



Evaluation of the publication status of dissertations of the faculty of medicine anatomy department in scientific journals

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Abstract

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Aim: The aim of this study was to evaluate the publication status of medical dissertations published by the Medical Anatomy Departments of medical faculties in our country between 2007-2017 in scientific journals.

Materials and Methods: Using the research model in September 2020, the study included a total of 57 anatomy dissertations on the internet database of the National Theses Center of the Council of Higher Education, which were registered in the system by the Anatomy Departments of all medical faculties in our country between 2007 and 2017. These dissertations were analyzed and evaluated in terms of the year they were written, the institution where they were written, the academic title of the thesis advisor, the type of research of the thesis, publication status, characteristics of the publication, gender of the author and other characteristics of the authors. SPSS v.25 software was used for statistical analysis.

Results: In our study, 37 (64.9%) of the 57 anatomy dissertations written between 2007 and 2017 were published in a journal, while 20 (34.1%) were not published. Of the published dissertations, 31 (54.4%) were published in Science Citation Index (SCI)/ Science Citation Index-Expanded (SCI-E), 5 (8.8%) in Tubitak/Ulakbim TR index, and 1 (1.8%) in other international indexes ($p = 0.00$).

Conclusions: In this study, the conversion status of the medical dissertations that were written after the completion of anatomy specialty training in Turkey into publications and their publication rates in SCI/SCI-E journals as articles were quite high.



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Introduction

Anatomy is a branch of science that generally examines the normal structure of the human body, its organs, the location of these organs and the relationship between them [1]. The goal of anatomy training is to teach the basic subjects of medical anatomy, to gain the basic knowledge and skills required to conduct research.

Medical specialty training is a postgraduate education program conducted by universities and training and research hospitals that empowers medical doctors to gain specific knowledge and skills in their fields of interest [2, 3]. The goal of postgraduate education is to educate scientists who can produce, use, criticize and solve the current problem with a productive way of thinking [3, 4]. In addition to providing the person with the knowledge, attitude and skills specific to his/her field of specialty, postgraduate education should be aimed at gaining technical competencies of

research, scientific attitudes and behaviors to be adopted especially when writing a thesis [3]. Writing a thesis is mandatory for completing postgraduate education in the world and in our country. Dissertations also offer the research assistant a great opportunity as a scientific research step [5]. Considering that the research skills, analytical and organizational skills learned while writing a dissertation will serve the residency candidates for a lifetime, the importance of writing and publishing a thesis considerably increases [6]. Conversion of a dissertation into publication is the last and most important step of the scientific method [7]. Organizing the data obtained as a result of the study and sharing them in academic and scientific journals or through publication channels such as books, panels and symposiums are very important for the completion of the study and making the information usable [8].

When we evaluate the situation in our country, it is mandatory for the specialist candidates who receive anatomy specialty training in medical faculties to conduct a thesis study in order to complete the training process. The thesis preparation process aims to provide the candi-

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date with many skills such as creating a hypothesis, designing a study to prove the hypothesis, collecting data, analyzing data, interpreting results, and writing a scientific text. Converting theses into publications is an important step in terms of contributing to science and academic promotion [9-12].

According to our literature reviews, we did not find any study evaluating the publication status of medical anatomy dissertations in scientific journals. The aim of this study was to evaluate the publication status of medical dissertations published by the Medical Anatomy Departments of medical faculties in our country between 2007-2017 in scientific journals.

Materials and Methods

In this descriptive cross-sectional study, the research model was used to evaluate the publication status of the anatomy dissertations in scientific journals. All steps of the study were conducted in accordance with the basic principles of the Declaration of Helsinki. The study was conducted by obtaining the approval with the protocol number of 295 from the Clinical Research Ethics Committee of Kahramanmaraş Sutcu Imam University, Faculty of Medicine.

The study included a total of 57 anatomy dissertations on the internet database of the National Theses Center of the Council of Higher Education (<https://tez.yok.gov.tr/UlusalTezMerkezi/>) in September 2020, which were registered in the system by the Anatomy Departments of all medical faculties in our country between 2007 and 2017. Considering that the conversion period of the dissertation into publication may be prolonged, dissertations published between 2018-2020 were not included in the study.

Whether the dissertation was converted into a publication or not was determined by comparing the title and abstract of the article with the title, subject and abstract of the dissertation using the dissertation author's and advisor's name and surname, and Turkish and English of the dissertation title through the database of Google academic (<https://scholar.google.com.tr/>) and PubMed Central (PMC) (<https://www.ncbi.nlm.nih.gov/pubmed>). Publications determined to be derived from the dissertations as articles published with the title, full text, abstract or author names were not evaluated. Which of the 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 database included the journals that published these dissertations was revealed by examining the internet sites of these databases and journals. Whether the physicians who wrote the dissertations were working as medical anatomists or in another field and the institutions where they were currently working was determined by internet browsing. The gender of the dissertation author, the institution where the author was currently working, the status of continuing professional life in the department of anatomy, the name order of the dissertations author in the publication, the academic title of the thesis advisor when the thesis was registered in the system, whether the dissertation was a clinical or animal

experiment, whether the dissertation was retrospective or prospective, the publication status of the article, the national or international index, if the article was published, and the time to the publication of the dissertation were evaluated.

Dissertations of the medical faculty anatomy departments not located in Turkey, the publication of the current dissertation in any year other than between 2007-2017 years, and studies that were a master's or Doctor of Philosophy (PhD) thesis were determined as exclusion criteria.

Statistical analysis methods

The IBM SPSS Statistics 25.0 program was used in the analyses. The Chi-square test was used to evaluate categorical data. Numerical data were presented as mean \pm standard deviation, and categorical variables as numbers and percentages. A p-value of < 0.05 was considered statistically significant.

Results

Of the authors of the dissertations included in the study, 28 (49.1%) were female and 29 (50.9%) were male. Thesis advisors consisted of 28 (49.1%) professors, 28 (49.1%) associate professors and 1 (1.8%) assistant professor.

Thirty-seven (64.9%) of the anatomy dissertations were converted into publications and published in a journal, while 20 (34.1%) were unpublished. Of the published dissertations, 31 (54.4%) were published in SCI/SCI-E, 5 (8.8%) in Tubitak/Ulakbim TR index, and 1 (1.8%) in other international indexes ($p = 0.00$). The advisors of 18 (64.3%) of the 37 studies that were published were professor, the advisors of 18 (64.3%) studies were associate professor, and the advisor of 1 (100%) study was a assistant professor doctor ($p=0.75$). Considering the advisors of 20 (34.1%) dissertations that were not published, the advisors of 10 (35.7%) dissertations were professor and the advisors of 10 (35.7%) dissertations were associate professors (Table 1).

Of the 57 dissertations, 8 (14%) were conducted retrospectively, while 49 (86%) were conducted prospectively. Considering the methods of these studies, 23 (40.4%) were cadaver studies, 17 (29.8%) were radiological studies, 13 (22.8%) animal experiments, 3 (5.3%) anthropometric measurement studies, and 1 (1.8%) was conducted as a survey study. In terms of study methods, 52.9% of the radiological studies and 100% of the cadaver studies, animal experiments, anthropometric measurements and survey studies were performed prospectively ($p = 0.00$).

Of the 28 (49.1%) dissertation studies, the advisor of which was a professor, 12 (42.9%) were cadaver studies, 7 (25%) were radiological studies, 7 (25%) were animal experiments, 1 (3.6%) was an anthropometric study; of the 28 (49.1%) dissertation studies, the advisor of which was an associate professor, 11 (39.3%) were cadaver studies, 10 (35.7%) were radiological studies, 6 (21.4%) were animal experiments, 1 (3.6%) was an anthropometric study; and 1 (1.8%) dissertation study, the advisor of which was a assistant professor doctor, was conducted as an anthropometric study ($p = 0.01$).

Table 1. Evaluation of Anatomy Specialization Theses

		Published n (%)	Not-Publishedn (%)	p
Gender	Male	20 (54.1)	11 (55)	0.58
	Female	17 (45.9)	9 (45)	
Thesis advisors	Professors	18 (64.3)	10 (35.7)	0.75
	Associate professors	18 (64.3)	10 (35.7)	
	Assistant professors	1 (100)	0	
Study type	Cadaver	14 (60.9)	9 (39.1)	0.58
	Radiology	11 (64.7)	6 (35.3)	
	Animal experimental studies	10 (76.9)	3 (23.1)	
	Anthropology	2 (66.7)	1 (33.3)	
	Survey	0	1 (100)	
Published place	SCI/SCI-E	31 (54.4)	-	0.00
	Tubitak/Ulakbim TR Index	5 (8.8)	-	
	Other international indexes	1 (1.8)	-	

SCI: Science Citation Index, SCI-E: Science Citation Index-Expanded

The mean time to conversion of the dissertations into publication was 3.37 ± 1.84 years. Of the 37 published dissertations, 2 (3.5%) was converted into publication one year later, 12 (21.1%) two years later, 11 (19.3%) three years later, 4 (7%) four years later, 3 (5.3%) five years later, 3 (5.3%) six years later, 1 (1.8%) seven years later, and 1 (1.8%) was converted into publication ten years later.

The mean number of authors in the published articles was 5 ± 0.35 . Among these, there were 4 (7%) publications with two authors, 10 (17.5%) publications with three authors, 2 (3.5%) publications with four authors, 5 (8.8%) publications with five authors, 6 (10.5%) publications with six authors, 4 (7%) publications with seven authors, 5 (8.8%) publications with eight authors, and 1 (1.8%) publication with ten authors. Considering the author order of the dissertations in the published articles, 31 (54.4%) were the first author, 3 (5.3%) were the second author, 2 (3.5%) were the third author, 1 (1.8%) was the fourth author.

When 37 articles published in a scientific journal were analyzed, it was found that 31 (54.4%) were published in SCI/SCI-E, 5 (8.8%) in Tubitak-Ulakbim TR index, and 1 (1.8%) in the other international indexes. The number of articles published in other international indexes was statistically significantly lower than those published in SCI/SCI-E and Tubitak Ulakbim TR index. ($p = 0.00$; Table 1). Of the 17 (45.9%) published studies belonging to female authors, 14 were published in SCI/SCI-E, 3 in the Tubitak-Ulakbim TR index; of the 20 (54.1%) publications belonging to male authors, 17 were published in SCI/SCI- In E, 2 in the Tubitak-Ulakbim TR index, and 1 in other international indexes. There was no statistically significant difference between the places of publication of the dissertations written by female and male authors ($p = 0.64$). The advisors of 18 (64.3%) of the 37 published studies were professor, the advisors of 18 (64.3%) studies were associate professors, and the advisor of 1 (100%) study was a assistant professor doctor. Considering the advisors of 20 (34.1%) unpublished dissertations, the advisors of 10 (35.7%) dissertations were professor doctors and the advisors of 10 (35.7%) dissertations were associate professors ($p = 0.75$).

Of the owners of the 57 dissertations, 26 (52%) were female and 24 (48%) were male, 50 (87.7%) were still in the department of anatomy, while 6 (10.5%), 1 (16.7%) female and 5 (83.3%) male, were working as physicians in other clinical branches ($p = 0.19$). Considering the workplaces of the owners of the 57 dissertations, it was observed that 28 (49.1%) were in the same university where they still received their specialty training, and 28 (49.1%) were working in a different university or a different institution. The employment status/workplace of 1 of them (1.8%) could not be reached.

Discussion

A good anatomy background is a basic step for diagnosis and treatment required in clinics. The aim of anatomy research is to reveal the standards of structures considered as normal [13]. Anatomy residents are also obliged to participate in the educational activities determined by the department within a certain schedule in line with this purpose and to conduct a dissertation study in order to achieve expertise. This study is the first study evaluating the publication of medical dissertations published in our country in scientific journals. In our study, the publication rate of the dissertations of the Faculty of Medicine, Department of Anatomy between 2007 and 2017 in scientific journals was 64.9%, and the non-publication rate was 34.1%.

Given the studies conducted to date, it is seen that the results evaluating the time to conversion of dissertations into publication vary. While some studies have shown a period of eleven years from the end of the dissertation to the publication date [9, 10], some studies have reported that this period should be five years [14]. A study reported that the period between the submission of the article to the journal and its publication was three and a half years [15]. Considering the studies showing the publication time, Cetin et al. [16] reported the publication time as 3.15 years, Akkececi [18] as 3.02 years, Eser [17] as 3.20 (%2.34) years, and Erim et al. [19] as 2.83 years. Similar to these studies, the mean publication time was determined as 3.37 ± 1.84 years in our study.

There are studies showing that the publication rate of the field dissertations of different branches is between 6.5% and 57.3% in Turkey [9, 10, 12, 16, 20-23]. Given some of these studies, the publication rate of 368 ear-nose-throat (ENT) dissertations in 2017 was 35.6%, the publication rate of 87 medical physiology dissertations in 2019 was 57.3%, the publication rate of 910 psychiatry dissertations in 2020 was 37.4%, the publication rate of 309 medical microbiology dissertations in 2020 was 10.7%, and the publication rate of 108 medical pharmacology dissertations in 2020 was 56.5% [10, 16-19]. In our study, 64.9% of the 57 anatomy dissertations were converted into publications and published in a journal. It was observed that the results of our study were higher than those determined in different fields in Turkey.

Considering the the publication areas of different dissertations published in scientific journals are published, Cetin et al. [16] found that 21.4% of 35.6% ENT publications were in international journals and 14.1% in national journals, Ucer et al. [20] observed that 0.8% of the 11.5% family medicine publications were in SCI journals, 3.1% in SCI-E journals, and 7.6% in national journals. Eser [17] reported that of the 77% of medical pharmacology publications, 56.5% were published in SCI/SCI-E, 14.8% in other international indexes, 4.9% in Tubitak Ulakbim TR index, and 3.3% in national peer-reviewed journals, while Akkececi [18] reported that of the 57.3% of physiology publications, 18.3% were published in SCI journals, 20.7% in SCI-E journals, 11.0% in other international indexes, 6.1% in Tubitak Ulakbim TR index, and 1.2% in national peer-reviewed journals. Considering the publication areas in our study, 54.4% were published in SCI/SCI-E, 8.8% in Tubitak-Ulakbim TR index, and 1.8% in other international indexes. In our study, even if the publication status of anatomy dissertations in SCI/SCI-E was much higher than those of ENT and family medicine, it was lower than that of medical pharmacology. Nevertheless, the fact that anatomy publications are mostly included in SCI/SCI-E shows that the studies conducted in our country are of high quality. However, the impact factors of the published journals were found to be quite low, with an average of 1.592 (max: 4.483-min: 0.363). This is not due to the low quality of publication of the theses, but to the low impact value of journals in direct anatomy and morphology compared to the journals in fields such as pharmacology, internal medicine surgery, and biology. Therefore, the low number of citations comes to the fore as the main result of journals' low impact factors.

The success of the change in the educational process is possible with the accuracy and appropriateness of the used educational models [24]. Given the methods used by the studies in the field of anatomy, we found that cadaver studies were the most commonly performed studies and these studies were also mostly published. Of the 57 dissertations, 64.9% were published, and of these, 37.8% were cadaver studies, 29.7% were radiological studies, 27% were animal experiments, and 5.4% were anthropometric studies. Cetin et al. [16] and Eser [17] stated that the publication rate of animal experiment studies was quite high (respectively; %78.7; %37.7). Similarly, in our study, animal experiment study was considerably in demand, rank-

ing third with a slight difference with radiological studies. In addition, the publication of 10 of the 13 animal experiment dissertations shows that the publication rate of these studies is high.

The interaction of many factors such as the interests of the trainee, the facilities of the institution where they received their specialty training, the thesis advisor worked with is effective in the selection, quality and publication of the dissertation. When the publication status of the studies was evaluated by the thesis advisors, a psychiatric study found that the number of dissertations was 438 and the number of publications was 176 (40.1%) for those the advisor of which was a professor, the number of dissertations was 261 and the number of publications was 82 (31.4%) for those the advisor of which was an associate professor, the number of dissertations was 122 and the number of publications was 82 (67.2%) for those the advisor of which was a assistant professor doctor, the number of dissertations was 89 and the number of publications was 28 (31.4%) for those the advisor of which was a specialist. It was observed that those with a assistant professor doctor thesis advisor converted their studies into publications more ($p < 0.05$) [19]. Unlike the study conducted in psychiatry, the advisor of 18 (64.3%) of the 37 published studies were professor, the advisor of 18 (64.3%) were associate professors, and the advisor of 1 (100%) was a assistant professor doctor in our study.

Considering the fields and institutions where the authors of dissertations are currently working, of the 108 medical pharmacology dissertation authors, 38 (35.2%) were working as faculty members in pharmacology departments of medical faculties in different universities, 49 (45.4%) as specialist physicians in various institutions, 17 (15.7%) as a specialist in private institutions, 3 (2.8%) as a specialist in different clinical branches, and 1 (0.9%) as a lecturer in different clinical branches at universities abroad. It was reported that the publication rate of those continuing as lecturers in medical pharmacology was 33 (86.8%), and the publication rate of those working as specialist physicians in various institutions was 21 (42.9%) [17]. Akkececi [18] stated that of the 82 medical physiology dissertation authors, 38 (46.3%) were faculty members in physiology departments of medical faculties of various universities, 36 (43.9%) were working as specialist physicians in various institutions, 7 (8.5%) were working as specialist physicians in clinical branches, and 1 (1.2%) was working as a physiology teacher in medical specialty exam private education institution. The publication rate of those continuing as lecturers in physiology was 73.7%, and the publication rate of those working as specialist physicians in various hospitals was 41.7%. Of the authors of the 57 dissertations in our study, 26 (52%) were female and 24 (48%) were male, 50 (87.7%) were still in the department of anatomy, while 6 (10.5%), 1 (16.7%) female and 5 (83.3%) male, were working as physicians in other clinical branches. Unlike other studies, our study results demonstrate that the rate of preferring the specialized department is quite high. Of the 50 people continuing to work as lecturers in the field of anatomy, 68% published their studies. This rate is very close to the number of publications by those continuing to work in physiology and quite higher than the number of

publications by those continuing to work in pharmacology.

Limitations

A female dissertation author could not be reached in our study. We think that this may be because the surname of the author has changed. This can be considered as the limitation of our study.

Conclusions

In conclusion, it was determined that the publication rates of the dissertations of the Department of Anatomy of the Medical Faculties in our country were high compared to other disciplines and that most of these publications were published in SCI/SCI-E, and most of those specialized in the field continued to work as lecturers in the same field. In addition, it is an indisputable fact that a disadvantageous situation will be faced in the evaluations made according to the journal impact factor of academic performance because of the overall low impact in international journals in the field of anatomy.

Ethical approval

The study was conducted by obtaining the approval with the protocol number of 295 from the Clinical Research Ethics Committee of Kahramanmaraş Sutcu Imam University, Faculty of Medicine.

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