A Bibliometric Review of Residency Theses on Vertigo in Türkiye

Original Investigation

Gökçe Aydemir, Cüneyt Orhan Kara, Fazıl Necdet Ardıç

Pamukkale University Faculty of Medicine, Department of Otorhinolaryngology and Head and Neck Surgery, Denizli, Türkiye

Abstract

Objective: In our study we analyzed the residency theses on vertigo in Türkiye by year, subject, and specialty with the aim of identifying academic trends.

Methods: A bibliometric review was conducted using the National Thesis Database (1972-2025). The search was performed with the keywords vertigo, vestibular, dizziness, and Ménière. Only medical specialization theses were included. Titles and abstracts were screened, and eligible theses were classified by year, specialty, and topic.

Results: A total of 180 theses were identified. The highest number of theses was produced between 2016 and 2020, followed by a decline after 2021. In the study period 103 theses were published in otorhinolaryngology, 29 in neurology, 10 in physical medicine and rehabilitation, 23 in emergency and family medicine, and 15 in other specialties. While studies showed an apparent increase in vestibular testing and rehabilitation in recent decades, these emphasized etiology and diagnostic approaches in the earlier years.

Conclusion: Most theses on vertigo were produced between 2016 and 2020, with otorhinolaryngology providing the most significant contribution. Over time, interest shifted from etiology and diagnosis towards vestibular testing and rehabilitation. The findings confirm that vertigo is a central subject in otorhinolaryngology, but also attracts growing attention in neurology, physical medicine and rehabilitation, emergency medicine, and family medicine.

Keywords: Vertigo, vestibular disease, bibliometrics, benign paroxysmal positional vertigo, vestibular migraine, otorhinolaryngology, neurology, postgraduate medical theses

ORCID IDs of the authors:

G.A. 0000-0002-9780-4413
C.O.K. 0000-0003-2219-4283
F.N.A. 0000-0003-4230-3141

Cite this article as: *Aydemir G, Kara CO, Ardıç FN. A bibliometric review of residency theses on vertigo in Türkiye. Turk Arch Otorhinolaryngol. 2025; 63(4): 196-200*

Corresponding Author:
Gökçe Aydemir, MD;
gokce.aydemir93@outlook.com

Received Date: 01.09.2025
Accepted Date: 14.10.2025
Epub: 04.11.2025
Publication Date: 26.12.2025

DOI: 10.4274/tao.2025.2025-8-13

Introduction

Vertigo is a common symptom characterized by bodily or environmental rotation sensation without actual movement. As a typical manifestation of vestibular system disorders, it is a shared focus of several medical disciplines, including otorhinolaryngology, neurology, emergency medicine, and physical medicine and rehabilitation (1). This multidisciplinary nature increases the complexity of diagnosis and treatment, broadening the scope and diversity of scientific research on vertigo (2).

In clinical practice, its evaluation varies across specialties. Neurologists often emphasize imaging methods and the exclusion of central pathologies, whereas otorhinolaryngologists prioritize audiovestibular tests, positional assessments, and vestibular maneuvers (3). In

emergency departments, the Head-Impulse-Nystagmus-Test-of-Skew protocol is critical in differentiating peripheral from central causes (4). More recently, vestibular rehabilitation has gained importance, particularly in the management of chronic vestibular dysfunction. Studies have shown that vestibular exercise protocols improve balance, dizziness, postural stability, and quality of life (5).

Medical specialization theses represent a cornerstone of scientific knowledge production in Türkiye. Beyond providing original data that support clinical practice, they foster scientific reasoning, research ability, and critical analysis among physicians in training. Bibliometric analyses on medical theses have been reported in the literature (6). Vertigo is one of the core topics in otorhinolaryngology training, yet it is also relevant to other specialties. However, the historical trajectory, thematic diversity, disciplinary distribution, and evolving academic trends of theses on vertigo—a symptom of multidisciplinary significance—have not been systematically evaluated.

The presented study, therefore, conducts a systematic bibliometric analysis of vertigo-related medical specialization theses available in the National Thesis Center (7), aiming to reveal their distribution by subject, specialty, and year. In doing so, it also seeks to provide a reference to guide future clinical and academic research on vertigo.

Methods

This descriptive study was conducted to determine the temporal distribution of medical specialization theses on vertigo in Türkiye and to classify them by subject and specialty. Data were obtained from the open-access database of the Council of Higher Education Thesis Center (7). Ethical approval was obtained from Pamukkale University Non-Interventional Clinical Research Ethics Committee (approval no: E-60116787-020-734874, date: 13.08.2025).

Vertigo, vestibular, dizziness, and Ménière were used as keywords. Only medical specialization theses were included, while master's, doctoral, proficiency in art, and other thesis types were excluded. Titles and abstracts were reviewed in detail, and only theses related to vertigo were evaluated.

The included theses were manually classified by year of publication, medical specialty (e.g., otorhinolaryngology, neurology, physical medicine and rehabilitation, emergency medicine, family medicine), and main subject headings [e.g., benign paroxysmal positional vertigo (BPPV), vestibular migraine, vestibular tests, vestibular rehabilitation, central/peripheral vertigo differentiation].

Statistical Analysis

The theses were grouped into seven periods to assess temporal changes: <1995,1995-2000, 2001-2005, 2006-2010, 2011-2015, 2016-2020, and 2021-2025. Categorical data were presented as frequencies and percentages, and all analyses were conducted using Microsoft Excel (Microsoft Corp., Redmond, WA, USA).

Results

In this study, a total of 180 residency theses on vertigo prepared in Türkiye between 1972 and 2025 were analyzed. Clear trends were observed in their distribution by specialty and year. Otorhinolaryngology, neurology, physical medicine and rehabilitation, emergency medicine, and family medicine were analyzed separately, while disciplines with fewer theses were grouped under "others" (Figure 1).

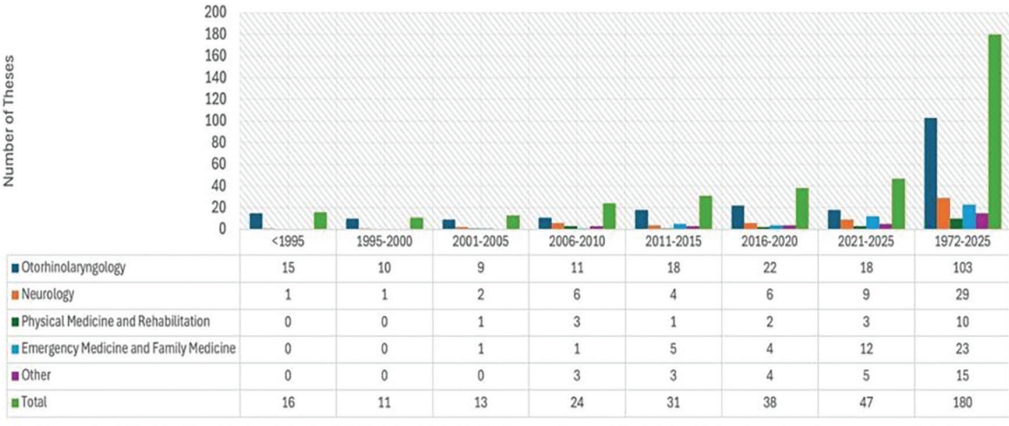
Otorhinolaryngology had the largest share, especially in the early years (1972-2000), and peaked with 22 theses between 2016 and 2020, though a relative decline was noted in 2021-2025. A marked rise was observed in this field during 2016-2020, with subtopics such as vestibular tests, BPPV, and vestibular migraine becoming prominent. Vestibular migraine first appeared between 2006 and 2010, while Ménière's disease, once a leading focus before 2001, declined steadily and ranked lowest between 2011 and 2020. Since 2006, vestibular test-related theses remained the leading subtopic (Figure 2). In otorhinolaryngology, Ménière's disease has declined as a research focus, whereas BPPV and vestibular migraine have become increasingly frequent topics.

Neurology showed a steady increase in vertigo-related theses after 2006, reaching its highest contribution in 2021-2025 with nine theses (Figure 3). Migraine and vestibular testing were the most common themes.

Although fewer, physical medicine and rehabilitation theses demonstrated a notable upward trend after 2006. The predominant topics were vestibular rehabilitation and the management of balance disorders. Between 2021 and 2024, ten theses were completed in Physical Medicine and Rehabilitation, of which nine (90%) focused on vestibular rehabilitation and one (10%) on BPPV.

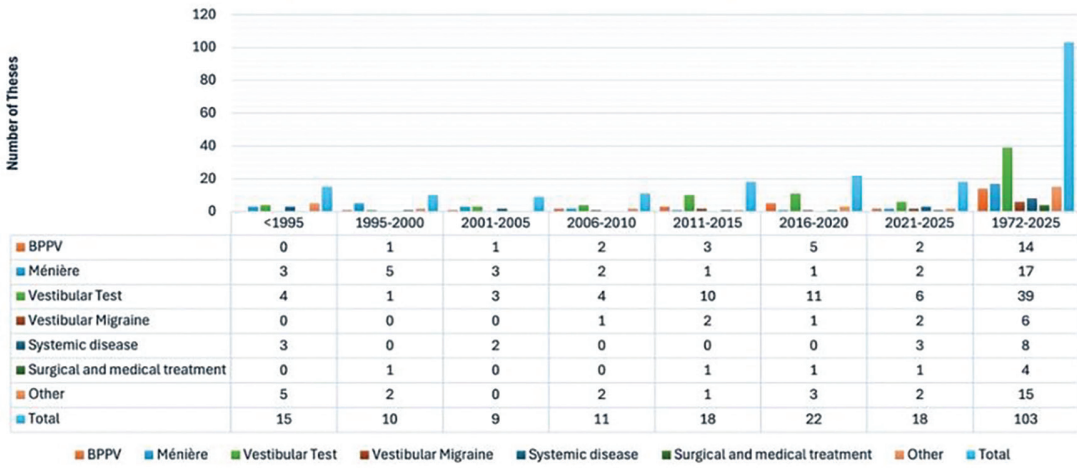
In emergency medicine and family medicine, vertigo-related theses increased markedly after 2011 (Figure 1). Most studies in these fields focused on distinguishing peripheral from central vertigo, particularly on clinical evaluation, diagnostic algorithms, and referral criteria.

Finally, other disciplines, including radiology, psychiatry, and obstetrics, produced a limited but noteworthy number of theses, underscoring the multidisciplinary nature of vertigo research.



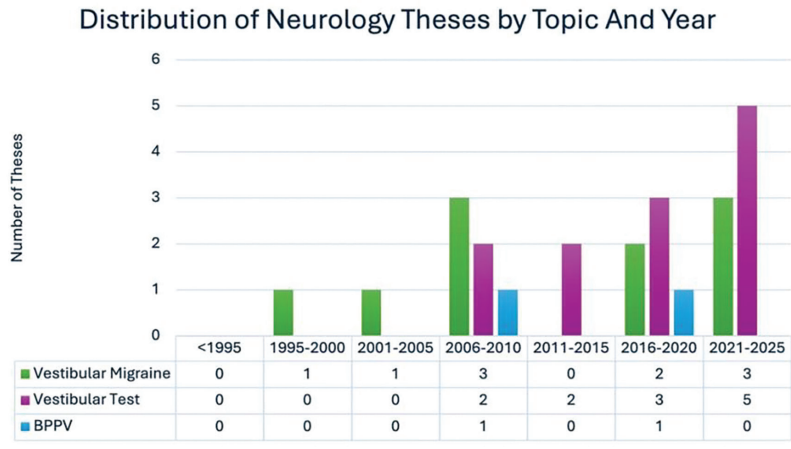
	<1995	1995-2000	2001-2005	2006-2010	2011-2015	2016-2020	2021-2025	1972-2025
Otorhinolaryngology	15	10	9	11	18	22	18	103
Neurology	1	1	2	6	4	6	9	29
Physical Medicine and Rehabilitation	0	0	1	3	1	2	3	10
Emergency Medicine and Family Medicine	0	0	1	1	5	4	12	23
Other	0	0	0	3	3	4	5	15
Total	16	11	13	24	31	38	47	180

Figure 1. Distribution of residency theses on vertigo by specialty and year



	<1995	1995-2000	2001-2005	2006-2010	2011-2015	2016-2020	2021-2025	1972-2025
BPPV	0	1	1	2	3	5	2	14
Ménière	3	5	3	2	1	1	2	17
Vestibular Test	4	1	3	4	10	11	6	39
Vestibular Migraine	0	0	0	1	2	1	2	6
Systemic disease	3	0	2	0	0	0	3	8
Surgical and medical treatment	0	1	0	0	1	1	1	4
Other	5	2	0	2	1	3	2	15
Total	15	10	9	11	18	22	18	103

Figure 2. Topic distribution of vertigo-related theses in otorhinolaryngology
BPPV: Benign paroxysmal positional vertigo, ENT: Ear-nose-throat



	<1995	1995-2000	2001-2005	2006-2010	2011-2015	2016-2020	2021-2025
Vestibular Migraine	0	1	1	3	0	2	3
Vestibular Test	0	0	0	2	2	3	5
BPPV	0	0	0	1	0	1	0

Figure 3. Topic distribution of vertigo-related theses in neurology
BPPV: Benign paroxysmal positional vertigo

Discussion

The findings of this study demonstrate that vertigo has gradually expanded beyond otorhinolaryngology to attract growing attention from other medical disciplines. In particular, the marked rise in neurology theses during 2021-2025 appears to be closely linked to the recognition of vestibular migraine as a neurological syndrome, as well as the increasing applicability of objective vestibular tests such as vestibular evoked myogenic potentials (VEMP) and video head impulse test (vHIT) in central nervous system disorders (8). Subjects previously studied in otorhinolaryngology, such as BPPV, were also revisited from a neurological perspective, indicating both qualitative and quantitative growth of scientific interest in vertigo within neurology.

In otorhinolaryngology, the decline in thesis numbers after 2021 can be attributed to the impact of the coronavirus disease 2019 (COVID-19) pandemic. Reduced patient numbers and a shift towards retrospective studies led researchers to focus on shorter and pandemic-related topics. By contrast, the sharp increase in numbers between 2016 and 2020 can be explained by the introduction and wider use of objective vestibular tests, including the vHIT, VEMP, and videonystagmography. These methods enabled broader research on vestibular migraine and vestibular rehabilitation. Unlike the limited interest reported by Kerber and Fendrick (9) in 2010 regarding dizziness, academic attention to this field has since grown steadily.

Ménière's disease presents a different trend. While international publications have shown steady growth in the past two decades, interest in Türkiye declined markedly after 2001 (10,11). This may be due to inconsistent diagnostic criteria, the absence of standardized treatment protocols, and the limitations of objective diagnostic tools. At the same time, researchers have increasingly focused on topics offering measurable outcomes and rapid data collection, such as vestibular tests, BPPV, and vestibular migraine.

BPPV has been the subject of increasing national and international academic attention. Globally, studies in otorhinolaryngology have most frequently addressed BPPV, Ménière's disease, and psychogenic vertigo (12). BPPV-related publications rose consistently each year, accelerating after 2005 and peaking in 2021 (10). Hu et al. (10) suggested that this surge was associated with increased productivity among leading researchers and a higher incidence of BPPV during the COVID-19 pandemic. Yang et al. (13) reported similar findings. Data from Türkiye reflect this global trend, with a notable rise in BPPV-related theses between 2016 and 2020. This increase is likely due to the greater availability of vestibular diagnostic tools and the fact that BPPV is both common and treatable in clinical practice.

Another significant trend is the growing interest in vestibular rehabilitation. In Türkiye, theses from otorhinolaryngology, neurology, and physical medicine and rehabilitation have increasingly addressed this area, reflecting its multidisciplinary character. These studies have emphasized vestibular retraining, improved balance control, and enhanced quality of life, thereby contributing both functional and diagnostic perspectives. International studies have highlighted similar developments. Wang et al. (5) proposed that motion sickness arises from mismatches between visual and vestibular autonomic pathways and demonstrated the effectiveness of virtual reality (VR) in rehabilitation. Since 2013, publications on VR applications in rehabilitation medicine have expanded substantially, reflecting increasing research interest. Similarly, Pan et al. (14) showed that publications on vestibular vertigo and cognition were limited before 2015. Still, a steady rise has occurred, particularly concerning vestibular disorders, vertigo, and cognitive functions in older adults, peaking in 2022 (14). These trends suggest that the vestibular system is now being evaluated not only in relation to balance but also in broader clinical contexts, including cognition, ageing, and virtual rehabilitation applications (15). Trends in Türkiye also mirror this global orientation.

Similarly, the increase in vertigo-related theses within emergency medicine and family medicine likely reflects the high frequency of vertigo presentations in emergency and primary care settings. These findings indicate that specialists in these fields are adopting more systematic and diagnosis-oriented approaches to vertigo management.

Conclusion

A peak in vertigo-related medical specialization theses was observed between 2016 and 2020, with otorhinolaryngology contributing the largest share. While early theses primarily focused on etiological and diagnostic approaches, more recent years have shown increasing interest in vestibular testing and rehabilitation. The findings confirm that vertigo remains a central subject in otorhinolaryngology, but has also attracted growing research interest in neurology, physical medicine and rehabilitation, emergency medicine, and family medicine. Over time, Ménière's disease has declined as a focus in otorhinolaryngology theses, whereas BPPV and vestibular migraine have become more prominent topics.

Ethics

Ethics Committee Approval: Ethical approval was obtained from Pamukkale University Non-Interventional Clinical Research Ethics Committee (approval no: E-60116787-020-734874, date: 13.08.2025).

Informed Consent: Bibliometric analysis.

Footnotes

Authorship Contributions

Concept: G.A., C.O.K., F.N.A., Design: G.A., C.O.K., F.N.A., Data Collection and/or Processing: G.A., Analysis or Interpretation: G.A., Literature Search: G.A., C.O.K., Writing: G.A., F.N.A.

Conflict of Interest: The authors declare that they have no conflict of interest.

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

Main Points

- This is the first bibliometric analysis of vertigo-related medical specialization theses conducted in Türkiye.
- The highest number of theses was produced between 2016 and 2020, with otorhinolaryngology providing the largest contribution.
- Research trends shifted from etiological and diagnostic approaches in earlier years to vestibular testing and rehabilitation in recent decades.
- Vertigo, while remaining a central theme in otorhinolaryngology, has also attracted increasing academic interest from neurology, physical medicine and rehabilitation, emergency medicine, and family medicine.
- Our findings highlight the multidisciplinary nature of vertigo research and provide a reference for future clinical and academic studies.

References

1. Hande V, Jain S, Ranjan A, Murali M, Singh CV, Deshmukh P, et al. Vestibular, central, and non-vestibular etiologies of vertigo and disequilibrium: a rural hospital-based cross-sectional comparative analysis. Cureus. 2023; 15: e36262. [Crossref]
2. Strupp M, Dieterich M, Brandt T. The treatment and natural course of peripheral and central vertigo. Dtsch Arztebl Int. 2013; 110: 505-15. [Crossref]
3. Zwergal A, Mantokoudis G, Heg D, Kerkeni H, Diener S, Kalla R, et al. Current status of care by neuro-otology specialists in Switzerland: a national survey. Front Neurol. 2023; 14: 1322330. [Crossref]
4. Herdman D. Advances in the diagnosis and management of acute vertigo. J Laryngol Otol. 2024; 138: S8-13. [Crossref]
5. Wang C, Kong J, Qi H. Areas of research focus and trends in the application of VR in rehabilitation medicine. Healthcare (Basel). 2023; 11: 2056. [Crossref]
6. Arabacı C, Kara B, Topuz A. Bibliometric analysis of 45 years of otolaryngology specialty theses focused on allergic rhinitis. KBB-Forum. 2024; 23: 34-8. [Crossref]
7. Council of Higher Education Thesis Center. Ulusal Tez Merkezi [Internet]. [Crossref]
8. Lempert T, Olesen J, Furman J, Waterston J, Seemungal B, Carey J, et al. Vestibular migraine: diagnostic criteria. J Vestib Res. 2012; 22: 167-72. [Crossref]
9. Kerber KA, Fendrick AM. The evidence base for the evaluation and management of dizziness. J Eval Clin Pract. 2010; 16: 186-91. [Crossref]
10. Hu Y, Lu Y, Wang S, Quan X, Ren Y, Rong K, et al. Global research trends in benign paroxysmal positional vertigo: a bibliometric analysis. Front Neurol. 2023; 14: 1204038. [Crossref]
11. Wang B, Li Y, Zhang Q, Sun J, Tian Y, Ma D, et al. Bibliometric and visualization study of Ménière's disease: current status and global hotspots and emerging trends. Medicine (Baltimore). 2023; 102: e33156. [Crossref]
12. Parker IG, Hartel G, Paratz J, Choy NL, Rahmann A. A systematic review of the reported proportions of diagnoses for dizziness and vertigo. Otol Neurotol. 2019; 40: 6-15. [Crossref]
13. Yang Y, Cui Q, Gong S. Knowledge mapping of benign paroxysmal positional vertigo from 2002 to 2021: a bibliometric analysis. J Int Adv Otol. 2024; 20: 261-71. [Crossref]
14. Pan S, Hu Y, Zhang H, He Y, Tian C, Lei J. The current status and trends of research related to vestibular disorders, vertigo, and cognitive impairment in the elderly population: a bibliometric analysis. Ear Nose Throat J. 2024; 103. [Crossref]
15. Li X, Wei C, Gao X, Sun J, Yang J. Global trends in the research on older population dizziness/vertigo: a 20-year bibliometric and visualization analysis. Braz J Otorhinolaryngol. 2024; 90: 101441. [Crossref]