

# A content analysis and evaluation of outcomes of specialty theses in dentistry

✉ Süleyman Kutalmış Büyük<sup>1</sup>, ✉ Recep Türken<sup>2</sup>, ✉ Serdar Akarsu<sup>3</sup>

<sup>1</sup>Ordu University, Faculty of Dentistry, Department of Orthodontics, Ordu, Turkey

<sup>2</sup>Ordu University, Faculty of Dentistry, Department of Prosthodontics, Ordu, Turkey

<sup>3</sup>Ordu University, Faculty of Dentistry, Department of Restorative Dentistry, Ordu, Turkey

**Cite this article as:** Büyük SK, Türken R, Akarsu S. A content analysis and evaluation of outcomes of specialty theses in dentistry. J Health Sci Med 2021; 4(4): 412-415.

## ABSTRACT

**Aim:** This study aimed to evaluate the characteristics of dentistry residents and their supervisors involved in the publication of dentistry specialty theses in Turkey.

**Material and Method:** The dentistry specialty theses uploaded to the Council of Higher Education (YÖK) National Thesis Centre website during 2015–2019 were researched, and 1381 theses were identified and selected.

**Results:** One thousand three hundred and forty theses were completed at state universities and 41 at foundation universities. While 477 of the theses were prepared by male residents, 904 were prepared by female residents. Four hundred eighteen of the theses were supervised by assistant professors, 413 by associate professors, and 550 by professors. Most of the theses were completed at Hacettepe University. The greatest number of theses were in orthodontics (n=341) and the fewest in oral and maxillofacial radiology (n=89). Published theses accounted for 23.4% of the total, and 15.4% were in Science Citation Index – Expanded journals.

**Conclusion:** This cross-sectional study revealed that dentistry specialty theses in Turkey contributed to national and international literature.

**Keywords:** Dentistry, graduate thesis, content analysis, article

## INTRODUCTION

In Turkey, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, periodontology, pedodontics, restorative dentistry, endodontics and prosthodontics are postgraduate programs within departments of clinical sciences in dentistry faculties. Nowadays, to receive the title of specialist dentist in Turkey, each candidate must produce a dental specialist thesis on a chosen topic under the guidance of a faculty advisor and must successfully defend the thesis before a panel of examiners.

Students specializing in dentistry are required to prepare a thesis on a subject related to their specialty training before they can take the final examination and earn the title of specialist dentist. Thesis studies help residents gain scientific research skills by creating hypotheses in subjects they are curious about and collecting and analyzing data on their chosen topics. Although thesis studies are the building blocks of graduate education, their results should also be shared with the world of science. For

this purpose, the publication of results obtained from postgraduate theses in national or international refereed journals can indicate research quality. (1-5)

This study evaluates the journal publication rates of the departments, universities, and thesis supervisors for dentistry specialty theses completed in our country between 2015 and 2019.

## MATERIALS AND METHODS

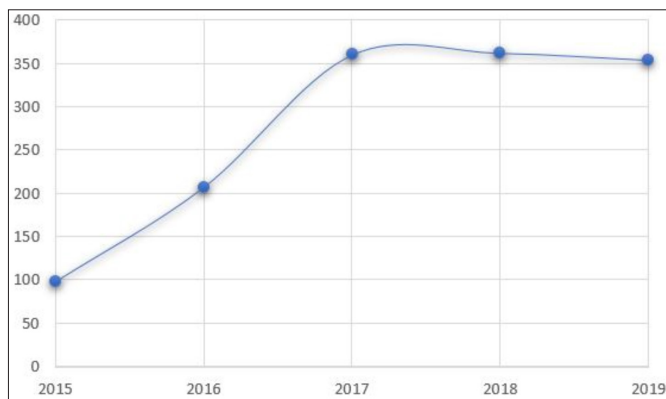
Ethics committee approval for this study was given by Ordu University Clinical Research Ethics Committee (Date: 03/09/2020, Decision No: 2020/175). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. In this study, all dentistry theses uploaded to the Council of Higher Education National Thesis Center website (<https://tez.yok.gov.tr/UlusalTezMerkezi/>) between 2015 and 2019 were researched, and 1,381 theses were identified and selected. The registration of names and information for the relevant

theses in the Higher Education Council Thesis Center was carried out by a single researcher (R.T.) in September 2020.

Next, for each thesis we evaluated its publication date, the university and department where the thesis was done, academic title of the thesis supervisor, co-advisor status, type of thesis subject, whether the thesis was published in a refereed scientific journal, length of the published article, journal index and database, and whether the thesis student is continuing his or her academic career. To this end, a thesis student, supervisor and two expert researchers (R.T. and S.A.) searched Google Scholar (<https://scholar.google.com>) and PubMed ([www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)) databases for articles produced from the related theses. For female thesis students, the search also considered potential surname changes due to marital status. If there was no match between the title of the published article and the thesis, the relevant thesis and article abstract were carefully scanned and checked.

## RESULTS

Within the scope of our study, all presentations were made between 2015 and 2019 and were successfully defended, and 1,381 dentistry specialization theses registered by YÖK Thesis Center were evaluated. While 477 theses were prepared by male students, 904 were prepared by female students. The number of dentistry specialty theses per year is shown in **Figure 1**. As is evident, the works range in length from 48 to 408 pages.



**Figure 1.** Distribution of theses by years.

Four hundred eighteen of the theses were supervised by faculty members, 413 by associate professors, and 550 by professors. Also, co-advisors participated in the supervision of 30 theses. These co-advisors consisted of 12 physician lecturers, four associate professors, and 14 professors.

Thirty-six Turkish state universities and three foundation universities produced dentistry specialty theses between 2015 and 2019 (**Table 1**). The greatest number were completed at Hacettepe University (99), followed by Ondokuz Mayıs (88) and Atatürk University (87).

**Table 1.** Distribution of theses by universities

Number	University	Number of specialty thesis in dentistry
1	Ankara Üniversitesi	47
2	Afyon Kocatepe/Afyonkarahisar Sağlık Bilimleri Üniversitesi	7
3	Aydın Adnan Menderes Üniversitesi	22
4	Akdeniz Üniversitesi	39
5	Atatürk Üniversitesi	87
6	Başkent Üniversitesi	14
7	Bolu Abant İzzet Baysal Üniversitesi	28
8	Bezmi Alem Vakıf Üniversitesi	24
9	Bülent Ecevit Üniversitesi	31
10	Cumhuriyet Üniversitesi	65
11	Çukurova Üniversitesi	40
12	Dicle Üniversitesi	43
13	Ege Üniversitesi	36
14	Erciyes Üniversitesi	31
15	Eskişehir Osmangazi Üniversitesi	25
16	Fırat Üniversitesi	1
17	GATA Üniversitesi	11
18	Gazi Üniversitesi	14
19	Gaziantep Üniversitesi	32
20	Gaziosmanpaşa Üniversitesi	26
21	Hacettepe Üniversitesi	99
22	İnönü Üniversitesi	33
23	İstanbul Üniversitesi	43
24	İzmir Katip Çelebi Üniversitesi	25
25	Karadeniz Teknik Üniversitesi	48
26	Kırıkkale Üniversitesi	54
27	Kocaeli Üniversitesi	39
28	Marmara Üniversitesi	54
29	İstanbul Medipol Üniversitesi	16
30	Necmettin Erbakan Üniversitesi	22
31	Ondokuz Mayıs Üniversitesi	88
32	Ordu Üniversitesi	33
33	Pamukkale Üniversitesi	10
34	Rize Recep Tayyip Erdoğan Üniversitesi	9
35	Sağlık Bilimleri Üniversitesi	16
36	Selçuk Üniversitesi	81
37	Süleyman Demirel Üniversitesi	71
38	Van Yüzüncüyıl Üniversitesi	16
39	Yeditepe Üniversitesi	1

The distribution of theses by department is shown in **Figure 2**. The greatest number of dentistry specialty theses were produced in orthodontics (n=341) and the fewest in oral and maxillofacial radiology (n=89). When the theses were examined according to research type, prospective-clinical and epidemiological studies were the most common (**Table 2**).

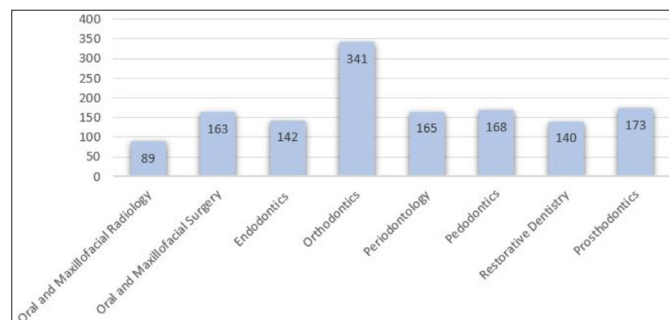


Figure 2. Distribution of the theses according to the departments.

**Table 2.** Types of research in theses.

Research type	Number
Survey study	72
Clinic-epidemiologic study	511
Animal study	60
In-vitro study	478
Radiographic and retrospective study	214
Finite element method study	46

An evaluation of the publication rate of theses found that 323 (23.4%) of the 1,381 evaluated theses had been turned into published scientific articles. The distribution of these articles according to the published indexes can be seen in Figure 3. While 15.4% of the theses were published in journals covered by Science Citation Index-Expanded (SCI-E), 4.6% were published in journals covered by TR Index. The number of published theses by department can be seen in Figure 4.

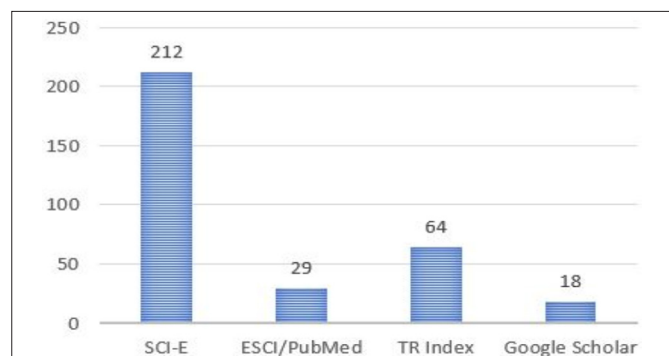


Figure 3. Distribution of the number of theses to be converted into articles in journals in national or international indexes.

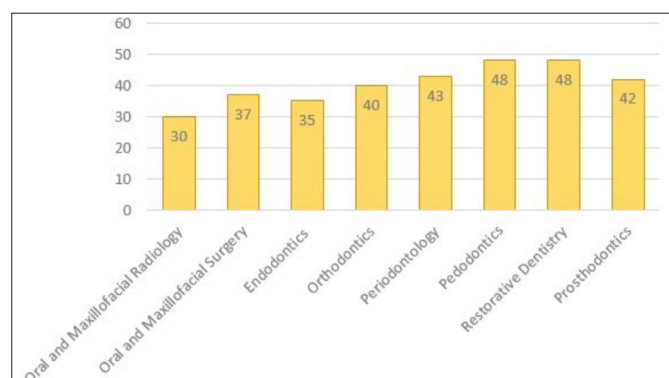


Figure 4. Distribution of the number of theses to articles according to the departments.

## DISCUSSION

The first examination for the specialization training in dentistry was held in April 2012, and those who successfully submitted their theses from the relevant departments and succeeded in their final exams earned the title of specialist dentist. In this context, the dentists who won the relevant department in April 2012, which was the first exam in our country in which specialist dentists were determined, through a central examination in the Department of Clinical Sciences, were determined as 3 or 4 years. have been. For this purpose, in this study, specialty theses in dentistry between 2015 and 2019 were evaluated (6).

Specialty theses are one of the most important parts of dentistry specialty education. The specialty thesis aims to enable the trained resident to conduct scientific research. Thus, dentists who have specialized training will learn to interpret the literature, be aware of current international developments, apply reliable treatment methods to their patients as necessary, and plan the path they will follow when designing a scientific study. In addition, they will contribute to the development level of our country by laying the groundwork for scientific studies they conduct nationally and internationally.

Our study is the first and only one to evaluate specialty theses in dentistry in Turkey. In this context, using the same standards, it is possible to compare them with the studies evaluating medical specialty theses produced in Turkey. Erim and Petekkaya (7) evaluated 910 specialty theses in psychiatry in our country between 1981 and 2018. In their study, the average rate of publication of theses was 37.7%, while the rate of publication in SCI and SCI-E index journals was 28.5%. Sipahi et al. (4) examined the publication rates of medical specialty and doctoral theses in medical microbiology, clinical microbiology and infectious diseases in international journals; they determined that 94 (11.4%) of a total of 824 theses became international publications. In our study, 323 of the 1,381 specialty theses (23.4%) were published as national or international journal articles. In a study examining specialty theses in family medicine between 1981 and 2008, 2.1% were published in journals covered by SCI-E (8). In contrast, the rate of SCI-E journal publication of theses produced in the urology departments was 32.7% (9); the corresponding rates were 18% (10) for neurosurgery and 18.5% (11) for eye diseases and surgery. In our study, 212 (15.4%) of the articles obtained from specialty theses in dentistry were published in journals covered by SCI-E.

In our study, it is instructive to evaluate the number of theses uploaded to the YÖK National Thesis Center website relative to the number of dentistry specialty theses. Although such a well-established institution as

Gazi University had over 50 residents from 2012 to 2015, the fact that only 14 dentistry theses were included in the YÖK Thesis Center's database is probably because the theses were not entered into the system by the relevant administrative staff. Even though Mustafa Kemal University has produced at least one dentistry specialty student, there is no specialist thesis in dentistry at the YÖK Thesis Center from this university. In this regard, the administrators of faculties of dentistry should follow the relevant units closely and ensure that the theses completed in their faculties are entered into the system in a timely manner.

## CONCLUSIONS

Although the total number of specialty theses in dentistry is not high, the field has yielded an encouraging output of articles in national and international journals. In order to improve the scientific level of our country by increasing the publication rate, institutions should support the academic education of specialty students to the same degree as their clinical education. Thesis advisors should closely follow the thesis preparation process of research assistants specializing in dentistry and play an important role in transforming the results of theses into internationally published articles. To this end, research assistants specializing in dentistry should devote more time to scientific research throughout their degree programs and complete their education with an academic perspective.

## ETHICAL DECLARATIONS

**Ethics Committee Approval:** This study was approved by Ordu University, Clinic Research Ethic Committee (Date: 03/09/2020, Decision No: 2020/175).

**Informed Consent:** Not applicable.

**Conflict of Interest Statement:** The authors have no conflicts of interest to declare.

**Financial Disclosure:** The authors declared that this study has received no financial support.

**Author Contributions:** All authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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