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Original Article

Examination of theses on peripheral vascular surgery

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ABSTRACT

Objectives: In this document analysis , medical specialty theses published in the field of cardiovascular surgery on peripheral vascular diseases in Türkiye were evaluated.

Materials and methods: The study group of the research consisted of theses made in Türkiye between 1981 and 2021 and indexed in the database of the Council of Higher Education National Thesis Center. The theses obtained in the category of specialization in medicine and in the Cardiovascular Surgery Department with the keyword "peripheral" were transferred to Excel forms created by the researcher. The name of the author of each thesis, the year of the thesis defense, the title of the thesis, the name of the thesis supervisor, the name and type of the institution where the thesis was conducted, the sample size of the thesis, the type of the study, and the data collection tools were evaluated.

Results: As a result of the research, 32 theses were reached. The first thesis was published in 1981. The highest number of these were published between 2010 and 2019. The authors of 25 (78.12%) of the theses were male researchers. 93.75% of them were carried out at state universities. Of the 21 thesis managers, 65.62% were professors. The highest number of theses were published by Dicle University (n=3) and Atatürk University (n=3). There was only one thesis, and that was animal experimentation. In one study, a questionnaire was used as a data collection tool. In 30 of them, patient registration information was data collection tools. Sample sizes ranged from 11 to 1,136. The mean sample size was 162. The control group had only two dissertations. An ankle-brachial index measurement was used in four theses. Clinical features were compared in seven, surgical techniques in four, radiological methods, and drug efficacy in three theses.

Conclusion: Prospective studies were included in 53.12% of these. This rate is below the expected level for thesis studies. It may be more beneficial to include more experimental studies, studies with a control group, and larger sample sizes in terms of understanding the pathophysiology and management of this disease.

Keywords: Cardiovascular surgery, peripheral, thesis.

There have been major advances in the management of the most common vascular diseases in recent years. Vascular surgeons have taken the lead in the development and implementation of innovative endovascular methods that have profoundly altered the therapy options for these patients. At the same time, the development of new screening and diagnostic test methods and strategies is encouraging improvements in this field.[1]

The term thesis is derived from the Ancient Greek tithenai (to place or to put forth). It was used to refer to projects developed in higher education institutions in the years that followed. Although the earliest thesis research was conducted in Germany in the 1800s, the first theses were published in Türkiye in 1937.[2-5] One of the indicators that makes it possible to evaluate a field of science, in general, is the evaluation of theses published in that discipline. Thus, it is possible to evaluate the reality, evolution, methodological positioning, and research trends of a scientific discipline.[6]

The purpose of this study was to evaluate the methods and research strategies employed in the theses on peripheral vascular diseases that were published in the field of cardiovascular surgery in Türkiye.

MATERIALS AND METHODS

In this study, document analysis (bibliometric analysis), which is one of the qualitative research methodologies, was employed.

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The study group consisted of theses from Türkiye that were indexed in the Council of Higher Education (CoHE) National Thesis Center database between January 1981 to December 2021.[7] The theses obtained in the area of specialization in medicine with the term 'peripheral' and in the Department of Cardiovascular Surgery were transferred to Excel forms created by the researcher. For each thesis, the following contextual variables are coded: the author's name, sex, the year of the thesis defense, the title of the thesis, the name of the thesis supervisor(s), the name and type of institution where the thesis is conducted, the sample size of the thesis, the type of thesis, the number of pages of the thesis, whether open access is possible, and data collection tools.

To assess the data, percentage, and frequency values were calculated. Content analysis of published theses was also carried out.

RESULTS

As an outcome of the research, 32 theses with page counts ranging from 20 to 127 (on average 79.6) were found. Twenty-seven of them had full-text access. The first thesis was published in 1981. Most theses were published between 2010 and 2019 as shown in Table 1. Male researchers were the authors of 25 (78.12%) of the theses. Thirty (93.75%) of them were conducted at public universities as shown in Figure 1. Twenty-one (65.62%) of the thesis supervisors were professors as shown in Figure 2.

The universities with the most published theses in peripheral vascular surgery are Dicle University (n=3) and Atatürk University (n=3) as shown in Table 2.

Seventeen (53.12%) of the theses were prospective studies as shown in Figure 3.

Table 1. Theses arranged by publication date (n=32)

	n	%
1980-1989	5	15.63
1990-1999	1	3.12
2000-2009	5	15.63
2010-2019	17	53.12
2020 and later	4	12.5

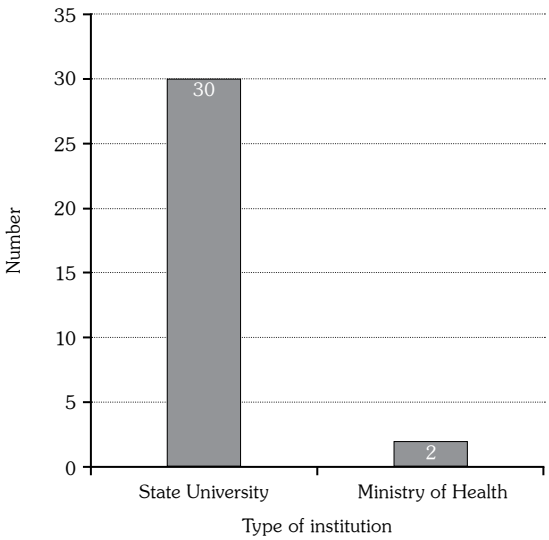

Figure 1. The type of institution where the thesis was conducted.

Table 2. The distribution of theses according to institutions (n=32)

	n
Akdeniz University	1
Anadolu University	1
Ankara University	1
Atatürk University	3
Aydın Adnan Menderes University	1
Dicle University	3
Dokuz Eylül University	2
Ege University	1
Erciyes University	1
Eskişehir Osmangazi University	1
Fırat University	1
Gulhane Military Medical Academy/Faculty of Medicine	1
Gazi University	1
Gaziosmanpaşa University	1
Hatay Mustafa Kemal University	2
İstanbul University	2
İzmir Katip Çelebi University/İzmir Atatürk Training and Research Hospital	1
Mersin University	1
Ondokuz Mayıs University	1
University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital	2
Selçuk University	1
Süleyman Demirel University	1
Trakya University	2

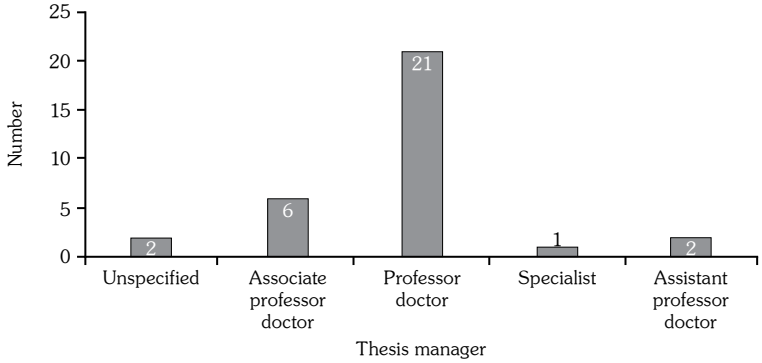

Figure 2. Distribution of theses according to thesis supervisor.

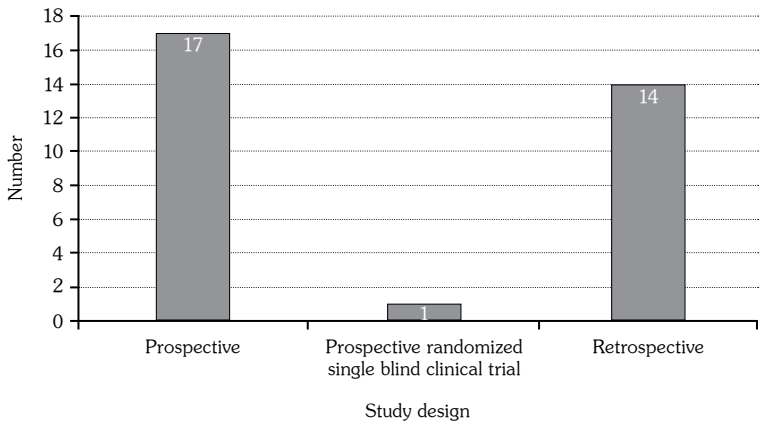

Figure 3. Distribution of theses according to study designs.

Table 3. Brief summary of theses

Features	n
Sampling	
Patient	31
Animal experiment	1
Study design	
Prospective	17
Retrospective	14
Prospective randomized single-blind clinical trial	1
Data collection tools*	
Patient data	31
Questionnaire	1
Animal experiment	1
Control group	
Yes	2
None	15
Among themselves	15
Subject area - Radiology and Nuclear Medicine + Thoracic and Cardiovascular Surgery	31
Cardiovascular Surgery	1
Research area*-Ankle brachial index measurement	4
Laboratory parameters/biochemical study	3
Biosynthetic graft materials	1
Surgical technique	4
Radiological study	3
Times of intervention	1
Short and mid-term outcomes of patients after treatment	1
Drug efficacy	8
Clinical features	7
Autologous bone marrow-derived mononuclear cell implantation	2
Risk factors	1

Table 4. Theses categorized by author, institution, and academic title of thesis supervisor

Autor	Year	Name of the institution	Academic title of the thesis supervisor
Ayten Erkal	1981	Ege University	Assistant Professor Dr.
Binali Mavitaş	1982	Dicle University	Professor Dr.
Ahmet Başoğlu	1985	Atatürk University	Unspecified
Müslüm Duru	1986	Anadolu University	Unspecified
Taşkin Yaman	1988	Dicle University	Professor Dr.
Mehmet Yeşiltay	1999	Selçuk University	Associate Professor Dr.
Serkan Durdu	2004	Ankara University	Professor Dr.
Özlem Eyisoy Özbayburtlu	2008	Eskişehir Osmangazi University	Professor Dr.
Hakan Karamustafa	2009	Ondokuz Mayıs University	Professor Dr.
Erkan Kaya	2009	Gülhane Military Medical Academy/Faculty of Medicine	Professor Dr.
Özgür Bayri	2009	Mersin University	Associate Professor Dr.
Fatma Sakıncı	2010	Gaziosmanpaşa University	Assistant Professor Dr.
Elif Coşkun	2010	Gazi University	Associate Professor Dr.
Saygin Türkyılmaz	2011	İstanbul University	Associate Professor Dr.
Sefa Şenol	2011	Fırat University	Associate Professor Dr.
Rayiha Görkem Kanar	2012	Trakya University	Professor Dr.
Celal Selçuk Ünal	2012	Trakya University	Professor Dr.
Eda Gödekmerdan	2012	Atatürk University	Professor Dr.
Ali İhsan Tekin	2012	Akdeniz University	Professor Dr.
H. Fatih Güzeldağ	2013	Erciyes University	Professor Dr.
Ahmet Han Kanpalta	2014	Dokuz Eylül University	Professor Dr.
Engin Akgül	2014	Bursa Yüksek İhtisas Training and Research Hospital	Professor Dr.
Mustafa Çağdaş Çayır	2014	Bursa Yüksek İhtisas Training and Research Hospital	Professor Dr.
Murat Yıldırım	2014	Süleyman Demirel University	Professor Dr.
Ersin Çelik	2014	İzmir Katip Çelebi University/İzmir Atatürk Training and Research Hospital	Specialist
Feyzullah Gümüşçü	2014	Dicle University	Professor Dr.
Mehmet Akif Önalan	2016	İstanbul University	Professor Dr.
Cem Lale	2018	Mustafa Kemal University	Professor Dr.
Ömer Faruk Rahman	2020	Aydın Adnan Menderes University	Professor Dr.
Burcu Sadıkoğlu Lale	2021	Mustafa Kemal University	Professor Dr.
Yasin Kılıç	2021	Atatürk University	Associate Professor Dr.
Şahin Karakılıç	2021	Dokuz Eylül University	Professor Dr.

Only one thesis included an animal experiment. A questionnaire was employed as a data-gathering tool in one investigation. The data gathering tools in 30 of them were patient record information (automation system, epicrisis). The sample sizes ranged from 11 to 1,136. The average sample size was 162. Only two theses included a control group. Fifteen of them were compared to one another. Four theses made use of ankle-brachial index measurements. Seven studies examined clinical features, four studies compared surgical techniques, three studies compared radiologic methods, and three studies evaluated pharmacological efficacy. Table 3 contains a brief summary of theses.

DISCUSSION

The theses in the Higher Education Information System (YÖKSİS) National Thesis Center database were thoroughly reviewed in our study. Although the local literature contains a wide range of research examining theses, no similar study on cardiovascular surgery was found.[8-13]

A total of 32 theses on peripheral vascular diseases in the subject of cardiovascular surgery were reached in this study. According to the same database, this rate represented only 18.07% of 177 theses. The evaluation of the theses based on the distribution of theses by years indicated that there was an increase in theses on peripheral vascular diseases, particularly between 2010 and 2019, with four theses published in the last two years. In earlier years, the distribution was erratic. This can be viewed as a step forward on this subject.

It was determined that the retrospective method was often utilized in the study area, and the data collection tools were patient data (patient documentation/automation system). Four theses contained the calculation of the ankle-brachial index. Prospective studies were included in 17 (53.12%) of the theses. This rate is lower than what is expected for thesis studies. Fourteen studies were designed retrospectively. Only two theses included a control group.

Nonetheless, the current study has several limitations. First, only theses from the relevant database were analyzed. There is a possibility that some theses are not registered in the relevant database. Second, the entire texts of numerous theses were inaccessible.

In conclusion, more experimental investigations involving control groups (e.g., inflammatory/biochemical parameters, genetic-based studies, next-generation treatments, etc.) and larger sample sizes may be more valuable in understanding the pathogenesis and management of this disease. It was determined that none of the theses we evaluated within the scope of the research were financed by institutions such as the Scientific and Technological Research Council of Türkiye/ the Scientific Research Projects (TÜBİTAK/ BAP). It can be concluded that researchers should be more assertive in utilizing financial support.

Ethics Committee Approval: This study, which used document analysis, does not require ethical approval since it is not a human or animal study. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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