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Thesis Studies of Universities in Anaesthesiology and Reanimation between 1970 and 2016: Retrospective Evaluation of Work Areas, Publishing Rates and Evidence Levels

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Abstract

Aim: The aim of this study was to investigate the publication status, research design, subjects and levels of evidence of theses written in the field of anaesthesiology and reanimation between 1970 and 2016 in Turkey.

Methods: After the theses included in our study were accessed through the Higher Education Institution National Thesis Center, theses were searched using Google, Google Scholar, PubMed, and TR Directory TÜBİTAK ULAKBİM search engines. The publication status, research design, evidence levels, date of the published theses, journals and citation numbers for the theses were determined.

Results: A total of 2,803 theses were included in our study. When the evidence levels of the theses are evaluated, it was determined that B evidence level was present in 1,603 (57.2%), C in 597 (21.3%), F in 256 (12.3%) and D in 257 (9.2%). It was also determined that 719 (25.7%) of the theses were published later. The time difference between the thesis and the publication year was 3.14 ± 2.26 years. Of these publications, 367 (51.0%) were appeared in national journals, with 293 in SCI-E (40.8%), 25 in SCI (3.5%) and 34 in other foreign journals (4.7%). While the rate of thesis studies with a prospective design decreased over the years, it was determined that experimental and retrospective thesis studies increased ($P < .05$). In the correlation analysis, there were weak correlations among the publication year, the number of citations and the impact of the journal. There was a positive correlation between the publication year and the number of cases.

Conclusion: Although the number of prospectively designed theses and clinical theses in the field of anaesthesiology and reanimation has decreased over the years, there is an increase in the number of theses converted to publications. Although the rate of publication of theses abroad and in SCI-E journals has increased, decreases in the thesis rate published in SCI journals over the years and in the impact factors of the journals are notable. In the future, studies in anaesthesiology and reanimation should be performed to increase the number of theses that can be published in journals with higher impact.

Keywords: Anaesthesiology, thesis, publication, article, scientific research

Introduction

Thesis is an important component of postgraduate programs in Turkey. Completing a thesis acquires independent and analytical thinking skills, in addition to contributing to the scientific literature. A thesis prepared at the end of postgraduate programs is called a "Master's Thesis," "Doctoral Thesis" or "Medical Specialization Thesis" depending on the stage in which it is written.[1–4] In the medical field in Turkey, it is necessary to write a specialisation thesis in order to successfully complete the specialisation process. Though preparing a thesis was mandatory in many stages in Turkey from specialisation education and branch specialisation to the process of becoming an associate professor during history, currently, the only stage involving a thesis during medical education is the end of specialisation training.[4]

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In the medical field, bibliometric studies are studies assessing publications in different branches by country, organisation or person over a variety of time periods from qualitative or quantitative aspects. In this way, the development of a country, organisation or person can be monitored in that field and compared with other countries, organisations or people.[5,6] Bibliometric studies provide information about scientific production at organisation, author, branch, country or regional level and may reveal deficiencies or superior aspects in the field of education or research at the assessed level. Bibliometric research additionally provides benefit by assessing journals including scientific publications in terms of quality or identifying leading research areas.[7,8]

In previous years, bibliometric-type studies investigated the publication rates for theses in the fields of audiology,[1] general medicine,[4] orthopedics,[3] brain surgery,[9] emergency medicine,[10] infectious diseases,[11] microbiology,[11] public health,[12] gynaecology and obstetrics[13] and general surgery.[14] Additionally, our literature analysis between June and August 2019 did not encounter any study in this form in our country in the field of anaesthesiology and reanimation, one of the important medical fields.

In this study, the aim was to research the publication status, research design, study types, topics and evidence levels for theses in the field of anaesthesiology and reanimation between 1970 and 2016 in Turkey using the Council of Higher Education (YÖK) National Thesis Center database.

Methods

This study was completed in Dokuz Eylül University Faculty of Medicine Anesthesiology and Reanimation Department after receiving permission from Dokuz Eylül University Faculty of Medicine Non-Interventional Ethics Committee dated December 21, 2017 and numbered 2017/29017.

Within the scope of this study, all theses in the anaesthesiology and reanimation specialisation from January 1, 1970 to December 31, 2016 in the YÖK National Thesis Center database were investigated.

This study accessed theses written from 1970 to 2016 in the field of anaesthesiology and reanimation in June-August 2019. After the theses were accessed in YÖK National Thesis Center database (https://tez.yok.gov.tr/UlusalTezMerkezi/, accessed date: June 1, 2019), searches were performed using Google (https://www.google.com/), Google Scholar (http://scholar.google.com.tr/), PubMed (https://www.ncbi.nlm.nih.gov/pubmed/) and the Turkish-indexed TÜBİTAK ULAKBİM (https://trdizin.gov.tr/) for the names and surnames of the authors, Turkish and English titles of the thesis and keywords. The authors, study topics, study types (prospective, retrospective and experimental), research design (clinical, experimental and other), year written, number of cases included in the study, evidence level (B-studies with randomised controlled/randomised single-double blind design, C-prospective, D-retrospective, F-animal experiments and experimental studies), institution, thesis advisor and academic titles of the thesis advisors registered in the YÖK thesis centre at that date were recorded for each thesis. The publication status of the thesis, date of publication, journal name, country of the journal, index of the journal (SCI, SCI-E, other international and national journals), continent of the journal publisher, publication language of the journal, journal impact factor, fields of the journal, whether journals were included in PubMed or not and number of citations in publications in foreign journals were determined and recorded.

Data were analysed using Statistical Package for the Social Sciences (SPSS) version 24.0 (IBM SPSS Corp.; Armonk, NY, USA) statistical program. Data with continuous values are given as mean ± standard deviation. Data with frequencies are expressed as number (n) and percentage (%). Analysis of data with continuous values was performed using the Kolmogorov–Smirnov test to identify whether a normal distribution pattern was present or not. Comparison of two groups with data showing normal distribution used the Student t test or data not showing normal distribution used the Mann–Whitney U test; comparisons of multiple groups with data showing normal distribution used the one-way ANOVA test with posthoc Tukey correction applied, or data not showing normal distribution used the Kruskal–-Wallis test for multiple group analyses. The chi-square test was used to analyse data with frequency values. Relationships between data were analysed with the Pearson correlation test. Values with P below .05 were accepted as being significantly different.

Results

Within the scope of the study, a total of 2,083 theses were investigated in the anaesthesiology and reanimation specialisation from January 1, 1970 to December 31, 2016. When the distribution of theses according to years is investigated, it is found that 77 were distributed before 1990 (2.7%), 36 were from 1990 to 1994 (1.3%), 78 were from 1995 to 1999 (2.8%), 458 were from 2000 to 2004 (16.3%), 725 were from 2005 to 2009 (25.9%) and 1429 were after 2010 (51.0%). The year with most theses was 2011 with 296 theses (10.6%).

When the thesis advisors are assessed in terms of academic title recorded for the thesis date in the YÖK thesis page, it was found that 1,283 theses had advisors who were professors (45.8%), 818 had associate professor (29.2%), 471 had assistant professor (16.8%) and 71 had specialist advisors (2.5%). It was identified that the thesis advisor was not listed for 160 theses (5.7%) in the YÖK thesis page. When the

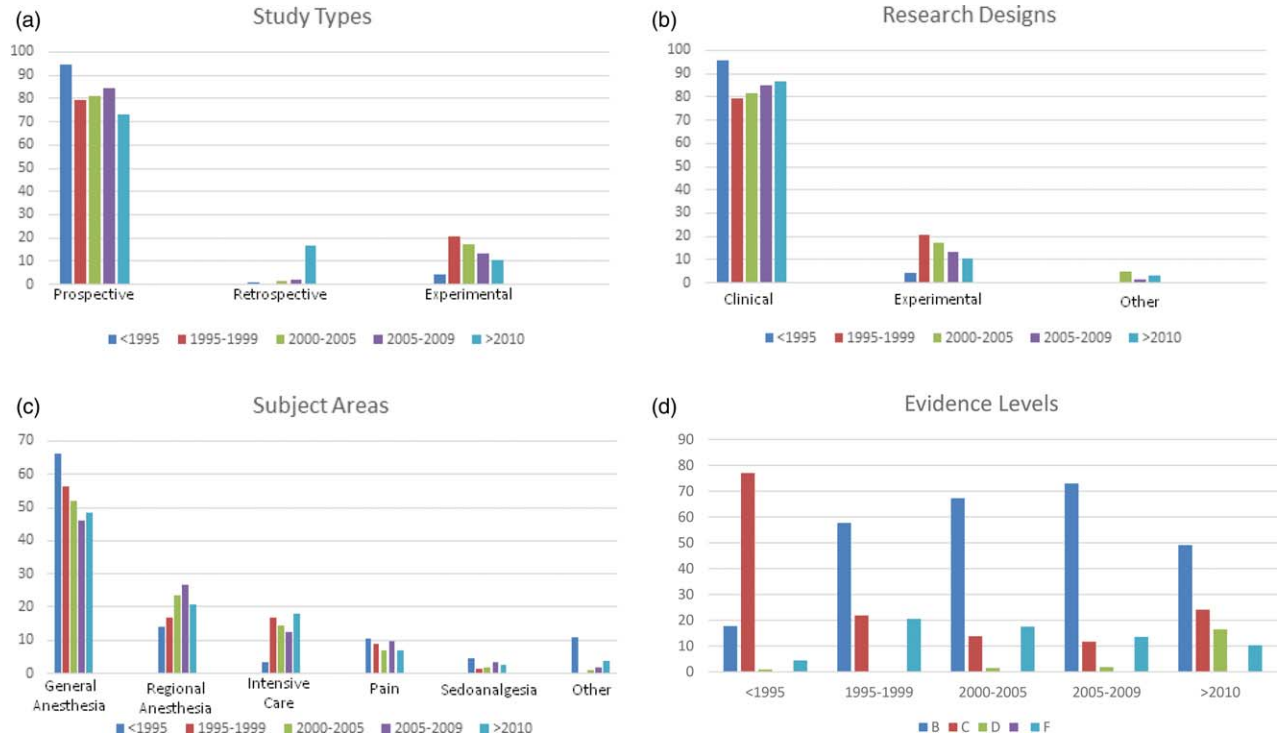


Figure 1. a-d. (a) Comparison of the study types of the theses by years (%). (b) Comparison of research designs of theses by years (%). (c) Comparison of the subject areas of the theses by years (%). (d) Comparison of the evidence levels of the theses by years (%).

research designs of the theses are investigated, it was determined that 2,397 were clinical (85.5%), 346 were experimental (12.3%) and 60 used other research designs (survey study, etc.) (2.1%). When theses are investigated in terms of study types, it was determined that 2,200 were prospective (78.5%), 257 were retrospective (9.2%) and 346 were experimental (12.3%). When theses are classified according to topic areas, it was determined that 1,291 were about general anaesthesia (12.3%), 626 were about regional anaesthesia/peripheral blocks (22.3%), 430 were about intensive care (15.3%), 219 were about pain (7.8%), 78 were about sedoanalgesia (2.8%) and 69 were written about other topics (2.5%). When theses are classified according to evidence level, it was noted that 1,603 had evidence level B (studies with randomised controlled/randomised single-double blind design) (57.2%), 597 had evidence level C (prospective studies) (21.3%), 346 had evidence level F (animal experiments and experimental studies) (12.3%) and 257 had evidence level D (retrospective studies) (9.2%).

When the types of studies are analysed according to the year in which the theses were written, there is a significant difference between the fact that the theses made before 1995 are mostly prospective with a rate of 94.7%, and that the experimental studies among the study types of the theses in 2010 and after are 10.3% ($P < .001$) (Figure 1a).

When the thesis research designs are examined according to the years in which the theses were written, it was determined that 95.6% of the theses made until 1995 are clinical, the number of clinical studies in 2010 and after is still the highest and the 10.3% increase in experimental studies constitutes the difference ($P < .01$) (Figure 1b).

When the subjects of the theses were examined according to the years, it was determined that 66.4% of the theses made until 1995 were in the field of general anaesthesia. It was also determined that the theses in the field of regional anaesthesia increased in the theses between the years 2005 and 2009. Thesis studies on intensive care were mostly included in the theses of 2010 and later. It was also determined that these changes accounted for the difference ($P < .001$) (Figure 1c).

When the evidence levels of the theses are examined by years, although the theses with the highest level of C evidence with a rate of 77% before 1995, an increase in the F evidence level was observed in the theses between the years 1995 and 1999. It was also determined that the B evidence level was the most preferred after 2000, and an increase in D evidence level was observed in the theses in 2010 and later. It was also determined that these observed changes constituted the difference ($P < .001$) (Figure 1d).

It was determined that 719 theses (25.7%) were published. Of the published theses, 599 (83.3%) had the same publication first author as the thesis author, while 120 (16.7%) had a different name.

When the distribution of published theses is investigated according to year, it was observed that very low rates were present for publications up to the year 2000 (0.8%), while there was an increase in published theses in 2010 and later years. The highest conversion to publication rate was found for theses written after 2010 with 66.9% of these theses being published. The time between thesis and publication year varied from 0 to 14 years with a mean value of 3.14 ± 2.26 years.

The journals with highest publication rates for published theses were the *Turkish Journal of Anaesthesiology & Reanimation* (*Türk Anesteziyoloji ve Reanimasyon Derneği Dergisi*) (14%), *Journal of Anesthesiology and Reanimation Specialists' Society* (*Anesteziyoloji ve Reanimasyon Uzmanları Derneği Dergisi*) (8.9%) and *Pain Journal of the Turkish Society of Algology* (*Ağrı Dergisi*) (5.6%). Foreign journals with highest thesis publication rates were *Brazilian Journal of Anesthesiology* (4.6%), *European Journal of Anaesthesiology* (3.1%) and *Journal of Clinical Anesthesia* (1.5%) (Table 1).

When the index of journals publishing theses is investigated, it was determined that 367 were domestic journals (51.0%), 293 were indexed in the SCI-E (40.8%), 25 were indexed in the SCI (3.5%) and 34 were foreign journals included in other indexes (4.7%). Of the published theses, 419 were included in PubMed (58.3%) and 300 were not included in PubMed (41.7%). In terms of field, 392 theses were published in journals in the field of anaesthesiology and reanimation (54.5%), while 327 were published in journals outside the field of anaesthesiology and reanimation (45.5%). When the language of journals is investigated, it was determined that 404 theses were published in Turkish (56.2%), 309 were in English (43.0%) and six were in other languages (0.8%). When the continent of the journal is investigated, it was determined that 541 theses were published in Europe (75.2%), 62 were published in Asia (8.6%), 111 were published in America (15.4%) and five were published on other continents (0.7%). When the number of citations for theses published in journals included in foreign indexes is investigated, there were minimum 0 and maximum 145 citations, with a mean citation value of 9.45 ± 15.74.

When publication is examined according to advisor title, it was determined that 24.2% of the theses had advisor who is a professor, 26.2% had associate professors, 32.5% had assistant professors, 22.5% had specialists and 16.3% had advisor details not specified. If the thesis advisor is an assistant professor, the highest rate of conversion to publication made the difference ($P < .001$) (Figure 2a).

In terms of year, six theses written before 1995 were published (5.3%), 17 theses from 1995 to 1999 (21.8%), 144 theses from 2000 to 2004 (31.4%), 237 theses from 2005 to 2009 and 315 theses after 2010 (22%) were published. The increase in the rate of conversion to publication until 2010 creates a significant difference ($P < .001$) (Figure 2b). The fact that 33.2% of experimental studies (clinical, experimental and other) were published in thesis research designs made the significant difference ($P = .001$) (Figure 2c). Among the study types (prospective, retrospective and experimental), the difference between experimental studies (33.2%) was the highest rate of publication ($P < .001$). The highest rate of publication (32.5%) of theses that were F in terms of evidence level (B, C, D and F) created a significant difference ($P < .001$) (Figure 2d).

When theses are investigated according to the subject area, it was determined that the most frequently published topics were the theses on pain (32.9%) and sedoanalgesia (33.3%) ($P = .002$) (Figure 2e).

When the first author on the publication is investigated for published theses, it was determined that a total of 599 theses with the same names were translated into publications at most in national journals (54.6%). It was also determined that 120 theses, in which the thesis author and the first name in the publication were different, were the most published in SCI-E (55.0%) indexed journals ($P < .001$).

When the national/international publication status of theses is investigated according to year, it is noteworthy that the rate of publication in international indexed journals has increased after 1995, although national journals are the most common in all years ($P = .02$) (Figure 3a).

When the inclusion in PubMed is investigated for published theses according to year, it was found that two of the published theses written before 1995 (33.3%) and 203 of the published theses written in 2010 or later (64.2%) were included in PubMed ($P = .021$) (Figure 3b).

When the published theses are investigated according to publication in an anaesthesia journal or not, it was determined that 66.7% of the published theses written before 1995 were in anaesthesia journals, while 48.3% of the published theses written in 2010 or later were in anaesthesia journals ($P = .001$) (Figure 3b).

When the duration between thesis and publication is investigated according to evidence level, these durations were determined as 3.11 ± 2.24 years for level B, 3.07 ± 2.29 years for level C, 2.65 ± 1.92 years for level D and 3.49 ± 2.39 years for level F ($p > 0.05$). When the duration between thesis and publication is investigated according to journal index, the durations were determined to be 2.84 ± 2.30 years for domestic journals, 2.60 ± 1.77 years for SCI indexed journals, 3.47 ± 2.18 years for SCI-E indexed journals and 3.97 ± 2.22 years for theses published in other

Table 1. Investigation of Journal Publishing Theses (Journals Publishing Five or More Are Given)

Journal	Number of Theses, n (%)
Türk Anesteziyoloji ve Reanimasyon Derneği Dergisi	101 (14.0%)
Anesteziyoloji ve Reanimasyon Uzmanları Derneği- Anestezi Dergisi	64 (8.9%)
Ağrı	40 (5.6%)
Brazilian Journal of Anesthesiology	33 (4.6%)
Turkish Journal of Medical Sciences	27 (3.8%)
European Journal of Anaesthesiology	22 (3.1%)
Balkan Medical Journal	12 (1.7%)
Göğüs-Kalp-Damar Anestezi ve Yoğun Bakım Derneği Dergisi	11 (1.5%)
Journal of Clinical Anesthesia	11 (1.5%)
Acta Anaesthesiologica Scandinavica	11 (1.5%)
Türk Yoğun Bakım Dergisi	10 (1.4%)
Journal of International Medical Research	10 (1.4%)
Saudi Medical Journal	10 (1.4%)
Middle East Journal of Anesthesiology	9 (1.3%)
Haydarpaşa Numune Eğitim ve Araştırma Hastanesi Tıp Dergisi	9 (1.3%)
Ulusal Travma ve Acil Cerrahi Dergisi	8 (1.1%)
Journal of Clinical and Experimental Investigations	8 (1.1%)
Bratislava Medical Journal	8 (1.1%)
Çukurova Üniversitesi Tıp Fakültesi Dergisi	7 (1.0%)
Journal of Anesthesia	7 (1.0%)
Anesthesia & Analgesia	6 (0.8%)
Selçuk Üniversitesi Tıp Fakültesi Dergisi	6 (0.8%)
Saudi Journal of Anaesthesia	6 (0.8%)
Cumhuriyet Tıp Dergisi	6 (0.8%)
Gülhane Tıp Dergisi-Gülhane Tıp Akademisi Bülteni	6 (0.8%)
European Review for Medical and Pharmacological Sciences	6 (0.8%)
The Eurasian Journal of Medicine	6 (0.8%)
The Kaohsiung Journal of Medical Sciences	6 (0.8%)
Dicle Tıp Dergisi	6 (0.8%)
Uludağ Üniversitesi Tıp Fakültesi Dergisi	5 (0.7%)
Anaesthesia	5 (0.7%)
Turkiye Klinikleri Journal of Anesthesiology Reanimation	5 (0.7%)
Journal of Clinical Monitoring and Computing	5 (0.7%)
Nigerian Journal of Clinical Practice	5 (0.7%)

foreign journals. The durations between thesis and publication were determined to be statistically significant between theses published in domestic journals with those in SCI-E indexed journals ($P < .001$) and other foreign indexed journals ($P = .001$), and between theses published in SCI indexed journals and published in other foreign indexed journals ($P = .015$).

When the thesis evidence level, journal impact and mean citation numbers are compared, there was no significant correlation found between journal impact with evidence level and between study citation numbers with evidence level (Table 2).

When the evidence levels of the theses were compared with the journal impact and the average number of citations, no significant relationship was found between the journal impact and the level of evidence, the number of study citations and the level of evidence. When the correlation relations between the number of citations in the study, the

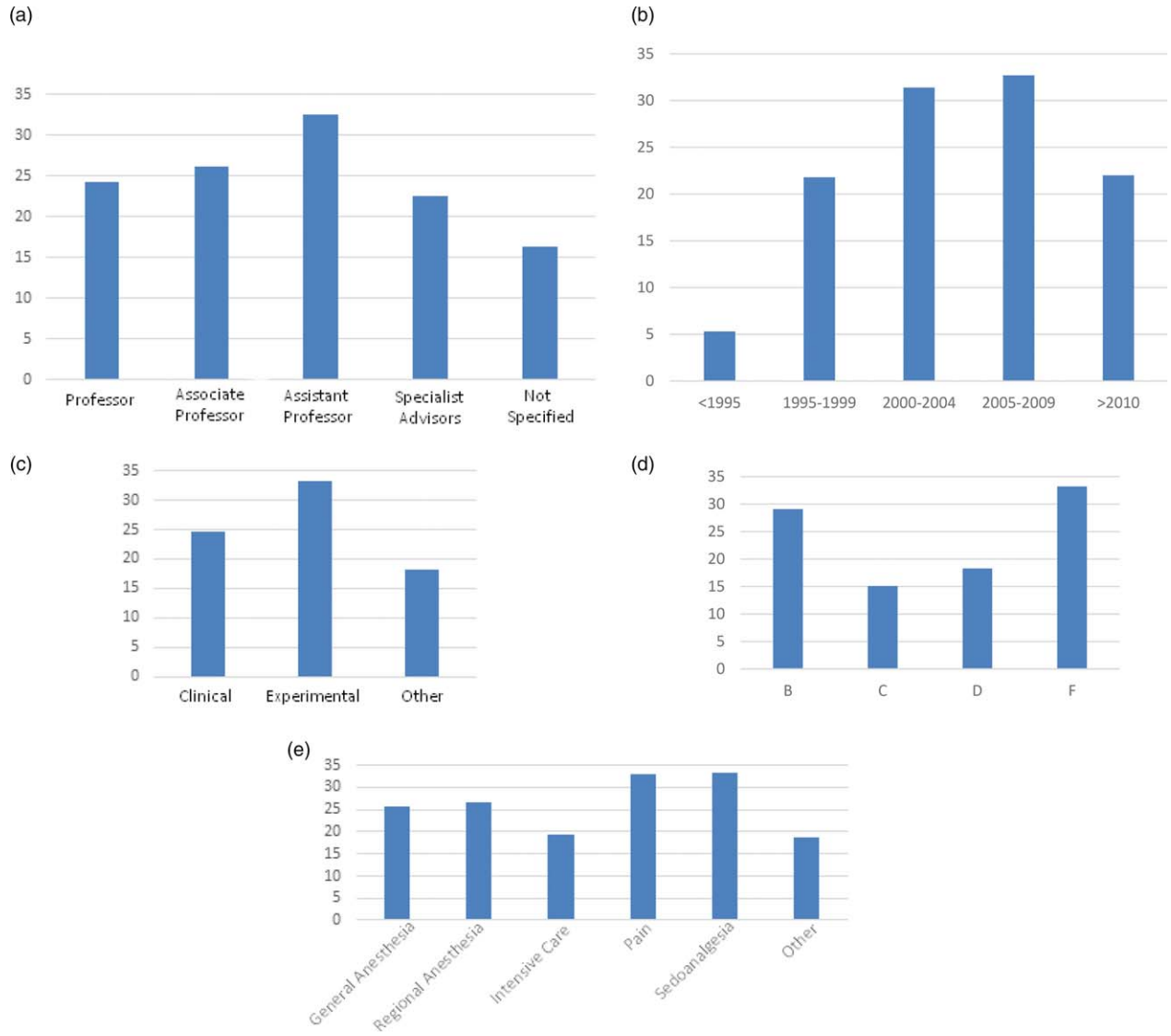


Figure 2. a-e. (a) Examining the publication status of theses according to the title of the thesis advisor in the year the thesis was made (%). (b) Investigation of the publication status of the theses according to the year they were written (%). (c) Investigation of the publication status of theses according to the research design (%). (d) Investigation of the publication status of theses according to the level of evidence (%). (e) Investigation of the publication status of the theses according to the subject area (%).

impact of the journal, the difference between the thesis publication year, the thesis year, the publication year and the status of being included in the pub media were analysed, it was determined that there was a weak negative correlation between the thesis year and journal impact ($r = –0.424$; $P < .01$) and the number of study citations ($r = –0.299$; $P < .01$). There was a weak positive correlation between the thesis year and the status of being in PubMed ($r = 0.140$; $P < .01$). There was a weak negative correlation between the year of publication and the number of citations to the study ($r = –0.384$; $P < .01$) and the impact of the journal ($r = –0.484$; $P < .01$). There was a weak positive correlation between the publication year and the status of being on PubMed ($r = 0.219$; $P < .01$) (Table 2).

Discussion

One of the important sections of medical education is acquiring scientific research skills. The aim of writing a thesis is to actively train the person about the process of performing scientific research by full inclusion in the process.[15,16]

Yaman et al.[17] stated that 34.3% of thesis advisors were professor doctors and 20.0% were associate professor doctors in

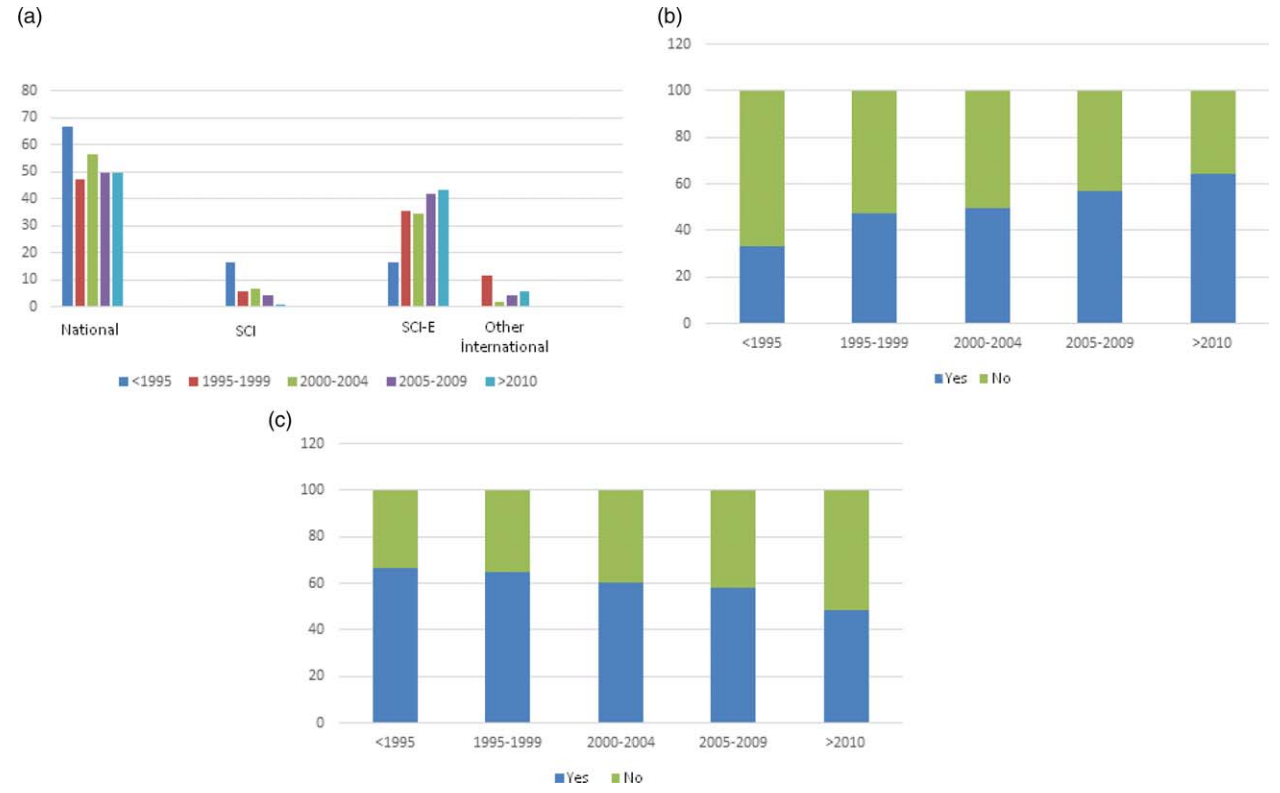


Figure 3. a-c. (a) Investigation of the domestic/foreign publication status of the theses published according to the years (%). (b) Investigation of the status of published theses in PubMed. (c) Investigating whether the journals in which theses are published are journals of anaesthesia.

Table 2. Correlation Analysis of Number of Study Citations, Journal Impact, Difference between Thesis and Publication Year, Thesis Year, Publication Year and Inclusion in PubMed

	Number of Study Citations	Journal Impact	Inclusion in PubMed
Number of study citations	—	0.357*	0.035
Journal impact	0.357*	—	0.214*
Inclusion in PubMed	0.035	0.214*	—
Difference between thesis and publication year	–0.229*	–0.169*	0.183*
Thesis year	–0.299*	–0.424*	0.140*
Publication year	–0.384*	–0.484*	0.219*

*$P < .01$.

their study in the field of family medicine. Another study including family medicine theses noted that the highest rate of advisors was 34.1% for academics with associate professor doctor title. The same study identified that 19.7% of thesis advisors were professor doctors, 16.8% were assistant professor doctors and 29.4% were specialist doctors.[18] Of the advisors for theses included in our study, when the academic titles at the time when the thesis was included in the YÖK thesis centre are assessed, it was determined that the thesis advisors with the title of professor were higher. Due to the longer duration to cultivated academics in the anaesthesiology and reanimation department compared to departments like family medicine, it may be considered an expected result that most thesis advisors are professors.

A study investigating theses in the field of family medicine stated that of the 147 theses stating the research design, 95.9% were observational research and 4.1% were

experimental research.[18] A study investigating theses in the general surgery area from 2006 to 2008 found that 50% were animal experiments and 50% were clinical studies.[14] A study by Koca et al.[3] investigating orthopaedic theses found that 71.7% were clinical studies. When the research designs of theses included in our study are investigated, it was determined that 85.5% of the theses were clinical studies. Among the theses included in our study, the rate of clinical studies is quite high. Clinical studies are designs in the upper section of the pyramid of scientific studies, and for this reason, their choice is significant in terms of contributing to the scientific literature.

A study about theses in the area of emergency medicine observed that 56.8% of theses had prospective research design, 23.8% were retrospective, 8.4% were survey and 10.9% were experimental studies.[19] Another study examining theses in the field of gynaecology and obstetrics included 151 specialisation theses from 2007 to 2008 and found that 33.8% of these theses were prospective, 27.8% were case–control type studies, 17.2% were case series, 9.9% were randomised prospective studies, 9.3% were experimental studies and 2% were survey studies.[13] Unluoğlu et al.[20] determined that 57.1% of theses were cross-sectional, 23.4% were retrospective and 19.4% were prospective among theses about family medicine. Yaman et al.[17] stated that 70.0% of theses were cross-sectional, 22.9% were retrospective and 7.1% were prospective in an investigation of theses in family medicine. Again, another study investigating theses in the family medicine field observed that mainly cross-sectional (46.1%) was chosen in classifications stating research type according to the time data was obtained. In this study, 42.5% of research were retrospective and 11.4% were prospective.[18] A study investigating general surgery theses stated that 8.2% were randomised prospective, 4.3% were nonrandomised prospective, 9.5% were case control, 3.9% were cross-sectional, 23.8% were case series and 11% were experimental studies.[14] In our study, it was determined that prospective studies were high, similar to studies in other disciplines. Evidence level B, which was determined to be the highest, is also important in that it is the next step in the evidence pyramid after meta-analysis, and it is the studies that increase the chance of a thesis to be included in a peer-reviewed journal.

Our study determined that a total of 719 theses (25.7%) were published. A study of theses in the general surgery field found that the publication rate was 30%.[14] Studies in the field of gynaecology and obstetrics by Akpınar Mayir et al.[13] found that 39.1% of 59 specialisation theses from 2007 to 2008 were published. Among the 539 theses about emergency medicine from 2010 to 2015, 20.8% were published.[19] According to a study by Tekin et al.[19] related to emergency medicine theses, 3% of published theses were published in SCI journals, 43% were in SCI-E, 45% were in other foreign journals and 7% were published in domestic journals. Mayir et al.[14] stated that 22% were the publication rate in SCI-E journals with 8.1% published in domestic journals in their study of the general surgery field. Akpınar Mayir et al.[13] investigated theses in gynaecology and obstetrics and found that 19.9% were published in SCI and SCI-E group journals, 17.2% were published in national peer-reviewed journals indexed in ULAKBİM and 2% were in non-SCI or SCI-E international journals. Özgen et al.[4] reported that among the 22,625 medical theses from 1980 to 2005, 6.2% were published in SCI-E journals. Yaman et al.[17] stated that the publication rate in international indexed journals was 10% for 140 family medicine theses from 1981 to 2008. In our study, among the 719 published theses, 5.1% were domestic, 40.8% were SCI-E, 3.5% were SCI and 4.7% were published in other foreign journals. The publication rates in peer-reviewed scientific journals were similar in our study.

A study by Koca et al.[3] investigated the publication rates in journals included in PubMed for theses about orthopaedics and found that 14.9% of theses were published in foreign journals, with 60.9% published in SCI-E journals and 23.2% published in SCI journals. A study by Sipahi et al.[12] investigating 538 public health specialisation theses completed from 1978 to 2009 found that 11.9% of theses were published in journals in international indexes. In our study, 12.6% of theses were published in foreign journals. When studies published in international journals are analysed among themselves, it was noteworthy that 83.2% were published in SCI-E journals and 7.1% were published in SCI journals. The foreign publication rate for theses in the field of anaesthesiology and reanimation in our study is very similar to the foreign publication rate for theses in the field of orthopaedics. However, the publication rate in SCI-E journals is higher, while the publication rate in SCI journals is lower in the anaesthesiology and reanimation field.

A study related to theses in the field of emergency medicine found that though most theses that can be published in scientific journals are prospective, articles were published 6 months later at the earliest. The mean duration to publication was 32.6 ± 18.1 months, with minimum 6 and maximum 84 months.[19] The study by Akpınar Mayir et al.[13] found that the duration from the date of theses to publication for theses about gynaecology and obstetrics is mean 3 years (0-8), while this duration was mean 3.3 years for SCI and SCI-E publications and 2.8 years for non-SCI or SCI-E publications. In our study, it was seen that the time required for publication appears similar to previous studies. There was a significant difference between the duration to publication for theses published in indexed journals for theses about anaesthesiology and reanimation. The duration to publication in domestic and SCI journals was determined to be shorter than for SCI-E and other foreign journals.

A study by Özbilgin et al.[21] investigated the Turkish-sourced publications in SCI and SCI-E indexed journals in the field

of anaesthesiology and found that high rates were published in *Revista Brasileira de Anestesiologia* (*Brazilian Journal of Anesthesiology*), *European Journal of Anaesthesiology* and *Journal of Anesthesia*. In our study, the top two SCI and SCI-E indexed journals with highest rates of thesis publications were determined to be the same SCI and SCI-E indexed journals in the top two places for publications sourced in Turkey in the study by Özbilgin et al.[21]

A study by Özgen et al.[4] investigated the distribution of published theses according to year and determined there was no publications from theses completed from 1982 to 1984. The publication rates increased in later years and were highest from 2000 to 2002, with a reduction observed after this.[4] A study about infection and clinical microbiology theses by Sipahi et al.[11] determined that theses with most publications in foreign journals were completed from 2002 to 2007. The reason for the notable increase in these years was proposed to be the increase in publication numbers required as academic promotion criteria by YÖK. A study investigating orthopaedic theses by Koca et al.[3] determined that the publication rates increased until 2005 and then began to fall. While stating that the number of publications worldwide increased and there was no fall in rates according to year, they suggested that the situation in Turkey may be due to reasons that affect research opportunities in our country.[3] In our study, the publication rate for theses was identified to increase through the years. The increases for foreign and SCI-E journals were significant especially considering the indexes of journals.

When the publication status was investigated according to thesis research design, a significant correlation was not found between thesis research design and publication status by Mayir et al.[14] for general surgery theses and Akpınar Mayir et al.[13] for gynaecology and obstetrics theses. In our study in terms of thesis research design, it was determined that thesis with experimental design had a significantly higher rate of publication.

In our study, when study types are investigated according to the year of the thesis, it appears there was an increase in experimental studies according to year in addition to increasing selection of retrospective studies. We consider the reason for this is the difficulty in obtaining ethics committee permission for clinical studies. Retrospective study designs are less reliable compared to prospective studies and are reported to be less beneficial studies.[22] However, again, due to difficulties experienced obtaining ethics permission, academic thesis advisors and thesis students are pushed toward designing retrospective studies.

In our study, it was seen that in 83.3% of the theses published, the first name in the publication was the same as the name of the thesis owner. In a study examining the theses in the field of emergency medicine, it was determined that the research assistant was the first author in 87.3% of the publications.[19] A study investigating theses in the field of gynaecology and obstetrics found that 67.7% of thesis authors were first name on the publication. The same study investigated the status of the thesis author being first name on the article and found this rate was 70% for SCI and SCI-E publications and 65.5% for non-SCI and SCI-E publications.[13] A study by Sipahi et al.[12] reported that 70% of international publications and 85.5% of national publications had the thesis author as first name on the paper. In the study by Mayir et al.,[14] 68% of SCI-E publications and 88% of domestic publications had the same name as thesis author and first author. In our study, when the first name in the publication and the thesis author are investigated, it was determined that a total of 599 theses had the same author, and 54.6% were published domestically, 2.5% were published in SCI journals, 37.9% were published in SCI-E journals and 5% were published in other foreign journals. Interestingly in our study, statistical significance was determined for journal index of publication, and whether thesis authors were first author or not. Authorship of articles created from theses is linked to a range of principles. The thesis belongs to the person doing it and the first author of the article should be the thesis student, and thesis advisor or advisors may be listed as authors according to their contributions to the thesis. However, if the idea belongs to the thesis advisor, and most of the study was performed and analysed by the advisor to create the article, the first author may be the advisor and the student is reported as the coauthor.[23,24] After the thesis is finished, in situations such as if the thesis student does not write the article from the thesis or if the student cannot be reached in spite of adequate efforts by the thesis advisor, the thesis advisor may be the first author on the paper.[23,24] Additionally, if the thesis student does not make the corrections within the duration desired by the editors and the thesis advisor makes the corrections and is the corresponding author, again, they may be listed as the first author.[24]

Our study has some limiting aspects. This study researched specialisation theses in the YÖK National Thesis Center and did not perform any search in any other platform due to the lack of other platforms about this topic. Theses written during education in university clinics that were not uploaded to the YÖK National Thesis Center or that were not reached during the search in spite of key words could not be accessed. Naturally, data could be collected for fewer theses than the number of specialist doctors qualifying in the same time interval. Published theses may not have been identified for women due to changes in surname. It should be considered that some unpublished theses may have been in the publication process.

In conclusion, though there were reductions in the prospectively designed theses and clinical theses in the field of anaesthesiology and reanimation through the years, there was an increase in the number of theses converted to publications. Again, in spite of the increase in publication rates for theses in foreign and SCI-E journals, the rate of theses published in

SCI journals through the years and the reduction in impact factors of the journals are notable. In the future, attempts should be made to increase theses that can be published in journals with higher impact in the anaesthesiology and reanimation field.

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References

1. Çelikgün B, Derinsu U, Çiprut AA, Torun M, Kalcıoğlu MT. Publication rates of audiologymaster and doctoral theses in peer-reviewed journals. *Kulak Burun Bogaz Ihtis Derg.* 2016;26:276-282 (in Turkish). [CrossRef]
2. Doğan E, Durmuşoğlu M, Erdağ TK. Publication rates of presentations which were presented at Turkish national rhinology congresses. *Kulak Burun Bogaz Ihtis Derg.* 2013;23:282-287 (in Turkish). [CrossRef]
3. Koca K, Ekinci S, Akpancar S, Gemci MH, Erşen Ö, Akyildiz F. An analysis of orthopaedic theses in Turkey: Evidence levels and publication rates. *Acta Orthop Traumatol Turc.* 2016;50:562-566. [CrossRef]
4. Özgen Ü, Eğri M, Aktaş M, et al. Publication pattern of Turkish medical theses: Analysis of 22.625 medical theses completed in years 1980-2005. *Turkiye Klinikleri J Med Sci.* 2011;31:1122-1131. [CrossRef]
5. Glanville J, Kendrick T, McNally R, Campbell J, Hobbs FDR. Research output on primary care in Australia, Canada, Germany, The Netherlands, the United Kingdom, and the United States: Bibliometric analysis. *BMJ.* 2011;342:D1028-D1028. [CrossRef]
6. Azim Majumder MA, Shaban SF, Rahman S, et al. Pubmed-based quantitative analysis of biomedical publications in the SAARC countries: 1985-2009. *J Coll Physicians Surg Pak.* 2012;22:560-564.
7. Erdağ TK, Doğan E, İkiz AÖ. Rinoloji yayınlarımızın science citation index kapsamında dünyadaki yeri. [The Place of our rhinology publications in the world within the scope of science citation index]. *KBB-Forum.* 2013;12:62-69.
8. Akpinar E, Karçaaltincaba M. Analysis of scientific papers in the field of radiology and medical imaging included in science citation index expanded and published by Turkish authors. *Diagn Interv Radiol.* 2010;16:175-178. [CrossRef]
9. Öğrenci A, Ekşi MŞ, Özcan-Ekşi EE, Koban O. From idea to publication: Publication rates of theses in neurosurgery from Turkey. *Neurol Neurochir Pol.* 2016;50:45-47. [CrossRef]
10. Cevik E, Karakus Yilmaz B, Acar YA, Dokur M. Systematic analysis of theses in the field of emergency medicine in Turkey. *Turk J Emerg Med.* 2015;15:28-32. [CrossRef]
11. Sipahi OR, Çağlayan Serin D, Pullukçu H, et al. Publication rates of Turkish medical specialty and doctorate theses on medical microbiology, clinical microbiology and infectious diseases disciplines in international journals. *Mikrobiyol Bul.* 2014;48:341-345 (in Turkish). [CrossRef]
12. Sipahi H, Durusoy R, Ergin I, Hassoy H, Davas A, Karababa A. Publication rates of public health theses in international and national peer-review journals in Turkey. *Iran J Public Health.* 2012;41:31-35.
13. Akpınar Mayir AY, Erkal B, Neren Yazıcı L. Üniversite hastanelerinin kadın hastalıkları ve doğum kliniklerinde yapılan tez çalışmalarının yayınlanma oranları ve atıf sayılarının değerlendirilmesi [Evaluation of the publication rates and citation numbers of thesis studies conducted in gynecology and obstetrics clinics of university hospitals]. *J Clin Obstet Gynecol.* 2016;26:232-236.
14. Mayir B, Bilecik T, Çakır T, et al. Analysis of the publishing rate and the number of citations of general surgery dissertations. *Turk J Surg.* 2017;33:33-36. [CrossRef]
15. Rezaeian M. How to supervise a medical thesis. *ME-JFM.* 2014;12:39-41. [CrossRef]
16. Nieminen P, Sipilä K, Takkinen HM, Renko M, Risteli L. Medical theses as part of the scientific training in basic medical and dental education: Experiences from Finland. *BMC Med Educ.* 2007;7:51. [CrossRef]
17. Yaman H, Kara İH, Baltacı D, Altuğ M, Akdeniz M, Kavukçu E. Türkiye'de aile hekimliği alanında yapılan tezlerin kalitatif değerlendirmesi [Qualitative evaluation of theses in the field of family medicine in Turkey]. *Konuralp Tıp Dergisi.* 2011;3:1-6.
18. Mengüllüoğlu N, Ünlüoğlu İ. Evaluation of family medicine specialty theses between the years 2005-2015. *Ankara Med J.* 2017;17:192-203.
19. Tekin E, Karagöz S, Akbaş İ. Acil tıp uzmanlık tezlerinin dergilerde yayınlanması bakımından analizi [Analysis of emergency medicine specialty theses in terms of publication in journals]. *Ahi Evran Med J.* 2019;3:26-30.
20. Unluoğlu I, Unalacak M, Yuksel F. Theses of family medicine residency in Turkey. *Eur J Gen Practice.* 2009;15(57).
21. Özbilgin Ş, Hancı V. Turkish publications in science citation index and citation index-expanded indexed journals in the field of anaesthesiology: A bibliographic analysis. *Turk J Anaesthesiol Reanim.* 2017;45:26-35. [CrossRef]
22. Hess DR. Retrospective studies and chart reviews. *Respir Care.* 2004;49:1171-1174.
23. Öztürk M. Uzmanlık tezleri (ne) işe yarar. *Sağlık düşüncesi ve. Tıp Kültürü Derg.* 2012;25:20-21.
24. İnci O. Bilimsel yayın etiği ilkeleri, yanıltmalar yanıltmaları önlemeye yönelik öneriler [Principles of scientific publication ethics, suggestions to prevent misconceptions]. *Sağlık Bilimlerinde Süreli Yayıncılık.* 2009;7:69-89.

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