doi: 10.30934/kusbed.1502287 **e-ISSN:** 2149-8571

Kocaeli Üniversitesi Sağlık Bilimleri Dergisi

Özgün Araştırma / Original Article

http://dergipark.org.tr/kusbed

BIBLIOMETRIC ANALYSIS OF THE 100 MOST CITED ARTICLES ON DYSPHAGIA REHABILITATION

Bülent Alyanak*[1], Fatih Bağcıer[2], Serkan Kablanoğlu[3]

[1]Gölcük Necati Çelik State Hospital, Physical Medicine and Rehabilitation Clinic, Kocaeli, Türkiye; [2]Basaksehir Cam Sakura City Hospital, Physical Medicine and Rehabilitation Clinic, Istanbul, Türkiye; [3]Kocaeli University, Institute of Health Sciences, Kocaeli, Türkiye

ORCID iD: Bülent Alyanak: 0000-0003-4295-4286; Fatih Bağcıer: 0000-0002-6103-7873; Serkan Kablanoğlu: 0000-0003-4812-4494

***Sorumlu Yazar / Corresponding Author**: Bülent Alyanak, **e-posta / e-mail:** bulentalyanak@hotmail.com

Geliş Tarihi / Received: 17.06.2024 **Kabul Tarihi / Accepted:** 06.01.2025 **Yayım Tarihi / Published:** 21.03.2025

Abstract

Objective: This study aims to conduct a bibliometric analysis of the 100 most-cited articles in dysphagia rehabilitation.

Methods: A comprehensive search was conducted in the Web of Science database for articles published between January 1975, and July 2024, using the keyword "dysphagia rehabilitation." The 100 most-cited articles were selected for bibliometric analysis. Key data extracted from these articles included the title, publication year, author names, total citation count, citation index, journal of publication, impact factor, and type of article. The citation index was calculated by dividing the total number of citations by the number of years since publication to assess the impact and relevance of each article over time.

Results: The T100 articles received a total of 22.674 citations. Overall, 61 journals published the T100 articles, with the Archives of Physical Medicine and Rehabilitation (n=12) being the journal that published the most. The United States, followed by England, Canada and Japan had the highest number of articles. Clinical research was the most common type of article among the T100. A strong relationship was found between the citation index and the number of citations ($p \leq 0.05$).

Conclusion: Due to its growing need, dysphagia rehabilitation is becoming an increasingly popular research area. These findings can help researchers understand the quality and trends in dysphagia rehabilitation research and guide future studies.

Keywords*: Analysis, bibliometric, dysphagia, rehabilitation*.

Introduction

The term dysphagia describe a condition in which swallowing activity becomes difficult or impaired due to dysfunction of the oropharynx and/or esophagus for anatomical or physiological reasons.[1] Underlying causes may include stroke, neuromuscular diseases, traumatic brain injuries, head and neck surgery or radiation therapy, cervical spinal cord injuries, rheumatologic diseases, chronic obstructive pulmonary disease, and sarcopenia.[2] Dysphagia, or difficulty swallowing, is relatively common in the pediatric population, though it occurs less frequently than in adults. The exact prevalence of dysphagia is not well established, but it is estimated that worldwide, between 2% and 20% of the population experiences this condition. Individuals with dysphagia are at an increased risk for various complications, including poor physical performance, social isolation, dehydration, malnutrition, aspiration pneumonia, admission to intensive care units, and even death. Additionally, dysphagia can lead to psychological issues.[2,6–8] Various treatment modalities for dysphagia rehabilitation include modifying food viscosity, implementing postural changes, utilizing swallowing maneuvers, engaging in therapeutic exercises, applying non-invasive brain stimulation, and utilizing neuromuscular electrical stimulation. A multidisciplinary approach is recommended.[9–12] From this perspective, dysphagia and its rehabilitation have received considerable attention in recent years. While innovations continue to be presented in the literature, research is still needed.

Bibliometric analysis is a statistical method that offers a wide perspective on published works. It is highly effective for understanding the current state of research in a specific field and for gaining a comprehensive overview.[13] It provides a broader perspective for reviewing existing literature, enables closer monitoring of the literature, and offers guidance for future related studies.[14] The term "bibliometric analysis" was first introduced by Prichard in 1969. The findings of bibliometric analyses can guide scientists and health policymakers in their future research efforts.[13] Bibliometric analysis can save time on future studies by providing researchers with a summary of the existing literature. It also reveals the existing trends of researchers and offers new ideas for future research.[16,17] Bibliometric analysis is extensively utilized across various medical branches and is increasingly recognized for identifying influential research within specific disciplines.[18]

In recent years, numerous articles have been published on the topic of dysphagia rehabilitation. We believe that conducting a bibliometric analysis of the most influential articles in this field is essential. To our knowledge, there has not yet been a bibliometric analysis of the 100 most cited articles in dysphagia rehabilitation. Therefore, the aim of this study is to identify significant developments in the field and contribute to the planning of future research by performing a bibliometric analysis of these articles published between 1975 and 2024 in the area of dysphagia rehabilitation.

Methods

Study Design

This study is a bibliometric analysis aimed at identifying the top 100 most-cited articles in the field of dysphagia rehabilitation. The Web of Science (WoS) database was searched using the keyword "dysphagia rehabilitation" to identify English-language articles published between 01.01.1975 and 01.07.2024.

Data Collection and Analysis

Data collection was conducted by BA and FB on July 1, 2024. After this, the data analysis, manuscript drafting, and overall writing processes were completed by BA, FB, and SK.

Article Selection

To identify the top 100 most-cited articles (T100) in the field of dysphagia rehabilitation, an independent search was conducted using the Web of Science (WoS) database. The articles were ranked based on the total number of citations.[19] The inclusion criteria were established to include only original research articles and review articles specifically related to dysphagia rehabilitation. Articles such as letters, editorials, corrections, and any other publication types that did not qualify as original research or review were excluded. Additionally, any articles that mentioned dysphagia but primarily focused on different topics were also excluded from the analysis. In instances where there was disagreement between two reviewers about whether to include or exclude an article, the final decision was reached by consensus among the authors.

Data Extraction

Article title, publication year, author names (first author), author country, total citation number, citation index, publication type, journal name, journal impact factor, h-index, and q-index were among the parameters that were captured for the bibliometric study. When many authors contributed to an article, the publication country was determined by the first author's nationality. The citation index was calculated by dividing the total number of citations by the number of years since the article was published.[20]

Statistical Analysis

IBM SPSS Statistics v25.0 software (Armonk, NY, USA) was used for statistical analysis. The distribution of variables was analyzed using the Shapiro-Wilk test. Descriptive statistics were expressed as "mean ± standard deviation" and "median, minimum-maximum" for quantitative variables. Frequencies and percentages (n [%]) were used for categorical variables. Spearman's rank correlation coefficient was used to analyze the correlation between variables that were not normally distributed. The correlation between variables was accepted as high ($r \geq 0.60$), medium (r: 0.30-0.60), and low ($r \leq 0.30$). The significance level was set at $p \leq 0.05$.[16]

Results

A total of 3,440 articles were found in the WoS database using the keyword "dysphagia rehabilitation." These articles were published between 1975 and 2024. The total number of citations and articles by year are shown in Figure 1. The most cited 20 (T20) articles are shown in Table 1. The total number of citations was 22674. The highest number of citations was 1520 and the lowest was 109. The median number of citations was 171 and the mean number of citations per article was 226.70 ± 198.39. The maximum citation index was 109.57 and the minimum was 3.83. The mean citation index of the articles was 16.08 ± 15.50 and the median citation index was 11.92. The top three most cited papers were cited 3468 times, which represents about 15% of all cited papers. The publication with the highest total number of

citations (1520 citations) is not the same as the publication with the highest citation index (109.57). A strong correlation was found between the number of citations and the citation index (r = 0.67, ≤ 0.05). The scatter plot is shown in Figure 2.

An analysis of the publication dates of the articles showed that the T100 articles were published between 1993 and 2020, with the most publications in 2001 (n=7), 2008 (n=7) and 2009 (n=7) (Figure 3). The highest number of citations was in 2005 (n=3104). T100 articles were published in 61 journals. *Archives of Physical Medicine and Rehabilitation* had the highest number of articles (n=12). This was followed by *Dysphagia* (n=11) and *Stroke* (n=4). Table 2 lists the journals that published the most articles, their h-index, q-index, and impact factor. The journal with the highest impact factor contributing articles to the T100 list was *Lancet Neurology* with 59.935. A total of 24 articles appeared in rehabilitation journals, 23 articles in neurosciences neurology journals and 22 articles in otorhinolaryngology.

Most articles in T100 (n=71) were clinical trials and the remainder (n=29) were reviews. Most clinical trials were randomized controlled trials. A total of 27 countries contributed to the T100 list. The top contributors were the United States (n=49), England (n=16), Canada (n=14), and the Japan (n=10) (Figure 4). Martino (n=6) and Wakabayashi (n=6) were the authors with the most papers according to the author analysis of T100 papers. Martino is also the most cited author (n=1671). The second most cited author was Crary (n=1181) with 4 publications in the T100 list. The number of authors per article ranged from 1 to 42. When analyzing the contributing institutions, US Department of Veterans Affairs (n=10), Veterans Health Administration (n=10), University Of Toronto (n=9), and University Of Western Ontario (n=8) were the top contributing institutions (Figure 5).

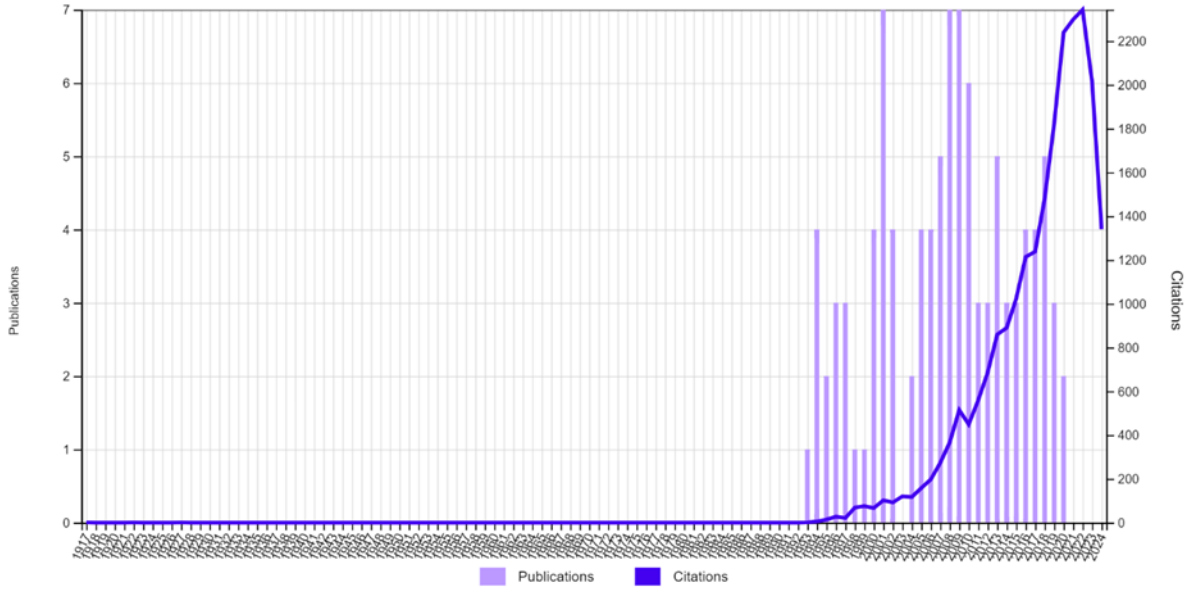

Figure 1. Scatter plot charts between citation index and total citation score.

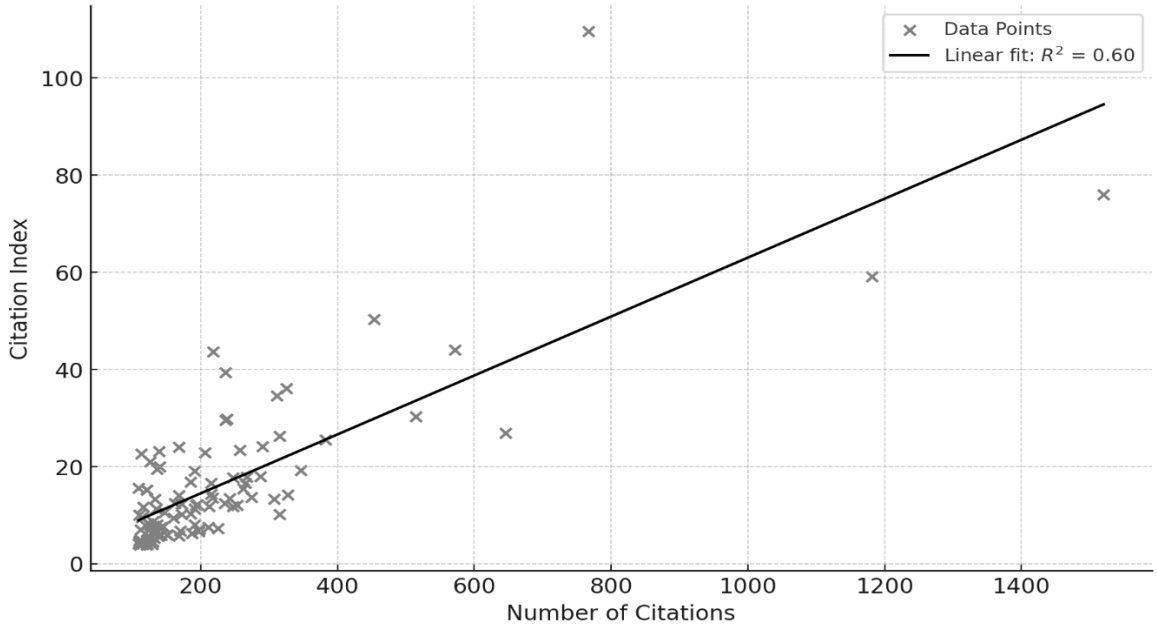

Figure 2. Number of citations and articles according to years.

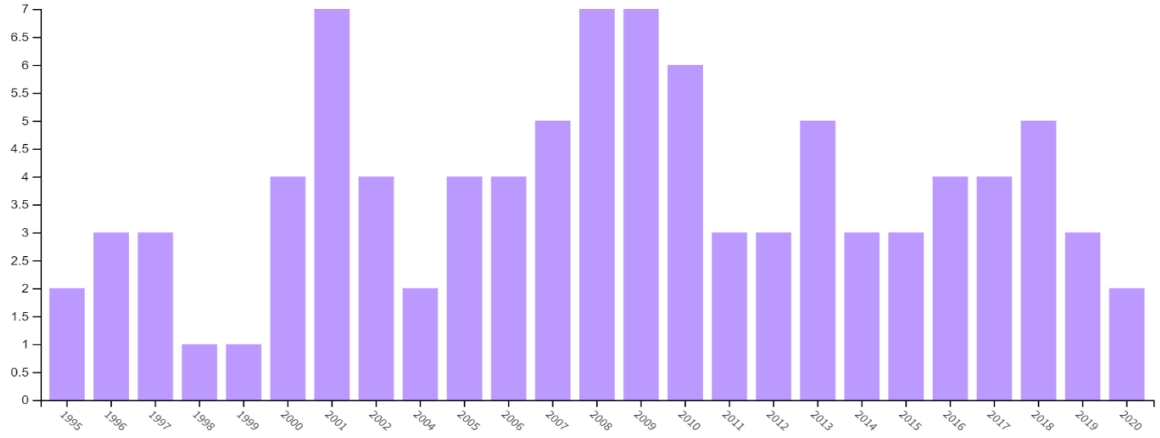

Figure 3. Distribution of the top 100 most-cited articles in dysphagia rehabilitation by year.

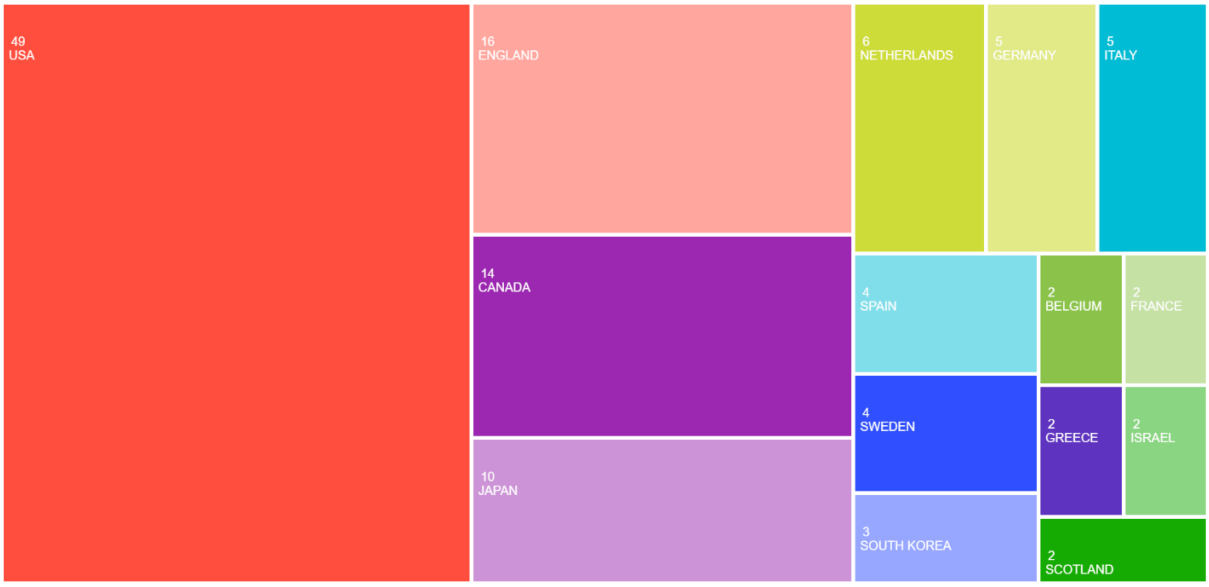

Figure 4. Country distribution of the top 100 most-cited articles in dysphagia rehabilitation.

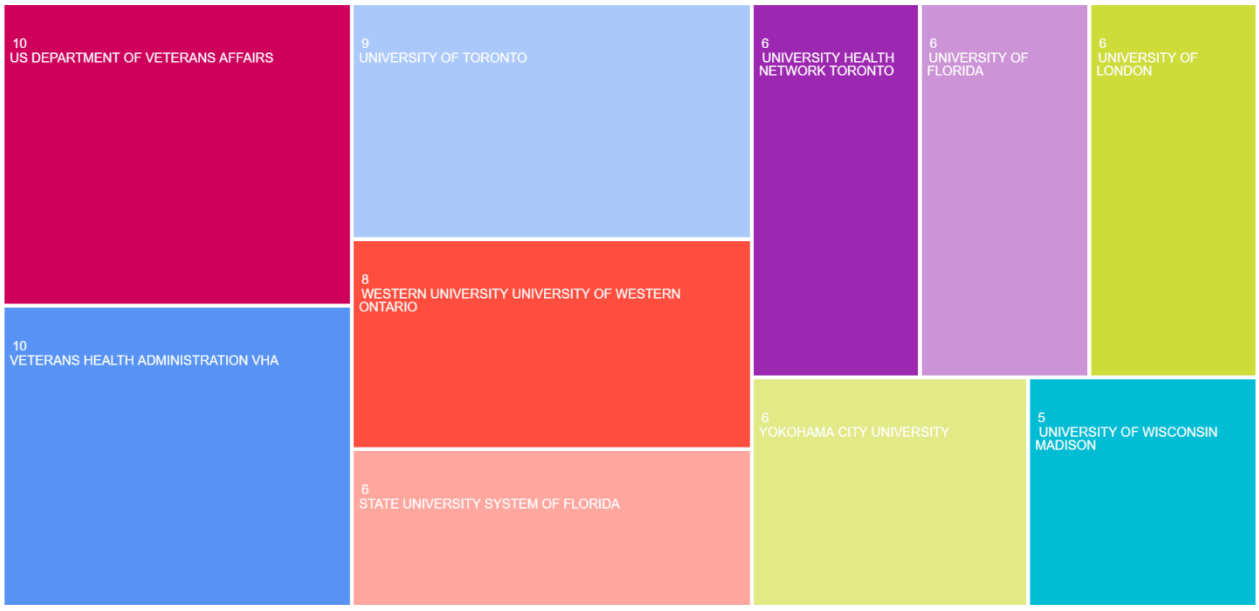

Figure 5. Institutional contributions to the top 100 most-cited articles in dysphagia rehabilitation.

Table 1. The 20 most cited articles are shown.

#	PN	FA	ST	PY	TC	CI
1	Dysphagia after stroke - Incidence, diagnosis, and pulmonary complications	Martino R	STROKE	2005	1520	76
2	Initial psychometric assessment of a functional oral intake scale for dysphagia in stroke patients	Crary MA	ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION	2005	1181	59,05
3	Diagnosis and management of Duchenne muscular dystrophy, part 1: diagnosis, and neuromuscular, rehabilitation, endocrine, and gastrointestinal and nutritional management	Birnkrant DJ	LANCET NEUROLOGY	2018	767	109.57
4	Estimates of the prevalence of acute stroke impairments and disability in a multiethnic population	Lawrence ES	STROKE	2001	646	26,92
5	Dysphagia in the elderly: management and nutritional considerations	Sura L	CLINICAL INTERVENTIONS IN AGING	2012	572	44
6	Anatomy and Physiology of Feeding and Swallowing: Normal and Abnormal	Matsuo K	PHYSICAL MEDICINE AND REHABILITATION CLINICS OF NORTH AMERICA	2008	515	30,29
7	Canadian stroke best practice recommendations: Stroke rehabilitation practice guidelines, update 2015	Hebert D	INTERNATIONAL JOURNAL OF STROKE	2016	453	50,33
8	Consequence of Dysphagia in the Hospitalized Patient Impact on Prognosis and Hospital Resources	Altman KW	ARCHIVES OF OTOLARYNGOLOGY-HEAD & NECK SURGERY	2010	382	25,47
9	The effects of lingual exercise in stroke patients with dysphagia	Robbins J	ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION	2007	346	19,22
10	Driving plasticity in human adult motor cortex is associated with improved motor function after brain injury	Fraser C	NEURON	2002	327	14,22
11	Oropharyngeal dysphagia in older persons - from pathophysiology to adequate intervention: a review and summary of an international expert meeting	Wirth R	CLINICAL INTERVENTIONS IN AGING	2016	325	36,11
12	Stroke-Associated Pneumonia: Major Advances and Obstacles	Hannawi Y	CEREBROVASCULAR DISEASES	2013	315	26,25
13	Speech and Swallowing Symptoms Associated with Parkinson's Disease and Multiple Sclerosis - A Survey	Hartelius L	FOLIA PHONIATRICA ET LOGOPAEDICA	1994	315	10,16
14	Post-stroke dysphagia: A review and design considerations for future trials	Cohen D	INTERNATIONAL JOURNAL OF STROKE	2016	311	34,56
15	Rehabilitation of swallowing by exercise in tube-fed patients with pharyngeal dysphagia secondary to abnormal UES opening	Shaker R	GASTROENTEROLOGY	2002	307	13,35

Table 1. The 20 most cited articles are shown (Continue).

16	Clinical Practice Guideline: Improving Voice Outcomes after Thyroid Surgery	Chandrasekhar S	OTOLARYNGOLOGY-HEAD AND NECK SURGERY	2013	290	24,17
17	Senescent Swallowing: Impact, Strategies, and Interventions	Ney DM	NUTRITION IN CLINICAL PRACTICE	2009	287	17,94
18	Impact of dysphagia on quality of life after treatment of head-and-neck cancer	Nyugen NP	INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS	2005	274	13,7
19	Aspiration and swallowing in Parkinson disease and rehabilitation with EMST A randomized trial	Troche MS	NEUROLOGY	2010	267	17,8
20	The Toronto Bedside Swallowing Screening Test (TOR-BSST) Development and Validation of a Dysphagia Screening Tool for Patients With Stroke	Martino R	STROKE	2009	265	16,56

Rank of the publication in terms of total citation; **PN**, publication name; **FA**, first author; **ST**, source title; **PY**, publication year; **TC**, total citation; **CI**, citation index.

Table 2. Journals with T100 articles, ranked according to times cited

Journal Name	**Number of Articles**	**Impact Factor***	**H-index****	**Q-index****
Archives of Physical Medicine and Rehabilitation	12	3.6	206	Q1
Dysphagia	11	2.51	100	Q1
Stroke	4	5.33	357	Q1
Archives of Otolaryngology-Head & Neck Surgery	3	N/A	N/A	N/A
Cochrane Database of Systematic Reviews	3	4.03	327	Q1
International Journal of Stroke	3	6.3	100	Q1
American Journal of Physical Medicine & Rehabilitation	2	1,76	117	Q1
Clinical Otolaryngology	2	1,7	81	Q1
Gastroenterology	2	25.7	466	Q1
Journal of Rehabilitation Medicine	2	2.5	113	Q1
Clinical Interventions in Aging	2	3.55	104	Q1
Clinical Nutrition	2	6.6	172	Q1
Laryncoscope	2	2.81	176	Q1
Neurology	2	3.79	411	Q1
Otolaryngology–Head and Neck Surgery	2	5.59	144	Q1

*IF: Impact factor, 2023-2024 Journal Citation Reports, Web of Science Group; ** 2024 SCImago Journal and Country Rank.

Discussion

Bibliometric analysis is a powerful instrument for discovering scientific literature on a given topic over a given period.[21] A comprehensive overview of scientific fields can be gained through bibliometric analysis, which provides valuable information and guides scientific research. The daily publication of new articles across various topics highlights the significance of this analysis. Citation analysis is a fundamental tool within bibliometrics, offering insights into current research trends and serving as an objective benchmark for evaluating the scientific impact of specific published works. Additionally, citation analysis can be used to assess the influence of authors, journals, institutions, or countries.[13] Articles with a high number of citations are often an indication of an increase in interest in a particular area of research.[16] Regardless of short-term trends, the citation index is used to determine the impact of an article.[22] For dysphagia, citation analysis and other bibliometric studies are underutilized. There is only one bibliometric analysis on "dysphagia" in the literature, and in this study, all articles published under the title "dysphagia" between 2012 and 2021 were reviewed and 14.007 articles were included in the review.[23] In our study, 3440 articles specifically in the field of "dysphagia rehabilitation" between 1975 and 2024 were analyzed and the T100 articles were highlighted.

According to the results of our analysis, the earliest T100-listed article was published in 1993 and the most recent article was published in 2020. There were no articles published between 1975-1992 and 2021-2024. An analysis showed that the total number of citations for an article does not directly correlate with the article's age. It has been noted that scientists may tend to cite updated literature in their most recent research activities.[13] This may be a reason why a publication between 1975 and 1992 is not on the T100 list. In addition, citation is a time-consuming process. It has been found that an article can reach its maximum number of citations within approximately 3 years of publication. Therefore, the database searches conducted in this study may not have included citation counts for articles published in 2021 and later.[19] When analyzing the T100 list, the most productive years in terms of articles were 2001, 2007 and 2008 with 7 articles. There is a significant increase in the number of publications especially after 2000. 31% of the studies were published in 2010 or later. This is an indication of the increasing interest in this field.

Our analysis identified three articles with the highest citation counts and indices which included two reviews or guidelines, and one study that focused on the validity and reliability of a scale.[24–26] The article with the highest number of citations (n=1520) was " Dysphagia after stroke - Incidence, diagnosis, and pulmonary complications" by Martino et al. published in *Stroke* in 2005.[24] It also ranks first in terms of annual citations from 2008 to 2019. This article also has the second-highest citation index. This article is a comprehensive systematic review that demonstrates a high incidence of pneumonia following stroke-related dysphagia. It emphasizes that the risk of pneumonia is highest in stroke patients with aspiration. The second most cited article (n=1181) was "Initial psychometric assessment of a functional oral intake scale for dysphagia in stroke patients" an article published by Crary et al.[25] This article also had the third highest citation index (n=59.05). Although this article was published in 2005, it received its first citation in 2007 and the highest number of citations in 2021. This pattern illustrates that the accumulation of citations is not solely dependent on the publication date; significant research can gain recognition and become highly cited many years after its initial release.

The third most frequently cited article is also the one with the highest citation index.[26] This indicates that the third most frequently cited article has the highest average number of citations per year since its publication. A high citation index indicates that the article has remained relevant and influential in the field over time. This trend may reflect the continued significance of its findings and its frequent reference in later research on dysphagia rehabilitation. Together, these landmark studies highlight the transformative effect of rigorous systematic reviews and validated assessment tools in this area. They serve as foundational elements that continue to shape clinical practice and drive innovative research aimed at improving patient outcomes.

In our study, as in other studies, the country that contributed the most T100 articles was the USA with 49 articles. This was followed by England with 16 articles, Canada with 14 articles, and the Japan with 10 articles. Of articles, 6 were from Netherlands and 5 were from Germany. In general, 63 articles in T100 articles were from North American countries, Similar results were found in the bibliometric analysis of Sun et al.on dysphagia, and the countries with the most publications were the USA, respectively.[23] Canada and the United Kingdom were also among the top ten countries. Considering these results, the absolute dominance of North American countries in both dysphagia and dysphagia rehabilitation is striking. There is also a significant contribution from European countries. The institutions that published these articles were mostly located in North America, Europe, and East Asia. The US Department of Veterans Affairs and Veterans Health Administration contributed the most with 7 articles. Sun et al.[23] positioned Northwestern University with 236 articles and Mayo Clinic with 212 articles as the centers of swallowing research, producing the highest number of articles. These findings underscore the dominant role of North American countries and institutions in dysphagia rehabilitation research, highlight the significant contributions of leading centers, and point to the potential benefits of increased international collaboration to further advance the field.

According to our analysis, Martino and Wakabayashi are the authors with the most articles (n=6) on the T100 list. Martino received a total of 2282 citations and Wakabayashi a total of 1066 citations. Hamdy with 5 papers, Robbins with 5 papers and Crary with 4 papers were the authors who contributed the most papers. Our analysis took into account the number of articles contributed by the authors and did not take into account the effect of author ranking. "*Archives of Physical Medicine and Rehabilitation*" was the journal with the highest number of articles in T100 with a total of 12 articles. When ranked by number of publications, high impact journals such as *Dysphagia* (n=11), *Stroke* (n=4), *Archives of Otolaryngology-Head & Neck Surgery* (n=3) have a total of 30 articles. Similar to he previous study[23], *Dysphagia* was the journal with the highest number of publications. Bradford's law can be used to evaluate data on the number of articles published in a journal. This law assumes that authors want to publish their articles in certain journals and that any deviation from these journals reduces the article's impact.[27] It is expected that the journal "Dysphagia," which publishes only multidisciplinary studies on swallowing and swallowing disorders, is the most effective journal in this field; therefore, authors tend to publish their studies here.[23]

Of the T100 articles, 24 were published in rehabilitation journals. This is considered a common outcome. Secondly,

22 articles were published in journals related to neuroscience-neurology. Interestingly, 16 articles were published in sports science journals. In terms of the publishers of the journals in which the articles were published, In terms of research type, clinical trials were found to be much more common, similar to other studies.[18] The most common type of article in the T100 list for dysphagia rehabilitation was clinical trials with 71 articles. Most of these were randomized controlled trials as a subtype of clinical trials. The other 29 articles were of the type "review". This distribution underscores the central role of rigorous clinical research—particularly randomized controlled trials—in advancing dysphagia rehabilitation, while highlighting the field's interdisciplinary reach across rehabilitation, neuroscience, and even sports science, which collectively propel the evolution of evidence-based practices.

Limitations

Our study has several limitations. Firstly, the research was conducted exclusively using the Web of Science (WoS) database, which means that other databases were not considered. This may have impacted the number of studies evaluated. Additionally, the literature is constantly evolving, so this analysis reflects only a snapshot from a specific point in time. We included only articles published in English in our review, and incorporating articles in other languages could provide a broader perspective.

Moreover, we did not examine self-citations or the interactions between citations. Factors that might influence the outcomes, such as the income levels of countries, were also not included in this analysis. It is important to acknowledge that citation analysis does not necessarily reflect the quality of an article; it merely offers a quantitative assessment of its contribution to a particular field. Therefore, there is a need for more comprehensive studies that include articles in various languages, analyze additional databases, conduct self-citation assessments, and incorporate altmetric analysis.

Conclusion

This study presents a comprehensive bibliometric analysis of the top 100 most-cited articles in dysphagia rehabilitation, providing an in-depth perspective on the global research landscape. By examining publication trends, citation patterns, and key contributors, this analysis highlights critical research directions, identifies prevailing themes, and reveals gaps within the current body of literature. These findings underscore the dynamic and evolving nature of dysphagia rehabilitation research, emphasizing areas that require further exploration and innovation. The insights derived from this study can help shape future research priorities, promote interdisciplinary collaboration, and enhance the development of evidence-based therapeutic strategies to improve patient outcomes in dysphagia rehabilitation.

Acknowledgments

No grant was given to this research by any funding organization in the public, private, or nonprofit sectors

Author's Contributions

B.A., F.B.: Conception; B.A., F.B., S.K. :Design; B.A., F.B., S.K.: Supervision; B.A., F.B.: Data Collection; B.A., F.B., S.K.: Data Analysis and Interpretation; B.A., F.B., S.K.: Literature Review; B.A., F.B., S.K.: Manuscript Drafting; B.A., F.B., S.K.: Critical Revision

Conflict of Interest

No potential conflict of interest was reported by the author(s).

Financial Support

The study was not funded by any institution/organization.

References

1. Shaker R. Oropharyngeal Dysphagia. *Gastroenterol Hepatol (N Y)*. 2006;2(9):633. doi:10.1007/978-3-030-30192-7_40.
2. Lancaster J. Dysphagia: its nature, assessment and management. *Br J Community Nurs*. 2015;Suppl Nutrition:S28-S32. doi:10.12968/BJCN.2015.20.SUP6A.S28.
3. McCarty EB, Chao TN. Dysphagia and Swallowing Disorders. *Med Clin North Am*. 2021;105(5):939-954. doi:10.1016/J.MCNA.2021.05.013.
4. Roden DF, Altman KW. Causes of dysphagia among different age groups: a systematic review of the literature. *Otolaryngol Clin North Am*. 2013;46(6):965-987. doi:10.1016/J.OTC.2013.08.008.
5. Adkins C, Takakura W, Spiegel BMR, et al. Prevalence and Characteristics of Dysphagia Based on a Population-Based Survey. *Clin Gastroenterol Hepatol*. 2020;18(9):1970-1979.e2. doi:10.1016/J.CGH.2019.10.029.
6. Thiyagalingam S, Kulinski AE, Thorsteinsdottir B, Shindelar KL, Takahashi PY. *Dysphagia in Older Adults*. Mayo Clin Proc. 2021;96(2):488-497. doi:10.1016/J.MAYOCP.2020.08.001.
7. Zuercher P, Moret CS, Dziewas R, Schefold JC. Dysphagia in the intensive care unit: epidemiology, mechanisms, and clinical management. *Crit Care*. 2019;23(1). doi:10.1186/S13054-019-2400-2.
8. Vergis EN, Brennen C, Wagener M, Muder RR. Pneumonia in long-term care: a prospective case-control study of risk factors and impact on survival. *Arch Intern Med*. 2001;161(19):2378-2381. doi:10.1001/ARCHINTE.161.19.2378.
9. Sura L, Madhavan A, Carnaby G, Crary MA. Dysphagia in the elderly: management and nutritional considerations. *Clin Interv Aging*. 2012;7:287-298. doi:10.2147/CIA.S23404.
10. Foley N, Teasell R, Salter K, Kruger E, Martino R. Dysphagia treatment post stroke: a systematic review of randomised controlled trials. *Age Ageing*. 2008;37(3):258-264. doi:10.1093/AGEING/AFN064.
11. Carnaby GD, LaGorio L, Silliman S, Crary M. Exercise-based swallowing intervention (McNeill Dysphagia Therapy) with adjunctive NMES to treat dysphagia post-stroke: A double-blind placebo-controlled trial. *J Oral Rehabil*. 2020;47(4):501-510. doi:10.1111/JOOR.12928.
12. Park HS, Oh DH, Yoon T, Park JS. Effect of effortful swallowing training on tongue strength and oropharyngeal swallowing function in stroke patients with dysphagia: a double-blind, randomized controlled trial. *Int J Lang Commun Disord*. 2019;54(3):479-484. doi:10.1111/1460-6984.12453.
13. Gao Q, Zhang C, Wang J, et al. The top 100 highly cited articles on osteoporosis from 1990 to 2019: a bibliometric and visualized analysis. *Arch Osteoporos*. 2020;15(1). doi:10.1007/S11657-020-0705-Z.
14. Ellegaard O, Wallin JA. The bibliometric analysis of scholarly production: How great is the impact? *Scientometrics*. 2015;105(3):1809-1831. doi:10.1007/S11192-015-1645-z.
15. Stork H, Astrin JJ. Trends in Biodiversity Research - A Bibliometric Assessment. *Open J Ecol*. 2014;04(07):354-370. doi:10.4236/OJE.2014.47033.
16. Temel MH, Erdem İH, Kul A, Bağcıer F. Bibliometric analysis of the top 100 most-cited articles on the treatment of osteoporosis. *Arch Osteoporos*. 2022;17(1). doi:10.1007/S11657-022-01141-6.
17. Wang Y, Zhang H, Fang R, Tang K, Sun Q. The top 100 most cited articles in rosacea: a bibliometric analysis. *J Eur Acad Dermatol Venereol*. 2020;34(10):2177-2182. doi:10.1111/JDV.16305.

18. Gondivkar SM, Sarode SC, Gadbail AR, Gondivkar RS, Chole R, Sarode GS. Bibliometric analysis of 100 most cited articles on oral submucous fibrosis. *J Oral Pathol Med.* 2018;47(8):781-787. doi:10.1111/JOP.12742.
19. Bağcier F, İNal Yorulmaz E, Çağlar Yağci H. Top 100 cited articles on fibromyalgia syndrome: A bibliometric and altmetric analyses study. *Agri.* 2021;33(2):53-63. doi:10.14744/AGRI.2021.53189.
20. Yin X, Cheng F, Wang X, et al. Top 100 cited articles on rheumatoid arthritis: A bibliometric analysis. *Medicine.* 2019;98(8). doi:10.1097/MD.0000000000014523.
21. Alyanak B, Yıldızgören MT, Bağcıer F. Bibliometric and Altimetric Analysis of Research Relating to Percutaneous Electrolysis. *Muscles Ligaments Tendons J.* 2024;14(1):131-144. doi:10.32098/mltj.01.2024.11.
22. Berlinberg A, Bilal J, Riaz IB, Kurtzman DJB. The 100 top-cited publications in psoriatic arthritis: a bibliometric analysis. *Int J Dermatol.* 2019;58(9):1023-1034. doi:10.1111/IJD.14261.
23. Sun W, Kang X, Zhao N, et al. Study on dysphagia from 2012 to 2021: A bibliometric analysis via CiteSpace. Front *Neurol*. 2022;13. doi:10.3389/FNEUR.2022.1015546.
24. Martino R, Foley N, Bhogal S, Diamant N, Speechley M, Teasell R. Dysphagia after stroke: incidence, diagnosis, and pulmonary complications. *Stroke.* 2005;36(12):2756-2763. doi:10.1161/01.STR.0000190056.76543.EB.
25. Crary MA, Carnaby Mann GD, Groher ME. Initial psychometric assessment of a functional oral intake scale for dysphagia in stroke patients. *Arch Phys Med Rehabil.* 2005;86(8):1516-1520. doi:10.1016/J.APMR.2004.11.049.
26. Birnkrant DJ, Bushby K, Bann CM, et al. Diagnosis and management of Duchenne muscular dystrophy, part 1: diagnosis, and neuromuscular, rehabilitation, endocrine, and gastrointestinal and nutritional management. *Lancet Neurol.* 2018;17(3):251-267. doi:10.1016/S1474-4422(18)30024-3.
27. Brookes BC. Bradford's Law and the bibliography of science. *Nature.* 1969;224(5223):953-956. doi:10.1038/224953A0.