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Research Article

Evaluation of Publishing Status of Doctoral Theses of Faculty of Medicine Department of Anatomy in Scientific Journals

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Abstract

Aim: The aim of this study was to evaluate the publication status of doctoral theses conducted by the anatomy departments of medical faculties in scientific journals.
Material and Method: In this descriptive, cross-sectional study, data were obtained retrospectively from the internet database of the National Thesis Center in the High Education Board (YÖK). A total of 148 doctoral dissertations published between 2009-2019 in the anatomy department of medical faculty were included in the study.
Results: Of the 148 theses, 82 (55.4%) were published in a journal and 66 (44.6%) were unpublished. Of the published theses, 53 (35.8%) were published in SCI/SCI-E, 3 (2%) in TÜBİTAK/Ulakbim TR index and 26 (17.6%) in other international indexes (p=.0001).
Conclusion: It was observed that the publication rate of doctoral dissertations in the anatomy department of medical faculty in Türkiye and the rate of publication as articles in journals in SCI/SCI-E were quite high.

Keywords: Anatomy, doctoral thesis, medicine of faculty

INTRODUCTION

Anatomy is the branch of science that examine the structure of the human body, organs, the location and neighborhood of these organs. The term anatomy is derived from Greek words "ana" meaning inside and "tome" meaning cutting. In Latin, it means dissection and is mostly used to mean examining a cadaver by cutting it into pieces (1). The main purpose of anatomy education is to provide the basic knowledge and skills needed (2,3). A good anatomy basis is very important for the diagnosis and treatment of diseases in the clinic. Because in order to distinguish what is pathological, it is necessary to know what is normal first. The purpose of anatomy research is to determine the standards of structures considered normal (4). Since Vesalius, who is considered the founder of anatomy, the importance of anatomy has increased and continued to develop. In parallel with the developing technology, many diversities have been provided in anatomy study areas and subjects and considerable progress has been made (5).

In addition to the contributions of these advances of science, access to education has also become easier. Postgraduate education has become widespread and has a large place in formal education (6). It is necessary to meet certain conditions to be admitted to doctoral programs, which represent the highest degree in education. Doctoral programs constitute the biggest step taken in academic terms and enable the transition to becoming a faculty member. The aim of doctoral education is to train scientists who can produce and use knowledge and solve existing problems with a productive way of thinking (3,7). Doctoral candidates are obliged to participate in a number of educational activities and write a doctoral thesis in order to achieve these determined goals. Doctoral education consists of 2 years of lesson phase and 2 years of thesis preparation. A doctoral thesis is an obligation that synthesizes information with research, interprets data, and demonstrates people's achievements (8). Thesis preparation aims to provide doctoral students with many earnings. For example, forming a hypothesis, planning a study, collecting and analyzing data, interpreting the results, and writing a scientific text are some of these purposes. It is important to convert theses into publications in terms of academic promotion and making significant contributions to

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science (9-12). According to our literature review, we have not found any study evaluating the publication of anatomy doctoral theses in our country in scientific journals.

This study aims to evaluate the publication status of doctoral theses published in scientific journals by the Anatomy Departments of medical faculties in our country between 2009 and 2019.

MATERIAL AND METHOD

This study is a descriptive and cross-sectional study and is an original research. Ethics committee approval was received for the study from Kahramanmaraş Sütçü İmam University Medical Research Ethics Committee on 08.02.2022 (protocol number 2022/06, decision number 07). The study complied with the Declaration of Helsinki.

There are 148 articles published between 2009 and 2019 in the National Thesis Center internet database of the High Education Board (YÖK) (https://tez.yok.gov.tr/UlusalTezMerkezi/), entered into the system by the anatomy departments of all medical faculties in our country. Doctoral theses from the department of anatomy at the faculty of medicine were retrospectively examined and included. Exclusion criteria include not being able to access the full or abstract of the thesis, it being published before 2009 or after 2019, being published by an institution other than the anatomy departments of the faculty of medicine in our country, and being a master's thesis or medical specialty thesis.

The publication status of the thesis was taken from PubMED Central (PMC) (https://www.ncbi.nlm.nih.gov/pubmed) and Google academic (https://scholar.google.com.tr/) databases. The author of the thesis was determined by comparing the name-surname of the thesis advisor, the Turkish and English versions of the thesis title, the article title and the article summary with the title, subject and summary of the thesis. The journals in which the theses are published are from Science Citation Index (SCI), Science Citation Index-Expanded (SCI-E), Emerging Sources Citation Index (ESCI), other international fields (PubMED, Medline, Scopus, Index Copernicus etc.), Ulakbim TR databases. It was determined by evaluating the websites of these databases and journals in which one they were included. The study topics of theses are divided into categories as animal experiments, cadaver, anthropometry, radiology and others. The institutions where the authors of the theses currently work and their titles were determined by an internet search via Google. Apart from these, the gender of the thesis authors, the number of names in the thesis article, the academic title of the current advisor during the thesis process, whether the thesis is prospective/retrospective, the publication status of the article and the publication period if published, and the national or international indexes in which the article was scanned were evaluated.

Analysis of Data

IBM SPSS version 25 (IBM SPSS for Windows version 25, IBM Corporation, Armonk, New York, United States) software was used to evaluate the data. Mean and standard deviation were determined for numerical data, and number and percentage values were determined for categorical data. Chi-square test was used for group comparisons, and $p<0.05$ was considered significant.

RESULTS

148 medical faculty anatomy department doctoral theses recorded in the YÖK national thesis center internet database between 2009 and 2019 were included in the study. Of the thesis writers included in the study 69 (46.6%) were women and 79 (53.4%) were men. 111 (75%) of the thesis advisors are professors, 32 (21.6%) are associate professor (assoc. prof.) and 5 (3.4%) are assistant professor (asst. prof.).

82 (55.4%) of the theses were published in a journal, while 66 (44.62%) were not published. Of the published theses, 53 (35.8%) were published in SCI/SCI-E, 3 (2%) in TÜBİTAK/Ulakbim TR index and 26 (17.6%) in other international indexes (P=.0001; Table 1).

40 (48.78%) of the published studies of women, 25 are in SCI/SCI-E, 1 is in TÜBİTAK-Ulakbim TR index, and 14 are in other international indexes; It was determined that 28 of the 42 (51.22%) publications belonging to men were published in SCI/SCI-E, 2 in the TÜBİTAK-Ulakbim TR index, and 12 in other international indexes. There is no statistically significant difference between where theses written by men and women were published (p=.738). It was observed that 62 (75.60%) of the 82 studies that were published were supervised by professors, 18 (21.95%) were assoc. prof., and 2 (2.45%) were an asst prof. The advisors of the 66 studies that did not turn into publications consisted of 49 (74.24%) professors, 14 (21.21%) assoc. prof., and 3 (4.55%) an asst. prof. (p=.779; Table 1).

148 doctoral theses, 40 (27%) were retrospective and 108 (73%) were prospective (p=.0001). When the methods of these thesis studies are evaluated, 40 (27%) are experimental animal models, 33 (22.3%) are cadaver studies, 11 (7.4%) are anthropometric studies, 50 (33.8%) are radiological studies and 14 (9.5%) consisted of other studies (Table 1).

111 (75%) of the theses whose advisors were professors, 32 (28.82%) were experimental, 23 (20.75%) were cadaver, 7 (6.30%) were anthropometric, and 39 (35.13%) were radiological and 10 (9%) are other studies. 32 (21.6%) of the studies whose advisor was an assoc. prof., 6 (18.76%) were experimental, 9 (28.12%) were cadaveric, 4 (12.5%) were anthropometric, and 9 (28.12%) were radiological and 4 (12.5%) were other studies. 5 (3.4%) of the studies whose advisor was an asst. prof., 2 (40%) were experimental, 1 (20%) was cadaveric, and 2 (40%) were radiological studies (p=.781).

The average time for theses to become published was determined as 2.62±1.63 (min=1, max=7) years. Of the 82 published theses, 27 (18.2%) were published after one year, 20 (13.5%) were published after two years, 12 (8.1%) were published after three years, and 10 (6.8%) were published

after four years, 8 (5.4%) after five years, 3 (2%) after six years, and 2 (1.4%) after seven years.

The average number of authors in published articles was 5.24±1.90 (min=1, max=10). Among these, 1 (7%) with one author, 5 (3.4%) with two authors, 7 (4.7%) with three authors, 17 (11.5%) with four authors, 19 (12.8%) with five authors, 10 (6.8%) with six authors, 16 (10.8%) with seven authors, 3 (2%) with eight authors, 1 (7%) with nine authors, and 3 (2%) publications with ten authors. When we look at the author's name in the published articles, 79 (53.4%) were the first name, 2 (1.4%) were the second name, and 1 (7%) was the third name.

148 of the doctoral thesis writers, 104 (70.3%) were formerly academics, 44 (29.7%) were not academics, currently 119 (80.4%) are still academics, 29 (19.6%) of them did not continue as academics.

Considering the undergraduate graduation information of the thesis owners, 17 (11.5%) were from the physiotherapy and rehabilitation department, 17 (11.5%) were from the nursing department, 52 (35.1%) were from the faculty of medicine, 17 (11.5%) were from the veterinary medicine, 35 (23.6%) were from the biology department and 10 (6.8%) were from other departments graduated.

Table 1. Evaluation of anatomy doctoral theses

Parameters		Published theses n (%)	Unpublished theses n (%)	p
Gender	Man	42 (53.16)	37 (46.84)	.557
	Woman	40 (57.97)	29 (42.03)	
Supervisor	Professor doctor	62 (75.60)	49 (74.24)	.779
	Associate professor	18 (21.95)	14 (21.21)	
	Assistant professor	2 (2.45)	3 (4.55)	
Study topics	Cadaver	21 (63.63)	12 (36.37)	.497
	Radiology	29 (58)	21 (42)	
	Animal experiment	21 (52.5)	19 (47.5)	
	Anthropometry	6 (54.54)	5 (45.46)	
	Others	5 (35.71)	9 (64.29)	
Type of journal	SCI/SCI-E	53 (35.8)	-	**.0001**
	TÜBİTAK/Ulakbim TR Index	3 (2)	-	
	Another International Index	26 (17.6)	-	

*SCI: Science Citation Index, SCI-E: Science Citation Index-Expanded, n: number, p<0.05

DISCUSSION

A good anatomy infrastructure is the basis for patient examinations in clinics, diagnosing diseases and the most accurate treatment practices. Because detect what is pathological, it is necessary to know what is normal first. Research in the field of anatomy primarily aims to reveal normally accepted standards. Thus, it will be easier to distinguish pathological ones in clinics (4). Students studying in the field of anatomy must also complete a thesis in order to fulfill these goals and graduate successfully. This study is the first to evaluate the publication of doctoral theses in the anatomy department of the faculty of medicine published in our country in scientific journals. In our study, the publication rate of theses written between 2009 and 2019 in scientific journals was determined as 82 (55.4%), and the non-publication rate was 66 (44.6%).

When the thesis studies in different fields that have been done so far are examined, it has been determined that the results evaluating the time it takes for the theses to be published vary (9,10). On the one hand, it is stated that a period of eleven years must pass from the completion date of the thesis to the publication date. On the other hand, it has been reported that this period should not exceed five years (13). Kalcioğlu et al., they found that this period was on average three and a half years (14). When we look at the studies evaluating medical specialty theses in different branches, it takes 3.15 years in the department of ear, nose and throat (ENT), 3.20 years in the department of medical pharmacology, 3.02 years in the department of medical physiology, 2.83 years in the department of psychiatry and 3.37 years in the department of anatomy (15-19). In our study, it was determined to be 2.62 years. Our results show that anatomy department doctoral theses are published earlier than specialty theses.

When the publication rates of specialty theses in different branches are evaluated, 35.6% of 368 ENT theses in 2017, 57.3% of 87 medical physiology theses in 2019, 37.4% of 910 psychiatry theses in 2020, 10.7% of 309 medical microbiology theses, 56.5% of 108 medical pharmacology theses and 64.9% of 57 anatomy theses in 2022 were published in a journal (9,15-18). In our study, 55.4% of theses, similar to physiology, pharmacology and anatomy specialty theses, were published in a journal. It was determined that the results in our study were in the middle compared to the results determined in different areas in our country.

When we examine where the specialty thesis studies in different fields published in scientific journals are published, 35.6% ENT publications of 21.4% are in international journals, 14.1% are in national journals, 11.5%

family medicine publications of 0.8% are in SCI journals, 3.1% in SCI-E journals and 7.6% in national journals, 56.5% medical pharmacology publications of 77% are in SCI/SCI-E, 14.8% in other international directories, 4.9% in the TÜBİTAK/Ulakbim TR index, 3.3% are in national peer-reviewed journals, 57.3% physiology publications of 18.3% are in SCI journals, 20.7% are in SCI-E journals, 11% are in other international indexes, 6.1% in TÜBİTAK/Ulakbim TR index, 1.2% in national peer-reviewed journals, 54.4% of anatomy publications in SCI/SCI-E, 8.8% in TÜBİTAK-Ulakbim TR index and 1.8% in other international indexes (15-17,19,20). In our study, 35.8% of the theses were published in SCI/SCI-E, 2% in TÜBİTAK/Ulakbim TR index and 17.6% in other international indexes. In our study, it is seen that the publication status of anatomy doctoral theses in SCI/SCI-E is quite high compared to family medicine, quite low compared to medical pharmacology, and similar compared to other departments.

Due to the mobility inherent in the education process, different education models are needed to keep up with the times. Successful results of changes in the education process can only be achieved if the applied education model is correct and appropriate (21). Academic research conducted in relevant departments also changes in parallel with the changes in the educational process. In a study where 57 anatomy specialty thesis topics were evaluated, it was determined that 29.7% were radiological studies, 37.8% were cadaver studies, 27% were animal experiments studies and 5.4% were anthropometry studies (19). In our study, 27% consists of experimental animal models, 22.3% cadaver study, 7.4% anthropometric study, 33.8% radiological study and 9.5% other studies. Our results show that, unlike the study conducted, radiological studies are preferred most, followed by animal experiment studies.

Many components such as the research fields of the individual receiving training, the facilities of the institution he/she studies at, and the thesis advisor he/she works with are effective in determining a thesis topic, its quality, and its transformation into publication. When the publication status of the studies according to the thesis advisors is evaluated, in a study on psychiatry specialty theses, 40.1% of 438 theses whose advisor was a professor, 31.4% of 261 theses whose advisor was an assoc. prof., 67.2% of 122 theses whose advisor was an asst. prof. It has been observed that the works of those whose thesis advisors are asst. prof.. are more likely to be published ($p<.05$) (18). In another study conducted on anatomy specialty theses, 64.3% of the theses whose advisor was a professor, 64.3% of the theses whose advisor was an assoc. prof., and all of the theses whose advisor was an asst. prof. were published (20). In our study, 75.60% of the theses whose advisor was a professor, 21.95% of theses whose advisor was an assoc. prof., and 2.45% of theses whose advisor was an asst. prof. were converted into publications. In our study, unlike studies in other fields, the advisor of the studies that turned into publications was the professor.

CONCLUSION

As a result, it has been observed that the publication rates of doctoral theses in the anatomy department of medical faculties in our country are similar to other branches of science. Most of these studies are published in SCI/SCI-E. Radiological studies are the most preferred thesis subject.

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