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Assessment of the Quality of Specialty and Doctoral Theses in Periodontology

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Research Article

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ABSTRACT

Objectives: Periodontology postgraduate education in Turkiye is provided through doctoral (Ph.D.) and specialty programs, both requiring the completion of a thesis. Publication and citation of thesis-derived research are recognized indicators of academic quality, yet limited data compare these programs within the same timeframe. This study aimed to evaluate and compare the quality of Ph.D. and specialty theses completed between 2015 and 2019, based on publication rates and citation performances.

Materials and Methods: A total of 299 theses (119 Ph.D., 180 specialty) archived in the National Thesis Center were examined. Thesis characteristics (year, author gender, supervisor's academic title, study design, topic, follow-up period, and evaluated parameters) were recorded. Publication status, indexing category, journal quartile, and citation counts were determined.

Results: The overall publication rate was 50.8%, with no significant difference between Ph.D. (54.6%) and specialty theses (48.3%) ($p = 0.287$). Among published theses, 70.8% of Ph.D. and 62.1% of specialty theses appeared in Science Citation Index (SCI)/SCI-Expanded journals. Citation performance, including cited publications, total citations, and mean citation rates, was also similar ($p > 0.05$ for all). Demographic and descriptive parameters, such as supervisor's academic title, study design, topic, and follow-up period did not influence publication and citation status.

Conclusions: Ph.D. and specialty theses in periodontology completed between 2015 and 2019 demonstrated comparable publication rates and citation performances, suggesting that both types of theses are of similar quality. Strengthening the dissemination of thesis-derived publications will enhance scientific visibility and support the dual mission of postgraduate periodontology training by advancing clinical expertise and fostering academic scholarship.

Keywords: Academic dissertation, publications, periodontics

Periodontoloji Alanındaki Uzmanlık ve Doktora Tezlerinin Kalitesinin Değerlendirilmesi

Araştırma Makalesi

Süreç

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ÖZ

Amaç: Türkiye'de periodontoloji alanında lisansüstü eğitim doktora ve uzmanlık programları ile yürütülmekte olup, her iki programda tez çalışması tamamlanması zorunludur. Tez çalışmalarının yayına dönüşmesi ve bu yayınların atıf alması akademik kalitenin kabul görmüş göstergeleridir, ancak bu programları aynı zaman dilimi içerisinde karşılaştıran sınırlı veri bulunmaktadır. Bu çalışmada 2015-2019 yılları arasında tamamlanan doktora ve uzmanlık tezlerinin yayın oranları ve atıf performansları karşılaştırılarak tez kalitelerinin değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntemler: Yükseköğretim Kurumu Ulusal Tez Merkezi'nde arşivlenen toplam 299 tez (119 doktora, 180 uzmanlık) incelenmiştir. Tez özellikleri (yıl, yazarın cinsiyeti, danışmanın akademik ünvanı, çalışma tasarımı, konu, takip süresi ve değerlendirilen parametreler) kaydedilmiştir. Yayın durumu, indeksleme kategorisi, dergi çeyrekliği ve atıf sayıları belirlenmiştir.

Bulgular: Genel yayın oranı %50,8 olarak bulunmuş olup, doktora (%54,6) ve uzmanlık (%48,3) tezleri arasında istatistiksel anlamlı bir fark bulunmamıştır ($p = 0,287$). Yayınlanan doktora tezlerinin %70,8'i, uzmanlık tezlerinin ise %62,1'i Science Citation Index (SCI)/SCI-Expanded kapsamındaki dergilerde yayımlanmıştır. Atıf performansı (atıf yapılan yayın sayısı, toplam atıf sayısı ve ortalama atıf oranları) her iki grup arasında benzer bulunmuştur ($p > 0,05$). Danışmanın unvanı, çalışma tasarımı, konu ve takip süresi gibi demografik ve tanımlayıcı parametrelerin yayın ve atıf üzerinde etkili olmadığı belirlenmiştir.

Sonuçlar: 2015-2019 yılları arasında tamamlanan periodontoloji alanındaki doktora ve uzmanlık tezleri benzer yayın oranları ve atıf performansları göstermiştir. Bu bulgular, uzmanlık tezlerinin doktora tezlerine kıyasla kalite açısından aşağı kalmadığını ortaya koymaktadır. Tezlerden üretilen yayınların artırılması bilimsel görünürlüğü güçlendirerek hem klinik uzmanlık gelişimini hem de akademik üretkenliği destekleyerek lisansüstü periodontoloji eğitiminin ikili misyonunu pekiştirecektir.

Anahtar Kelimeler: Tez, yayın, periodontoloji

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Introduction

Periodontology is a dynamic branch of dental science that focuses on the prevention, diagnosis, and treatment of periodontal and peri-implant diseases, as well as the maintenance of oral health and systemic health. In Turkiye, postgraduate education in periodontology is offered in two distinct programs: the doctoral (Ph.D.) program and the specialty training program in dentistry, the latter of which officially commenced in 2012. Inherently, the objectives of these programs differ substantially. The Ph.D. program primarily aims to train academics and educators, whereas the specialty training program focuses on preparing competent clinicians to meet the healthcare needs of the country.[1,2] In addition, there are fundamental differences between them, particularly regarding the duration and structure of training, the time allocated for thesis preparation, and the policies governing extension periods. Despite their distinct objectives, of both programs, the writing and successful defense of a thesis are mandatory requirements. Since 2015, both Ph.D. and specialty theses have been archived in the National Thesis Center of the Council of Higher Education (YÖK), providing a reliable resource for bibliometric and scientometric analyses.

Although postgraduate theses are not required to be publish in scientific journals,[3] their conversion into peer-reviewed articles is widely regarded as a fundamental indicator of the acceptability of the knowledge generated during the thesis within the scientific community, academic productivity and quality of research.[4-7] Theses that are not transformed into scientific publications fail to reach their full potential, as their findings cannot be effectively disseminated to the public or integrated into evidence-based practice.[8,9] Another important indicator of research quality is the number of citations a study receives.[10] Citation counts reflect academic impact, with higher rates often associated with broader visibility, dissemination, and scientific influence.[11,12]

In Turkiye, a limited number of studies have examined the theses in various dental specialties and Ph.D. programs, including orthodontics and pediatric dentistry.[13-16] However, evidence regarding the publication and citation performance of theses in periodontology postgraduate programs remains scarce. To date, only one study -conducted by Karayürek et al.[17]- has specifically evaluated theses in this field. Their analysis of theses completed between 2001 and 2020 reported that Ph.D. theses generally presented higher publication rates and citation counts compared with specialty theses. However, since specialty training in periodontology was first completed in 2015, Ph.D. theses naturally had a longer time period for publication and citation accumulation, which may have biased the comparison in favor of Ph.D. theses. Although this study also included a sub-analysis of the theses completed between 2015 and 2020, the findings remain limited, and it is still unclear whether Ph.D. and specialty theses differ in quality under comparable conditions.

The null hypothesis of the present study is that specialty theses are not of lower quality than Ph.D. theses in terms of their publication rates and citation performances. Therefore, the present study aimed to provide a more balanced comparison between Ph.D. and specialty programs by focusing exclusively on theses completed between 2015 and 2019, and to evaluate the quality of these theses through an analysis of their publication rates and citation performances.

Materials and Methods

Study Design and Data Source

This study was designed as a descriptive and comparative cross-sectional study. In the first step, Ph.D. and specialty theses in the field of periodontology were retrieved from publicly available data of the YÖK National Thesis Center (https://tez.yok.gov.tr/UlusalTezMerkezi/). To determine the theses eligible for inclusion, a search was performed using the "Detailed Search" function of the database's search panel, applying a filter for the "Department of Periodontology." Since the first graduates of periodontology specialty training were in 2015, the study period was restricted to 2015–2019 to enable a comparison between Ph.D. and specialty theses. The rationale for excluding thesis completed after 2019 is that it needs a certain amount of time for a thesis to be published and cited in its publication.

Eligibility Criteria

Inclusion criteria of the study were; i) theses classified as Ph.D. or specialty in periodontology ii) completed between 2015 and 2019, iii) registered and accessible in the YÖK National Thesis Center database. Theses completed outside the specified date range, those not registered in the database, or lacking sufficient data were excluded.

A total of 119 Ph.D. theses and 180 specialty theses were met the inclusion criteria.

Data Collection

Each thesis was obtained in PDF format, and its abstract and material-method sections were thoroughly reviewed. The following data were recorded: presentation year, supervisor's academic title, university, the study design, main subject of thesis, specific topic, number of research parameter categories evaluated, and duration of follow-up period.

Theses were categorized into six different study designs: clinical study, cross-sectional study, animal experiment, in vitro, survey study, and other.

Based on the main subject of thesis, theses were classified as: periodontal diseases/treatment, peri-implant diseases/treatment, pathogenesis, mucogingival surgery, implant treatment, wound healing/regenerative treatment, and other. Specific topics were further classified as: Laser, platelet rich fibrin (PRF), biomaterial/bioagent applications, systemic diseases/conditions relationship, surgical methods, non-surgical methods, and other.

Research parameters were grouped into five categories: clinical, radiographic, biochemical, microbial,

and histological. Then, the number of categories of different parameters assessed in each thesis was recorded. Follow-up period was categorized as: none, <3 months, 3–6 months, 6–12 months, and >12 months.

Publication status was determined by searching Web of Science (WoS), Google Scholar, PubMed, Scopus, and TÜBİTAK ULAKBİM TR Dizin databases using the author names, supervisor names, and the thesis titles in both Turkish and English. For published theses, information regarding the publication date, and indexing status, and the journal's quartile ranking (from WoS at the time of publication) was collected. Citation counts were obtained from WoS. Citation rates were calculated relative to the total number of theses, the number of theses published, and the number of theses published in WoS-indexed journals. The database screening was concluded between December 2024 and February 2025 to avoid potential bias from ongoing publication and citation changes.

Statistical Analysis

All statistical analyses were performed using the SPSS Statistics software (v.28.0, IBM Corp., Armonk, NY, USA). Categorical variables were reported as frequencies (n) and percentages (%). Numerical variables were summarized as mean, standard deviation (SD), median, minimum, and maximum values. The distribution of numerical variables was assessed using the Kolmogorov–Smirnov test, which indicated that the data did not follow a normal distribution. Therefore, comparisons between groups for numerical variables were conducted using the non-parametric Mann–Whitney U test. The Chi-square test was used to compare categorical variables between groups. The level of statistical significance was set at $p < 0.05$. When a statistically significant difference was observed in journal indexing categories, comparisons were performed using adjusted residuals with Bonferroni correction.

Table 1. Demographic and descriptive data of thesis types

		Ph.D. (n = 119)	Specialty (n = 180)	Overall (n = 299)	p
Gender	Female	64 (53.8)	125 (69.4)	189 (63.2)	0.006*
	Male	55 (46.2)	55 (30.6)	110 (36.8)	
Supervisor	Asst. Prof.	6 (5.0)	42 (23.3)	48 (16.1)	0.001*
	Assoc. Prof.	18 (15.1)	43 (23.9)	61 (20.4)	
	Prof. Dr.	95 (79.8)	95 (52.8)	190 (63.5)	
Thesis year	2015	49 (41.2)	20 (11.1)	69 (23.1)	0.001*
	2016	23 (19.3)	30 (16.7)	53 (17.7)	
	2017	15 (12.6)	43 (23.9)	58 (19.4)	
	2018	9 (7.6)	32 (17.8)	41 (13.7)	
	2019	23 (19.3)	55 (30.6)	78 (26.1)	
Study design	Clinical study	62 (52.1)	76 (42.2)	138 (46.2)	0.001*
	Cross-sectional study	24 (20.2)	74 (41.1)	98 (32.8)	
	Animal study	17 (14.3)	13 (7.2)	30 (10.0)	
	In-vitro study	9 (7.6)	11 (6.1)	20 (6.7)	
	Survey	4 (3.4)	6 (3.3)	10 (3.3)	
	Other	3 (2.5)	0 (0)	3 (1.0)	
Main subject	Periodontal diseases/treatment	32 (26.9)	49 (27.2)	81 (27.1)	0.951
	Peri-implant diseases/treatment	11 (9.2)	14 (7.8)	25 (8.4)	
	Pathogenesis	28 (23.5)	47 (26.1)	75 (25.1)	
	Mucogingival surgery	17 (14.3)	24 (13.3)	41 (13.7)	
	Implant treatment	6 (5.0)	14 (7.8)	20 (6.7)	
	Wound healing/regenerative treatment	11 (9.2)	14 (7.8)	25 (8.4)	
	Other	14 (11.8)	18 (10.0)	32 (10.7)	
Specific topic	Laser	11 (9.2)	14 (7.8)	25 (8.4)	0.001*
	PRF	10 (8.4)	12 (6.7)	22 (7.4)	
	Commercially available Biomaterial/Bioagent application	27 (22.7)	16 (8.9)	43 (14.4)	
	Systemic disease/condition relationship	26 (21.8)	57 (31.7)	83 (27.8)	
	Surgical methods	8 (6.7)	21 (11.7)	29 (9.7)	
	Non-surgical methods	6 (6.0)	27 (15.0)	33 (11.0)	
	Other	31 (26.1)	33 (18.3)	64 (21.4)	
Number of research parameter categories evaluated	1	57 (47.9)	89 (49.4)	146 (48.8)	0.069
	2	55 (46.2)	89 (49.4)	144 (48.2)	
	3	7 (5.9)	2 (1.1)	9 (3.0)	
Follow-up period	None	38 (31.9)	87 (48.3)	125 (41.8)	0.711
	<3 month	29 (24.3)	33 (18.3)	62 (20.7)	
	3-6 months	17 (14.3)	23 (12.8)	40 (13.4)	
	6-12 months	26 (21.9)	31 (17.2)	57 (19.1)	
	>12 months	9 (7.6)	6 (3.3)	15 (5.0)	

**p < 0.05; data reported as n (%). PRF; platelet rich fibrin.*

Results

A total of 299 theses were analyzed, comprising 119 Ph.D. (39.8%) and 180 specialty (60.2%) theses. Female dentist was significantly higher in specialty theses (69.4% vs. 53.8%, p = 0.006). Ph.D. theses were predominantly supervised by professors (79.8%), whereas specialty theses were more often supervised by assistant professors and associate professors (p = 0.001). The number of Ph.D. theses was higher in 2015-2016, while specialty theses in 2017-2019 (p = 0.001). Regarding study design, clinical (52.1% vs. 42.2%) and animal studies (14.3% vs. 7.2%) were more frequent in Ph.D. theses, whereas cross-sectional studies predominated in specialty theses (41.1% vs. 20.2%, p = 0.001). No significant differences were found between groups with respect to main subject of thesis, number of research parameter categories evaluated, and follow-up period (p > 0.05, for all). In terms of specific topics, Ph.D. theses focus more on biomaterial/bioagent applications, Laser, and PRF, while specialty theses emphasized systemic disease/condition relationships, non-surgical, and surgical methods (p = 0.001; Table 1).

Regarding distribution of theses across universities, a total of 37 institutions in Turkiye offered postgraduate education in periodontology between 2015 and 2019, the number of completed theses varied considerably among them (Table 2). Ph.D. theses were frequently produced at Gazi University (17.6%), Istanbul University (15.1%), and Yeditepe University (7.6%). In contrast, specialty theses were most frequently completed at Hacettepe University (8.3%), Atatürk University (7.2%), and Selçuk University (6.1%). Notably, some universities contributed exclusively to one thesis type; 18 universities produced only completed specialty theses, whereas only one university had produced exclusively Ph.D. theses.

Table 2. Completed thesis numbers by universities between 2015-2019

University	Ph.D. (n = 119)	Specialty (n = 180)	Overall (n = 299)
Abant İzzet Baysal	0 (0)	7 (3.9)	7 (2.3)
Akdeniz	0 (0)	1 (0.6)	1 (0.3)
Ankara	6 (5.0)	3 (1.7)	9 (3.0)
Atatürk	0 (0)	13 (7.2)	19 (6.4)
Başkent	0 (0)	2 (1.1)	2 (0.7)
Bezmi Alem	0 (0)	3 (1.7)	3 (1.0)
Bülent Ecevit	0 (0)	3 (1.7)	3 (1.0)
Cumhuriyet	2 (2.5)	6 (3.3)	9 (3.0)
Çukurova	0 (0)	6 (3.3)	6 (2.0)
Dicle	3 (2.5)	5 (2.8)	8 (2.7)
Ege	4 (3.4)	7 (3.9)	11 (3.7)
Erciyes	4 (3.4)	4 (2.2)	8 (2.7)
Eskişehir Osmangazi	0 (0)	1 (0.6)	1 (0.3)
GATA	1 (0.8)	2 (1.1)	3 (1.0)
Gazi	21 (17.6)	8 (4.4)	29 (9.7)
Gaziantep	4 (3.4)	5 (2.8)	9 (3.0)
Gaziosmanpaşa	0 (0)	1 (0.6)	1 (0.3)
Hacettepe	2 (1.7)	15 (8.3)	17 (5.7)
İnönü	3 (2.5)	4 (2.2)	7 (2.3)
İstanbul Aydın	0 (0)	1 (0.6)	1 (0.3)
İstanbul Medipol	0 (0)	3 (1.7)	3 (1.0)
İstanbul	18 (15.1)	4 (2.2)	22 (7.4)
İzmir Katip Çelebi	1 (0.8)	4 (2.2)	5 (1.7)
Karadeniz Teknik	3 (2.5)	6 (3.3)	9 (3.0)
Kırıkkale	3 (2.5)	5 (2.8)	8 (2.8)
Kocaeli	0 (0)	5 (2.8)	5 (1.7)
Marmara	6 (5.0)	10 (5.6)	16 (5.4)
Necmettin Erbakan	0 (0)	2 (1.1)	2 (0.7)
Ondokuz Mayıs	0 (0)	10 (5.6)	15 (5.0)
Ordu	0 (0)	7 (3.9)	7 (2.3)
Recep Tayyip Erdoğan	0 (0)	1 (0.6)	1 (0.3)
Sağlık Bilimleri	0 (0)	1 (0.6)	1 (0.3)
Selçuk	8 (6.7)	11 (6.1)	19 (6.4)
Süleyman Demirel	2 (1.7)	8 (4.4)	10 (3.3)
Trakya	0 (0)	1 (0.6)	1 (0.3)
Yeditepe	9 (7.6)	0 (0)	9 (3.0)
Yüzüncü Yıl	7 (5.9)	5 (2.8)	12 (4.0)

**p < 0.05; data reported as n (%).*

Publication rates were similar (54.6% vs. 48.3%, p = 0.287). Among the published theses, 80.0% of Ph.D. theses and 73.6% of specialty theses appeared in journals indexed in WoS (p = 0.287). A statistically significant difference was

found in the distribution of journal indexing categories (p = 0.033). For Ph.D. theses, the majority were published in Science Citation Index (SCI)/SCI-Expanded (SCIE) journals (70.8%), followed by TR Dizin (20.0%) and Emerging Sources Citation Index (ESCI) (9.2%). Specialty theses were also most frequently published in SCI/SCIE journals (62.1%), but had a slightly higher proportion in ESCI (11.5%) and in journals outside WoS coverage (9.2%). Scopus-indexed publications were only observed for specialty theses (3.4%), whereas none of the Ph.D. theses were published in Scopus journals. The calculation of adjusted residual scores and Bonferroni-corrected p-values revealed that the proportion of Ph.D. theses published in TR Dizin journals (p = 0.049) was significantly higher than that of specialty theses. Regarding quartile rankings of WoS-indexed publications, Q1 journals accounted for 39.1% of Ph.D. thesis-derived publications and 40.7% of specialty thesis-derived publications (p = 0.120). Among Ph.D. theses, 13.0% were published in Q2, 32.6% in Q3, and 15.2% in Q4 journals, whereas the corresponding specialty theses were 29.6%, 16.7%, and 13.0%, respectively (Table 3).

In terms of citation status, among the published theses, 38.7% of Ph.D. theses and 32.2% of specialty theses had received at least one citation (p = 0.253). The total number of citations from WoS-indexed journals was 580 for Ph.D. theses and 660 for specialty theses. The mean citation rate for all theses was higher for Ph.D. theses (4.87 ± 8.87; median 0, range 0–38) compared to specialty theses (3.67 ± 7.76; median 0, range 0–45), although the difference was not statistically significant (p = 0.211). When considering only published theses, Ph.D. theses had a mean citation rate of 8.92 ± 10.40 (median 4, range 0–38), while specialty theses had a mean citation rate of 7.59 ± 9.77 (median 4, range 0–45) (p = 0.439). For theses published in WoS-indexed journals, the mean citation rate was 11.15 ± 10.51 (median 7.5, range 0–38) for Ph.D. theses and 10.31 ± 10.08 (median 7, range 0–45), with no statistically significant difference between groups (p = 0.770; Table 4).

Supervisor's academic title, study design, main subject of thesis, specific topic, number of research parameter categories evaluated, and follow-up period were found to have no significant impact on the publication or citation status of theses (p > 0.05, for all; Table 5). While publication status did not differ significantly by gender, female dentists (73.1%) demonstrated a higher citation rate compared male dentists (26.9%) (p = 0.010).

Table 3. Data on the publication status of theses

	Ph.D. (n = 119)	Specialty (n = 180)	Overall (n = 299)	p
Number of theses published	65 (54.6)	87 (48.3)	152 (50.8)	0.287
Number of theses published in WOS-indexed journals	Ph.D. (n = 65) 52 (80.0)	Specialty (n = 87) 64 (73.6)	Overall (n = 152) 116 (76.3)	0.287
Journal index	Ph.D. (n = 65)	Specialty (n = 87)	Overall (n = 152)	
SCI/SCIE	46 (70.8)	54 (62.1)	100 (65.8)	
ESCI	6 (9.2)	10 (11.5)	16 (10.5)	
Scopus	0 (0)	3 (3.4)	3 (2.0)	0.033*
TR Dizin	13 (20.0)**	12 (13.8)	25 (16.4)	
Other	0 (0)	8 (9.2)	8 (5.3)	
Quartile ranking	Ph.D. (n = 46)	Specialty (n = 54)	Overall (n = 100)	
Q1	18 (39.1)	22 (40.7)	40 (40.0)	
Q2	6 (13.0)	16 (29.6)	22 (22.0)	0.120
Q3	15 (32.6)	9 (16.7)	24 (24.0)	
Q4	7 (15.2)	7 (13.0)	14 (14.0)	

**p < 0.05; data reported as n (%). **Significantly higher compared to specialty theses after Bonferroni correction (p = 0.049).*

Table 4. Data on the citation status of theses

	Ph.D.	Specialty	Overall	p
Publications received any citations in WOS	46 (38.7)	58 (%32.2)	104 (34.8)	0.253
Total number of WOS citations	580	660	1240	-
Citation rate of all theses	4.87 ± 8.87 0 (0-38)	3.67 ± 7.76 0 (0-45)	4.15 ± 8.23 0 (0-45)	0.211
Citation rate of published theses	8.92±10.40 4 (0-38)	7.59±9.77 4 (0-45)	8.16 ± 10.03 4 (0-45)	0.439
Citation rate of theses published in the WOS-indexed journals	11.15 ± 10.51 7.5 (0-38)	10.31 ± 10.08 7 (0-45)	10.69 ± 10.24 7 (0-45)	0.770

**p < 0.05; citation rates data reported as mean ± SD with median (min/max), others n (%).*

Discussion

In the present study, the quality of Ph.D. and specialty theses in periodontology was assessed based on their publication rates and citation counts. The findings demonstrated that both groups exhibited comparable outcomes, with no significant difference in either the publication or citation performance. These results support the study hypothesis, indicating that the quality of specialty and Ph.D. theses is similar.

The results of this study revealed that 54.6% of Ph.D. theses and 48.3% of specialty theses were subsequently published, with 70.8%, and 62.1% of these publications,

respectively, appearing in SCI/SCIE journals. The findings are largely consistent with those of Karayürek et al.,[17] who evaluated periodontology theses in Turkiye between 2001 and 2020. Contrary to present findings, they reported significantly higher publication rates for Ph.D. compared with specialty theses (60.54% vs. 47%) and greater proportion of publications in SCI/SCIE journals (43.6% vs. 29.48%). However, in their sub-analysis of theses completed between 2015 and 2020, no statistically significant difference was observed between Ph.D. (56.91%) and specialty theses (47%). The present study, focusing exclusively on the 2015–2019 period, supports and extends these findings by providing a more balanced comparison, showing that the quality of Ph.D. and specialty theses was similar when evaluated within an equivalent timeframe. Furthermore, present findings are consistent with those of Özkalaycı et al.,[13] who compared Ph.D. and specialty theses in orthodontics in Turkiye and found no significant differences between the groups, albeit with lower publication rates.

Table 5. The effect of demographic and descriptive parameters on the publication and citation status of theses

		Published theses (n = 152)	p	Received citation (n = 104)	p
Gender	Female	103 (67.8)	0.097	76 (73.1)	0.010*
	Male	49 (32.2)		28 (26.9)	
Supervisor	Asst. Prof.	30 (19.7)	0.161	20 (19.2)	0.488
	Assoc. Prof.	32 (21.1)		22 (21.2)	
	Prof. Dr.	90 (59.2)		62 (59.6)	
Study design	Clinical study	64 (42.1)	0.094	47 (45.2)	0.110
	Cross-sectional study	49 (32.2)		27 (26.0)	
	Animal study	22 (14.5)		16 (15.4)	
	In-vitro study	12 (7.9)		10 (9.6)	
	Survey	4 (2.6)		3 (2.9)	
	Other	1 (0.7)		1 (1.0)	
Main subject	Periodontal diseases/treatment	45 (29.6)	0.709	32 (30.8)	0.279
	Peri-implant diseases/treatment	14 (9.2)		9 (8.7)	
	Pathogenesis	39 (25.7)		26 (25.0)	
	Mucogingival surgery	20 (13.2)		17 (16.3)	
	Implant treatment	7 (4.6)		4 (3.8)	
	Wound healing/regenerative treatment	13 (8.6)		10 (9.6)	
	Other	14 (9.2)		6 (5.8)	
Specific topic	Laser	16 (10.5)	0.629	13 (12.5)	0.574
	PRF	10 (6.6)		9 (8.7)	
	Commercially available Biomaterial/Bioagent application	25 (16.4)		15 (14.4)	
	Systemic disease/condition relationship	42 (27.6)		27 (26.0)	
	Surgical methods	12 (7.9)		9 (8.7)	
	Non-surgical methods	17 (11.2)		12 (11.5)	
	Other	30 (19.7)		19 (18.3)	
Number of research parameter categories evaluated	1	66 (43.4)	0.072	50 (48.1)	0.420
	2	79 (52.0)		47 (45.2)	
	3	7 (4.6)		7 (6.7)	
Follow-up period	None	63	0.168	38	0.415
	<3 month	36 (40.4)		27 (40.9)	
	3-6 months	19 (21.3)		12 (18.2)	
	6-12 months	30 (33.7)		23 (34.8)	
	>12 months	4 (4.5)		4 (6.1)	

**p < 0.05; data reported as n (%). PRF; platelet rich fibrin.*

Citation counts—the frequency with which a study is cited in other scholarly publications—are widely regarded as the gold standard for assessing the scientific impact of a research.[18,19] In the present study, the number of cited publications, total citation counts, and mean citation rates were also similar between PhD and specialty theses. These findings are consistent with the result of the previous study,[17] indicating that, when evaluated within the same timeframe, specialty theses are not inferior to Ph.D. theses in terms of citation performance.

This study also revealed several demographic and descriptive differences between Ph.D. and specialty theses. Female authors were more frequently represented in specialty theses, reflecting the rising proportion of female in the postgraduate training. Ph.D. theses were mostly guided by professors in well-established universities, whereas specialty theses were more often supervised by associate and assistant professors, consistent with the rapid expansion of newly founded universities where specialty programs have recently been introduced. Differences also emerged in study design, largely attributable to variation in thesis preparation periods. While this timeframe can extend up to four years for Ph.D., it is a maximum of two years for a specialist program.[17] Consequently, Ph.D. theses more frequently involved clinical trials and animal studies, which require longer

preparation and follow-up, whereas cross-sectional studies predominated in specialty theses, reflecting both the shorter thesis preparation period and the clinically oriented nature of training. Moreover, Ph.D. theses more often addressed advanced topics such as laser applications, PRF, and biomaterials, which align more closely with the extended timelines of Ph.D. training.

Despite above-mentioned differences, none of these parameters had a significant impact on the publication or citation status of theses. Although professors are generally expected to produce more publications and receive higher citation counts, this anticipated advantage may have been counterbalanced by the strong motivation of junior supervisors seeking academic promotion and the relative decline in publication drive among professor who had already hold the highest academic title.[20] Moreover, this finding highlight that, to increase thesis publication rates, environmental and situational factors —such as funding availability, opportunities for collaboration, and time constraints, all of which are known to affect research productivity—[21] should be addressed during the planning phase alongside individual demographic consideration.

Importantly, the overall conversion rate of periodontology postgraduate theses into peer-reviewed articles was found to be 50.8%. Although this rate is slightly higher than those reported in other fields of dentistry,[22] it still indicates that approximately half of these theses remain unpublished and inaccessible scientific literature up to the time of data retrieval of this paper. This substantial proportion of unconverted theses represents a considerable loss of potentially valuable knowledge, which might otherwise contribute to evidence-based practice and guide future research direction.

The present study has several strengths. To author's knowledge, this is the first investigation to directly compare the quality of Ph.D. and specialty theses in periodontology within the same timeframe. By focusing exclusively on theses completed between 2015 and 2019, the study minimized bias related to differences in the length of time available for publication and citation accumulation, thereby enabling a more balanced comparison between the two programs. Furthermore, the inclusion of both demographic/descriptive parameters and bibliometric indicators allowed for a comprehensive evaluation of factors potentially influencing thesis quality. The systematic use of a single, reliable data source—YÖK National Thesis Center—ensured consistency and minimized selection bias. Nevertheless, certain limitations should be acknowledged. First, the evaluation period (2015–2019) may still be relatively short for some theses, particularly those completed closer to 2019, to reach their full publication and citation potential. Second, the analysis was limited to publication rates and citation counts, without an individual assessment of methodological quality, study rigor, or the impact factor of target journals, which may provide additional insights into research quality. Third, citation counts are dynamic and may change over time, and the analysis reflects only the snapshot at the time of data collection. In addition, citation data were obtained solely from WoS database, since citation indexed in WoS are generally considered more reliable and of higher quality compared to other sources, providing standardized and widely accepted metrics for academic impact.[23,24] Nevertheless, the inclusion of other databases such as Scopus or Google Scholar might yield higher citation counts and should be considered in future research. Finally, as the study was limited to Turkiye, the results may not be directly generalizable to postgraduate training programs in other countries with different academic structures and research cultures.

The findings of this study carry several important implications for postgraduate education and academic research in periodontology. The comparable publication and citation performances of Ph.D. and specialty theses suggest that both programs are capable of producing research of similar quality, despite their differing primary objectives. This highlights the potential of specialty training programs not only to prepare competent clinicians but also to contribute meaningfully to the scientific literature. The modest overall citation counts observed in both groups emphasize the need for strategies to improve the visibility and impact of thesis-derived publications. Encouraging publication in internationally indexed journals, promoting collaborations across institutions, and fostering training in scientific writing and research methodology may enhance both the dissemination and the quality of future research outputs.

Conclusions

This study demonstrated that Ph.D. and specialty theses in periodontology completed in Turkiye between 2015 and 2019 had comparable publication rates and citation performances, indicating that specialty theses are of similar quality to Ph.D. theses. These findings highlight the academic value of both programs and underscore the importance of timely dissemination of thesis-derived research to maximize its impact on evidence-based practice and scientific advancement.

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Conflicts of Interest Statement

The authors report no conflicts of interest related to this study.

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