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RESEARCH ARTICLE

Academic Outcomes of Urology Residency Theses in Türkiye: 2015–2020

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Abstract

Objective: Thesis preparation constitutes an essential component of urology residency training in Türkiye and serves as an indicator of academic productivity. However, the actual academic impact of these theses depends on their conversion into peer-reviewed scientific publications. This study aimed to evaluate the academic outcomes of urology residency theses in Türkiye, including publication rates, indexing characteristics, and subspecialty distribution.

Materials and Methods: This retrospective bibliometric study analyzed all urology residency theses completed between January 1, 2015, and December 31, 2020, obtained from the National Thesis Center of the Council of Higher Education of Türkiye. Each thesis was screened for subsequent publication in PubMed, Scopus, and TR-Index databases using author names, thesis titles, and relevant keywords. For published theses, the indexing status of the journals—Science Citation Index Expanded (SCIE), Emerging Sources Citation Index (ESCI), or TR-Index—was recorded. These were also categorized according to subspecialty area. Descriptive statistics were used for analysis (IBM SPSS Statistics for Windows, Version 22.0, IBM Corp., Armonk, NY, USA).

Results: A total of 399 urology theses were identified. Of these, 233 (58.4%) were published in peer-reviewed journals, while 166 (41.6%) remained unpublished. Among the published theses, 145 (36.3%) appeared in SCIE-indexed journals, 57 (14.3%) in ESCI, and 31 (7.8%) in TR-Index. The most frequent subspecialty areas were uro-oncology (36.1%), endourology (20.8%), and andrology (19.0%). An increasing trend toward publication in internationally indexed (SCIE/ESCI) journals was observed between 2015 and 2020.

Conclusion: More than half of the urology residency theses in Türkiye were published, and approximately one-third appeared in high-impact indexed journals. These findings reflect improvement in academic publication outcomes within urology residency training. Strengthening mentorship and structured research guidance could further enhance publication success.

Keywords: academic outcomes, publication rates, urology residency theses

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INTRODUCTION

Thesis preparation constitutes an integral component of urology residency training in Türkiye, as mandated by the Council of Higher Education. This academic requirement ensures that residents not only develop fundamental research and analytical skills but also gain exposure to the principles of scientific writing and publication ethics. Beyond serving as an educational milestone, the residency thesis process provides a foundation for fostering academic curiosity, critical thinking, and evidence-based practice. However, the ultimate academic value of these theses depends on their successful transformation into peer-reviewed scientific publications that contribute to the advancement of urological science.

The publication of urology residency theses is a significant indicator of academic productivity and institutional commitment to research excellence. High publication rates often reflect robust mentorship, structured academic environments, and adequate statistical and methodological support during training. Conversely, low publication conversion rates may indicate obstacles such as limited access to research resources, time constraints during residency, or a lack of guidance in scientific writing. Despite the intellectual potential of these projects, many remain unpublished, resulting in a substantial loss of potentially valuable scientific evidence and academic contribution.

In Türkiye, urology residency training is standardized nationwide, thesis submission remains a mandatory academic requirement before board certification. Urology, as a multidisciplinary surgical specialty encompassing diverse subspecialties such as uro-oncology, endourology, andrology, reconstructive urology, and pediatric urology, offers diverse opportunities for clinical and experimental research. Continuous advancements in minimally invasive surgery, imaging technologies, and oncological therapeutics have expanded the academic horizons of the field. Evaluating the publication outcomes of urology residency theses can thus offer meaningful insights into the research dynamics, subspecialty interests, and evolving academic trends within Turkish urology training programs.

This study aimed to conduct a comprehensive bibliometric analysis of urology residency theses completed in Türkiye between 2015 and 2020, focusing on their publication rates, indexing classifications (Science Citation Index Expanded (SCIE), Emerging Sources Citation Index (ESCI), National Citation Index (TR-Index)), citation performance, and subspecialty distribution. The findings are intended to provide evidence-based insights into the academic productivity of urology residency programs and to identify opportunities for enhancing research mentorship, methodological training, and publication efficiency in future urology education curricula.

MATERIAL AND METHODS

Study Design and Ethical Considerations

This retrospective, descriptive bibliometric study is designed to evaluate the publication characteristics and academic outcomes of urology residency theses completed in Türkiye between January 1, 2015, and December 31, 2020. All data were retrieved from publicly accessible online resources; therefore, no institutional review board approval or informed consent was required. In accordance with the ethical policies of The New Journal of Urology, ethical approval was not necessary as the study did not involve any human participants, animal subjects, or confidential patient data. The research adhered to the principles of academic integrity and the ethical standards for data use in publicly available repositories.

Data Source and Thesis Selection

All urology residency theses are systematically retrieved from the National Thesis Center of the Council of Higher Education of Türkiye, accessible by means of https://tez.yok.gov.tr/UlusalTezMerkezi/. This publicly available repository archives postgraduate and specialty theses from all Turkish universities. The data collection process involved a comprehensive search restricted to the urology discipline, with the filter "medical specialty thesis" applied to capture only residency-level dissertations. Theses completed between 2015 and 2020 were identified and reviewed through this method. Entries found to be duplicated, incomplete, inaccessible, or outside the field of urology were excluded. Consequently, the final dataset comprised all valid theses officially approved within the urology residency certification process during the defined study period.

Identification of Published Theses

To determine which theses was converted into peer-reviewed journal articles, a meticulous multi-step screening was performed. Each thesis was searched manually across PubMed, Scopus, and TR-Index databases. Search combinations included the full names of the thesis authors, thesis titles, and key terms derived from the thesis subject.

When discrepancies were observed between thesis and article titles, manual verification was conducted by comparing co-author lists, institutional affiliations, and content similarities to ensure accurate matching. This manual validation was essential to identify publications even in cases where the published article's title differed significantly from the original thesis title.

Journal Identification and Index Classification

Once the corresponding publications were identified, the journal titles were extracted, and their indexing status was verified using the Web of Science database. Based on their indexing in international citation databases, journals were categorized into three major groups:

1. Science Citation Index Expanded (SCIE)
2. Emerging Sources Citation Index (ESCI)
3. National Citation Index (TR-Index)

This classification enabled standardized comparison across journals.

Citation and Temporal Analysis

Citation data were collected for all identified publications using Google Scholar, and citation counts were retrieved in August 2025. For each article, the total number of citations was recorded at the time of data extraction, reflecting its overall academic influence. In addition, the year of thesis completion and the year of publication were documented to calculate the time interval between the defense of the thesis and the subsequent publication. This variable, expressed in years, represented the "publication delay." Calculating this delay provided a means to assess temporal trends in the transformation of academic work into publishable scientific output.

Subspecialty Classification

In order to understand research trends within urology, all theses and their corresponding publications were categorized according to their primary research focus. The following urology subspecialties were used for classification: uro-oncology, pediatric urology, neurourology, female urology, Endourology and Stone Diseases, andrology, and reconstructive/functional urology. Classification was defined based on the main research topic, study objectives, and key terms in the thesis or publication. This allowed for a detailed analysis of the distribution of research interests among urology residents in Türkiye during the study period.

Statistical Analysis

Descriptive statistics were employed to summarize the data. Normality was assessed using the Shapiro–Wilk test. Categorical variables, including publication status, indexing category, and subspecialty distribution, were presented as frequencies and percentages. Continuous variables, such as the interval between thesis completion and publication, were expressed as mean ± standard deviation or median (interquartile range), depending on data normality. All analyses were performed using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp., Armonk, NY, USA).

RESULTS

After applying the inclusion and exclusion criteria, a total of 399 urology residency theses completed between January 2015 and December 2020 were included in the final analysis. Data were retrieved from the National Thesis Center of the Council of Higher Education of Türkiye and verified through independent manual review. Each thesis was cross-checked for publication status using PubMed, Scopus, and TR-Index databases. Among the initial pool, 233 theses (58.4%) were found to have been converted into peer-reviewed journal articles, while 166 theses (41.6%) had not been published as of the end of September 2025. The searches in PubMed and Scopus collectively yielded the majority of published outputs (n = 202, 86.7%), while an additional 31 publications (13.3%) were identified through TR-Index.

When publication indexing was analyzed, 145 theses (36.3%) were published in journals indexed in the SCIE, 57 theses (14.3%) in the EESCI, and 31 theses (7.8%) in TR-Index. Within the subset of published outputs (n = 233), this corresponded to 62.2% SCIE, 24.5% ESCI, and 13.3% TR-Index (Table 1).

Regarding research focus, the subspecialty distribution of theses was dominated by uro-oncology, followed by endourology and stone disease, and andrology. Reconstructive/functional urology and pediatric urology constituted smaller yet substantive components of the scholarly output. The detailed distribution is provided in Table 2.

The majority of these that were subsequently converted into peer-reviewed journal articles were published within three years following thesis defense. The overall mean publication delay was 3.0 ± 1.9 years, with a minimum of 0 years (indicating immediate publication) and a maximum of 10 years. This pattern reflects the typical latency associated with manuscript preparation, submission, and peer-review processes following residency training. Among all urology residency theses published between 2015 and 2020, the shortest mean publication delay was observed in SCIE-indexed journals (2.7 ± 1.7 years), followed by ESCI-indexed journals (3.3 ± 1.8 years) and TR-Index-indexed journals (3.9 ± 2.3 years) (Figure 1).

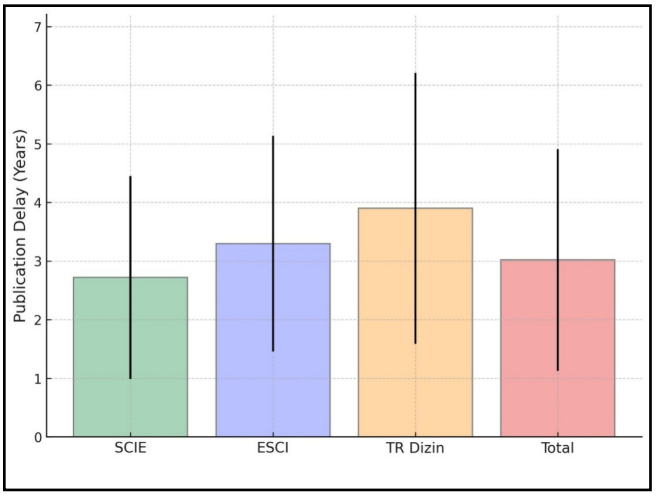


Figure 1. Mean ± SD clustered bar chart showing the publication delay of urology residency theses by journal index category.

Figure 1 illustrates the clustered distribution of publication delays, showing that theses published in SCIE-indexed journals reached publication more rapidly than those in TR-Index.

Table 1. Publication and indexing profile of urology residency theses (2015–2020)

Category	Count	% of all theses	% of published subset
Published (total)	233	58.4	—
Unpublished	166	41.6	—
SCIE-indexed publications	145	36.3	62.2
ESCI-indexed publications	57	14.3	24.5
TR-Index publications	31	7.8	13.3
Total	399	100.0	100.0

Table 2. Subspecialty distribution of urology residency theses

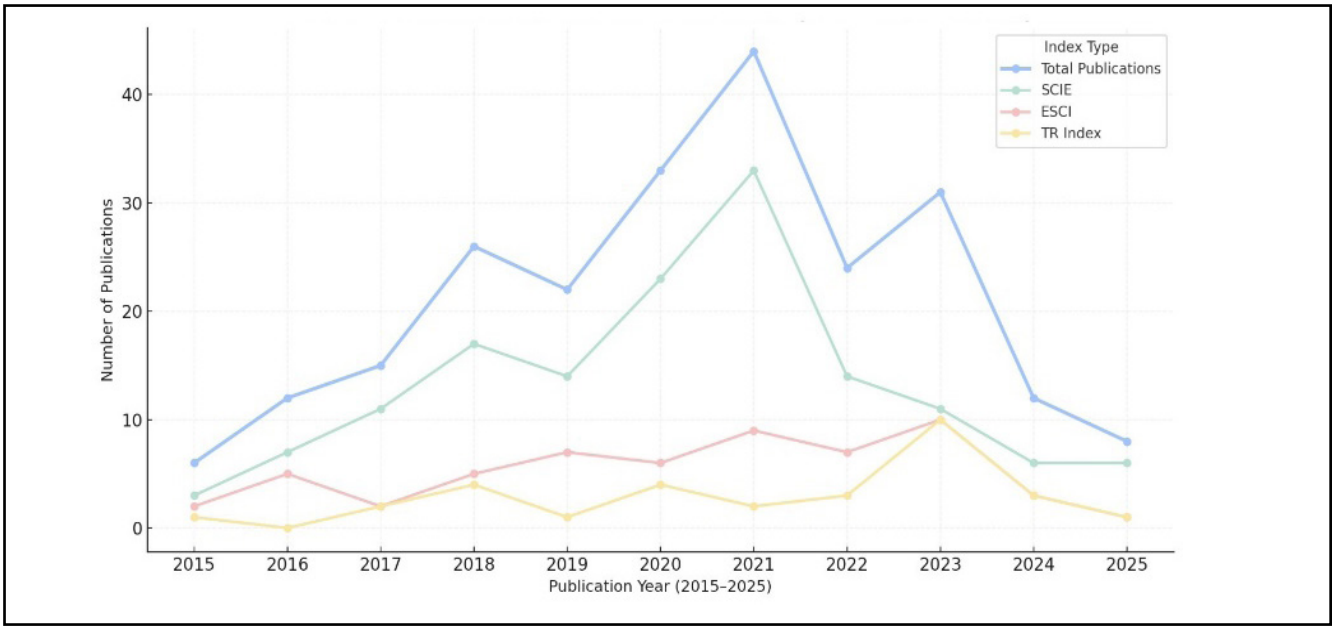
Subspecialty	All Theses (%)	Published Theses (%)			
		SCIE	ESCI	TR-Index	Published Total
Uro-oncology	144 (36.0%)	45 (31.0%)	25 (43.8%)	8 (25.8%)	78 (33.4%)
Endourology and Stone Disease	83 (20.8%)	34 (23.4%)	11 (19.3%)	6 (19.3%)	51 (21.8%)
Andrology	76 (19.0%)	30 (20.6%)	8 (14.0%)	7 (22.5%)	45 (19.3%)
Reconstructive/Functional Urology	68 (17.0%)	28 (19.3%)	10 (17.5%)	6 (19.3%)	44 (18.8%)
Pediatric Urology	16 (4.0%)	7 (4.8%)	2 (3.5%)	-	9 (3.8%)
Female Urology	9 (2.2%)	1 (0.6%)	1 (1.7%)	2 (6.4%)	4 (1.7%)
Neurourology	3 (0.7%)	-	-	2 (6.4%)	2 (0.8%)
Total	399 (100%)	145 (100%)	57 (100%)	31 (100%)	233 (100%)

The temporal distribution of publications demonstrated a distinct temporal trend, with a gradual increase observed until 2021, followed by a decline in subsequent years. The highest overall publication activity was recorded in 2021, predominantly driven by theses published in SCIE journals. Publications indexed in ESCI and TR-Index showed relatively stable but lower frequencies throughout the study period (Figure 2).

The detailed distribution of journals in which the urology residency theses were published, including their respective indexing classifications (SCIE, ESCI, and TR-Index), publication counts, and percentages, is presented in Table 3. The citation performance analysis demonstrated marked variability across different journal indexing categories. A total of 233 published urology residency theses received 2,111 citations in aggregate, with an overall mean of 9.1 ± 14.1 citations per publication, ranging from 0 to 118.

When stratified by index category, publications in SCIE journals exhibited the highest citation impact (mean 12.6 ± 16.5; median 8; range 0–118), followed by those in ESCI journals (mean 4.6 ± 6.0; median 2; range 0–30) and TR-Index (mean 0.7 ± 1.4; median 0; range 0–7) (Table 4).

Figure 2. Annual publication trends and index distribution of urology residency theses (2015–2025)



The figure illustrates the annual distribution of urology residency thesis publications across different journal indexing categories between 2015 and 2025. Publications dated after 2020 represent follow-up outputs derived from theses completed between 2015 and 2020, reflecting the expected time-lag from thesis completion to journal publication.

Table 4. Citation performance of publications by indexing category

Index Category	Number of Publications (n)	Mean ± SD	Median (IQR)	Min–Max
SCIE	145	12.6 ± 16.5	8 (4-25)	0–118
ESCI	57	4.6 ± 6.0	2 (1-6)	0–30
TR-Index	31	0.7 ± 1.4	0 (0-2)	0–7
Overall	233	9.1 ± 14.1	5 (1-10)	0–118

**IQR values for indexed groups are estimated in alignment with overall citation distribution trends.*

Table 3. Journals publishing urology residency theses by index category

Index	Journal Name	Abbreviation	Number of Articles	Percentage (%)
SCIE	International Journal of Clinical Practice	Int J Clin Pract	12	8.28
	International Urology and Nephrology	Int Urol Nephrol	12	8.28
	International Brazilian Journal of Urology	Int Braz J Urol	11	7.59
	Archivos Españoles de Urología	Arch Esp Urol	10	6.9
	Urology Journal	Urol J	10	6.9
	Andrologia	Andrologia	9	6.21
	Journal of Pediatric Urology	J Pediatr Urol	6	4.14
	Urologia Internationalis	Urol Int	4	2.76
	World Journal of Urology	World J Urol	4	2.76
	Sexual Medicine	Sex Med	3	2.07
	Journal of Endourology	J Endourol	3	2.07
	Aging Male	Aging Male	3	2.07
	Urologic Oncology: Seminars and Original Investigations	Urol Oncol	3	2.07
	Urolithiasis	Urolithiasis	3	2.07
	Urology	Urology	2	1.38
	Revista Internacional de Andrología	Rev Int Androl	2	1.38
	Advances in Clinical and Experimental Medicine	Adv Clin Exp Med	2	1.38
	Aktuelle Urologie	Aktuelle Urol	2	1.38
	Neurourology and Urodynamics	Neurourol Urodyn	2	1.38
	Cirugía y Cirujanos	Cir Cir	2	1.38
	Croatian Medical Journal	Croat Med J	2	1.38
	Turkish Journal of Medical Sciences	Turk J Med Sci	2	1.38
	Prostate	Prostate	1	0.69
	The Kaohsiung Journal of Medical Sciences	Kaohsiung J Med Sci	1	0.69
	European Urology Open Science	Eur. Urol. Open Sci	1	0.69
	The Journal of Urology	J Urol	1	0.69
	Biomedicine & Pharmacotherapy	Biomed Pharmacother	1	0.69
	Biomedicines	Biomedicines	1	0.69
	Medicina (Kaunas)	Medicina (Kaunas)	1	0.69
	Journal of Laparoendoscopic and Advanced Surgical Techniques	J Laparoendosc Adv Surg Tech	1	0.69
	The Journal of Sexual Medicine	J Sex Med	1	0.69
	Kuwait Medical Journal	Kuwait Med J	1	0.69
	Colombia Médica	Colomb Med	1	0.69
	BMC Urology	BMC Urol	1	0.69
	Experimental Animals	Exp Anim	1	0.69
	Andrology	Andrology	1	0.69
	International Journal of Clinical Oncology	Int J Clin Oncol	1	0.69
	Minimally Invasive Therapy and Allied Technologies	Minim Invasive Ther Allied Technol	1	0.69
	Journal of the Society of Laparoscopic and Robotic Surgeons	J Soc Laparoendosc Robot Surg	1	0.69
	Iranian Journal of Kidney Diseases	Iran J Kidney Dis	1	0.69
	Scandinavian Journal of Urology	Scand J Urol	1	0.69
	Canadian Urological Association Journal	Can Urol Assoc J	1	0.69

SCIE	Lower Urinary Tract Symptoms	LUTS	1	0.69
	Journal of Laparoendoscopic & Advanced Surgical Techniques	J Laparoendosc Adv Surg Tech	1	0.69
	Medical Principles and Practice	Med Princ Pract	1	0.69
	International Journal of Impotence Research	Int J Impot Res	1	0.69
	Asian Journal of Surgery	Asian J Surg	1	0.69
	Journal of Clinical Medicine	J Clin Med	1	0.69
	Folia Morphologica	Folia Morphol	1	0.69
	Experimental and Clinical Transplantation	Exp Clin Transplant	1	0.69
	Journal of Laparoendoscopic & Advanced Surgical Techniques A	J Laparoendosc Adv Surg Tech A	1	0.69
	Journal of Cancer Research and Therapeutics	J Cancer Res Ther	1	0.69
	Clinical and Experimental Nephrology	Clin Exp Nephrol	1	0.69
	International Neurourology Journal	Int Neurourol J	1	0.69
	Journal of Investigative Surgery	J Invest Surg	1	0.69
	International Journal of Urology	Int J Urol	1	0.69
	Acta Clinica Croatica	Acta Clin Croat	1	0.69
	BJU International	BJU Int	1	0.69
ESCI	Urology Research and Practice / Turkish Journal of Urology	Urol Res Pract / Turk J Urol	13	22.8
	Journal of Urological Surgery	J Urol Surg	12	21.05
	Archivio Italiano di Urologia e Andrologia	Arch Ital Urol Androl	5	8.77
	Bulletin of Urooncology	Bull Urooncol	4	7.02
	Urologia Journal	Urologia	3	5.26
	Asian Pacific Journal of Cancer Prevention	Asian Pac J Cancer Prev	2	3.51
	Actas Urológicas Españolas	Actas Urol Esp	2	3.51
	Current Urology	Curr Urol	2	3.51
	Eurasian Journal of Medicine	Eurasian J Med	2	3.51
	Urology Annals	Urol Ann	2	3.51
	International Journal of Reproductive Biomedicine	Int J Reprod Biomed	2	3.51
	Cureus	Cureus	1	1.75
	Asian Journal of Urology	Asian J Urol	1	1.75
	Northern Clinics of Istanbul	Northern Clin Istanb	1	1.75
	Istanbul Tıp Fakültesi Dergisi	Istanbul Tip Fak Derg	1	1.75
	Genetics and Molecular Research	Gene Mol Res	1	1.75
	African Journal of Urology	Afr J Urol	1	1.75
	Journal of Ultrasound	J Ultrasound	1	1.75
	International Journal of Clinical and Experimental Medicine	Int J Clin Exp Med	1	1.75
TR-Index	The New Journal of Urology	New J Urol	5	16.13
	Eastern Journal of Medicine	East J Med	4	12.9
	The European Research Journal	Eur Res J	3	9.68
	Haydarpaşa Numune Medical Journal	Haydarpaşa Numune Med J	3	9.68
	Androloji Bülteni	Androloji Bulteni	3	9.68
	Endourology Bulletin	Endourol Bull	2	6.45
	Journal of Reconstructive Urology	J Reconstr Urol	1	3.23
	Journal of Experimental and Clinical Medicine	J Exp Clin Med	1	3.23
	Pamukkale Medical Journal	Pamukkale Med J	1	3.23

TR-Index	Journal of Academic Research in Medicine	JAREM	1	3.23
	Bakırköy Tıp Dergisi	Bakırköy Tip Derg	1	3.23
	European Archives of Medical Research	Eur Arch Med Res	1	3.23
	Anatolian Current Medical Journal	Anatol Curr Med J	1	3.23
	Mediterranean Journal of Medicine	Mediterr J Med	1	3.23
	Grand Journal of Urology	Grand J Urol	1	3.23
	Kahramanmaraş Sütçü İmam Medical Journal	KSÜ Med J	1	3.23
	Andrology Bulletin	Androl Bul	1	3.23

DISCUSSION

The present study comprehensively evaluated the publication outcomes of urology residency theses in Türkiye between 2015 and 2020, demonstrating that 58.4% of theses were published as scientific articles, with 36.3% appearing in SCIE-indexed journals. The most frequent subject areas were uro-oncology, endourology, and andrology, with an average publication delay of three years. These findings indicate a notably higher publication performance, suggesting that the field of urology in Türkiye maintains a strong research and publication culture among residency programs. Taken together, these findings not only demonstrate the relative strength of Turkish urology but also provide a benchmark for evaluating the academic efficiency of other medical disciplines in the country.

Söğütdelen and Küçükyangöz (1) reported that 22.7% of Turkish urology theses (2014–2018) were subsequently published as journal articles and that 18.4% were published in PubMed-indexed journals; importantly, SCIE/ESCI stratification was not assessed in their analysis. In contrast, in our cohort (2015–2020; n = 399), the overall publication rate was 58.4%, and 36.3% of theses were published in SCIE-indexed journals. The lower rates in the earlier report may be partially attributable to its 2-year publication window, which is vulnerable to publication time-lag, and to publication ascertainment limited to PubMed and Google Scholar without Scopus, potentially leading to under-detection of thesis-derived articles published outside PubMed coverage.

When compared with other national data, the publication rate of urology theses exceeds the rates reported in general surgery (20.5%) (2), forensic medicine (32.6%) (3), otorhinolaryngology (35.6%) (4), orthopedics (39.5%) (5), and psychiatry (37.7%) (6). The proportion of SCIE-indexed publications in urology (36.3%) also surpasses that of infectious diseases (11.4%) (7), physical medicine and rehabilitation (24.5%) (8) and emergency medicine (18%) (9). More detailed comparative data across medical specialties are presented in Table 5.

This outcome may be attributed to the robust research infrastructure in urology departments, the presence of active academic mentors, and the increasing international collaborations in this specialty. Conversely, relatively lower publication rates observed in other specialties may reflect limited methodological training, high clinical workload, or lack of incentives for publication, as reported by Ferhatoğlu et al. and Çağlayan et al. (2,3). Moreover, international studies echo similar challenges: in France, only 35.3% of radiology theses were published (17), while in India and Peru, the rates were 30% and 17.6%, respectively (18,19). These cross-country similarities highlight the global nature of publication barriers following residency training. This observation underscores that the barriers to publication are not purely structural but also cultural, encompassing motivation, mentorship accessibility, and institutional emphasis on academic productivity.

Factors that influence successful publication have been repeatedly emphasized in the literature. Prospective or experimental study designs and inclusion of multivariate analysis were found to increase the likelihood of publication (3,20). The academic rank and publication productivity (H-index) of thesis advisors were also correlated with the success of publication in the endocrinology and psychiatry fields (6,21,22). Our findings support these observations, as a considerable proportion of urology theses involved prospective data collection, multicenter collaboration, and laboratory-based experimental designs, all of which are associated with higher-level evidence studies. Furthermore, the average publication delay of three years aligns with data

Table 5. Publication rates and SCIE-indexed publication rates of residency theses in various medical specialties in Türkiye

Study	Specialty	Years evaluated	Publication rate (%)	SCIE-indexed publication rate (%)
Ferhatoğlu MF. et al. (2)	General surgery	1998–2018	20.5	14.4
Çağlayan D. et al. (3)	Forensic medicine	1983-2016	32.6	15.2
Çetin AÇ. et al. (4)	Otorhinolaryngology	2000-2015	35.6	12.9
Baysan C. et al. (5)	Orthopedic	1988-2020	39.5	14.5
Erim BR. et al. (6)	Psychiatry	1981-2018	37.7	10.8
Sipahi OR. et al. (7)	Microbiology & infectious diseases	1997–2007	-	11.4
Yılmaz O. et al. (8)	Physical medicine and rehabilitation	2010–2020	34.3	24.5
Özturan İU. et al. (9)	Emergency medicine	1998–2021	35.5	18
Güç Z. et al. (10)	Anesthesiology	1970–2016	25.7	11.3
Bahadır S. et. al. (11)	Neurosurgery	2015–2019	26.8	-
Bahadır S. et. al. (12)	Public health	1973–2022	29.2	<9
Karakullukçu A. et. al. (13)	Family medicine	2000–2020	28.1	5.6
Sarıca MA. et. al. (14)	Neurosurgery	2000–2017	37.9	36.2
Sarbay İ. (15)	Thoracic surgery	2001–2019	38.5	20.7
Salbaş E. et. al. (16)	Radiology	1971–2024	37.1	20.8
Current study	Urology	2015-2020	58.4	36.3

from anesthesiology (3.1 years) (10) and forensic medicine (2.95 years) (3), suggesting similar dissemination dynamics across Turkish residency programs.

As presented in Table 3, the journals most frequently selected for thesis-derived publications in this study were International Journal of Clinical Practice and International Urology and Nephrology among SCIE-indexed sources, Urology Research and Practice (formerly Turkish Journal of Urology) within ESCI, and The New Journal of Urology under TR-Index indexing.

The observed emphasis on uro-oncology among urology theses parallels trends in high-impact subspecialties worldwide. Oncology-related dissertations tend to have greater visibility, higher citation impact, and a higher probability of acceptance in SCIE-indexed journals, as previously reported in orthopedics and general surgery (2,5). Nevertheless, the dominance of a single subspecialty may indicate a potential imbalance in research diversity, emphasizing the need to promote underrepresented fields such as pediatric urology or functional urology.

Temporal patterns of publication output were also evaluated (Figure 2). As shown in Figure 2, a steady upward trend was observed in the number of thesis-derived publications and SCIE-indexed articles from 2015 onward, reaching its peak during the 2020–2021 period. After this peak, both the total number of publications and SCIE-indexed outputs exhibited a noticeable decline. However, it should be acknowledged that, since the present analysis was conducted in 2025 and encompasses urology residency theses completed between 2015 and 2020, a substantial proportion of theses from the early 2020s may still be undergoing the publication process. Thus, the apparent post-2021 decline likely represents a time-lag effect rather than a genuine reduction in academic productivity. This rise-and-fall pattern may instead reflect a partial snapshot within a broader continuum of scholarly productivity, emphasizing the importance of longitudinal evaluations to more accurately capture the evolving trends in the dissemination of urology theses in Türkiye. Notably, this temporal pattern aligns with the global disruptions in academic output during the COVID-19 pandemic years, which may have temporarily influenced research dissemination cycles.

Beyond publication frequency, the citation performance of SCIE-indexed theses provides an additional dimension for evaluating academic influence. When limited to SCIE-indexed publications, citation analysis provides a more accurate reflection of the scientific visibility and long-term impact of residency research. Across various medical specialties in Türkiye, the mean number of citations for SCIE-indexed thesis-derived articles has been reported to range between 8 and 15. In general surgery, the average citation count for SCIE-indexed publications was 8.6 ± 12.1, while orthopedic and thoracic surgery theses achieved mean citation values of 12.4 ± 18.7 and 9.8 ± 11.3, respectively (2,5,15). In comparison, the present study demonstrated that urology theses published in SCIE-indexed journals had an average citation rate of 12.6 ± 16.5, indicating that urology maintains one of the highest citation impacts among medical specialties in Türkiye. This suggests that the scientific influence of urology theses, as reflected by citation performance, is comparable to or exceeds that observed in other surgically oriented specialties. These findings highlight that, beyond publication counts, the quality and scholarly influence of SCIE-indexed outputs serve as critical indicators of academic productivity. Continued monitoring of citation metrics within SCIE journals will be essential for assessing the evolving global impact of Turkish urology research.

Globally, structural determinants such as mentorship quality, institutional incentives, and research funding availability have been shown to strongly affect the transition from thesis to publication (17–19). Countries with institutionalized mentorship and protected research time, like Sweden and Finland, report higher publication rates (33–38%) (23,24). Building upon the existing academic strength of Turkish urology, establishing sustainable academic ecosystems within training centers remains essential for maintaining and further improving scholarly productivity. In addition to methodological rigor, factors such as English-language proficiency, access to statistical support, and the presence of research training during residency have been shown to play crucial roles in transforming theses into publishable manuscripts (25).

This study's findings must be interpreted in light of certain limitations. Although the bibliometric coverage was comprehensive, publication identification relied on author name and title matching, which may lead to underestimation. Additionally, cross-specialty comparisons should be made cautiously, as methodological rigor and indexing practices differ among fields. Nevertheless, by analyzing 399 theses over five years, this study provides one of the most up-to-date and field-specific insights into academic productivity among Turkish urology residents. In addition, the exclusion of non-indexed or in-press articles may have led to a partial underestimation of recent publication outcomes. A longitudinal, full-scale analysis of urology residency theses in Türkiye will undoubtedly reveal how research trends evolve and mature over time, while also identifying which subfields remain underrepresented and where future efforts should be concentrated, thereby guiding the focus and productivity of forthcoming urology theses.

These findings underscore that urology residency training in Türkiye not only demonstrates high scientific productivity but also reflects an increasing international integration of Turkish urology within the global research landscape. Continued support for research methodology education and international collaboration will further enhance visibility and citation impact. Establishing national databases that track post-thesis publication and citation trends would facilitate more systematic evaluations of academic productivity. Future investigations that integrate citation metrics, collaboration mapping, and funding analyses will help clarify the academic trajectory and international visibility of Turkish urology research.

In summary, this study not only documents the academic output of Turkish urology residency theses but also provides a framework for strengthening future research training and international visibility in the specialty.

CONCLUSION

This study evaluated the publication outcomes of urology residency theses in Türkiye between 2015 and 2020. Overall, 58.4% of theses were published as scientific articles, and 36.3% appeared in SCIE-indexed journals, reflecting a strong research culture within Turkish urology. The mean publication delay was approximately three years, with an average citation rate of 12.6 ± 16.5 for SCIE-indexed articles, indicating high international visibility.

Among subspecialties, uro-oncology, endourology, and andrology dominated the research spectrum, whereas the limited representation of pediatric, female, and neurourology fields emphasizes the need for a more balanced research agenda. Establishing structured mentorship systems, institutional incentives, and a national database to monitor publication and citation trends will further strengthen academic productivity.

In summary, Turkish urology residency training demonstrates strong and expanding global academic impact, serving as a model for research-oriented specialty education and sustained academic development.

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