whether higher number of dissertations, and greater financial support from the research budget have been approved with the initiative of the ethics committee should be investigated in further studies.

Since the construction of experimental testicular torsion model is relatively easy when compared with other experimental modelling studies, in our study, all dissertations concerning testicular torsion were laboratory studies.<sup>[12]</sup> SCI-E-indexed journals have a higher scientific quality.<sup>[13]</sup> Also in our study, in support of this finding, articles published in SCI-E indexed journals had higher citation impact scores.

Although in our study publication rates of the dissertations reviewed are within acceptable levels, among these dissertations new trends in urology as robotic surgery, molecular biology, and immunohistochemical studies are strikingly scarce in number. We conceive that, publication rates, and the citation impact scores of the dissertations written and published in these fields will be relatively higher.

In our study we found comparable publication rates for doctoral dissertations written in our three metropolitan cities, and other cities. When we consider increasing number of universities in recent years, we think that the issue of whether any decline in the scientific quality of dissertations will occur should be evaluated in future studies.

During writing process of dissertation, difficulty in selecting an appropriate subject, deficiencies in the collection, and evaluation of data, overwhelming working conditions of residents which leave only restricted time for writing a dissertation, inadequate scientific support of the dissertation advisor and similar factors complicate the endeavours of the research assistant. In addition, publication of a thesis also brings many difficulties with it. In a questionnaire survey conducted with 7776 academicians, the most important barrier in publication of scientific investigations, has been revealed to be lack of time and limited skills in English.<sup>[14]</sup> Doctoral dissertation should not be considered as a formality, production of a study with scientific value carries importance both for the education of the research worker, and for its contribution to the literature. Unpublished dissertations will lead to financial loss, waste of time, and futile efforts which are important subjects of debate. In addition failure to publish studies on human subjects (pharmacological, and surgical), and experimental studies using animals, cadavers, and embryos bring ethical problems with them. When all of these factors are considered, whether or not some adjustments should be made about publication of dissertations is an apparent matter of debate.

During the publication process of the dissertation, the right to be the first name should be absolutely emphasized. In our study author of the dissertation was the first name of the publication in 78.9% of the dissertations. In previous studies, these rates were 68% for general surgery in SCI-E indexed journals<sup>[5]</sup>, and 70% in international publications in the field of public health<sup>[2]</sup> According to academic promotion criteria which were introduced in 2001, and have been used up to recent times, publications produced from doctoral dissertations had no impact on academic promotion to associate professorship. This regulation was valid for the years we examined which partially explains changes in the first name in publications. Besides, some studies have been submitted to the rectorships of universities by the project coordinators as research projects. The studies accepted may be given

to the resident by his/her advisor with the initiative of the project coordinator. Since residents make a little contribution to these types of projects, it is not surprising to see the name of the dissertation advisor as the first name on the publication. Despite all of these, displacement of the first name during the process of publication phase is widely open to abuse. We think that the efforts, and time spent by the author of dissertation should not be disregarded.

In our study we thought that publication process of doctoral dissertations in urology would take a longer time, so we only evaluated dissertations written between the years 2008, and 2011. Failure to evaluate dissertations written more recently may preclude our display of the current status.

Inadequate number of dissertations written in education and research hospitals included in Board of Higher Education database were not considered in this analysis, which precluded conduction of a more comprehensive evaluation.

As a conclusion, despite some problems encountered during writing process of dissertations in our country, publication rates of dissertations written in the field of urology are apparently at an acceptable level. Publication rates of prospective, and laboratory studies are higher relative to retrospective studies. Any difference could not be found in publication rates of the dissertations written in the universities in our three metropolitan cities, and universities in other cities.

**Ethics Committee Approval:** Authors declared that the research was conducted according to the principles of the World Medical Association Declaration of Helsinki "Ethical Principles for Medical Research Involving Human Subjects", (amended in October 2013).

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