

ORIGINAL RESEARCH ORJİNAL ARAŞTIRMA

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Mapping of Studies on Knee and Hip Replacement in Nursing, Web of Science Analysis: A Descriptive Study

Hemşirelik Alanında Diz ve Kalça Protezi ile İlgili Çalışmaların Haritalanması, Web of Science Analizi: Tanımlayıcı Bir Çalışma

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ABSTRACT Objective: This study aimed to conduct a bibliometric analysis of nursing studies related to knee and hip replacements published in the Web of Science (WOS) database since 2015. **Material and Methods:** The retrospective descriptive study was conducted in June 2024 in a computerized environment. A search of the WOS Core Collection was conducted using the keywords “arthroplasty”, “knee replacement”, and “hip replacement”. The RStudio Biblioshiny package was utilized for the bibliometric analysis of the data obtained from 364 articles that met the inclusion criteria. **Results:** The analysis revealed that the annual growth rate of publications was -5.09% across 73 different sources between 2015 and 2024. The most frequently used keywords were “arthroplasty” (7%, n=70), “replacement” (6%, n=63), and “surgery” (5%, n=52). “Orthopaedic Nursing” was identified as the most common journal for related publications. In terms of author distribution by country, Türkiye ranked 6th, with no evidence of co-publication with other countries. An analysis of the countries of the authors responsible for the publications evaluated revealed that there were 37 different countries, with the USA in first place with 117 publications. **Conclusion:** Nursing research on knee and hip replacement focuses on specific areas such as prosthesis, surgery, pain and care. Although there has not been a significant annual increase in the volume of nursing research on knee and hip replacement over the last decade, it has been noted that there is still active research in this area.

Keywords: Arthroplasty; orthopaedic procedures; bibliometrics; replacement; nursing

ÖZET Amaç: Bu çalışmada, 2015 yılından itibaren Web of Science (WOS) veri tabanında yayınlanan diz ve kalça protezi ile ilgili hemşirelik çalışmalarının bibliyometrik analizinin yapılması amaçlanmıştır. **Gereç ve Yöntemler:** Retrospektif tanımlayıcı tipte olan çalışma Haziran 2024’te bilgisayar ortamında gerçekleştirilmiştir. WOS Core Koleksiyonunda “artroplasti”, “diz protezi” ve “kalça protezi” anahtar kelimeleri kullanılarak bir arama yapıldı. Dâhil edilme kriterlerini karşılayan 364 makaleden elde edilen verilerin bibliyometrik analizi için RStudio Biblioshiny paketi kullanılmıştır. **Bulgular:** Analiz, 2015-2024 yılları arasında 73 farklı kaynaktan yayınların yıllık büyüme oranının -%5,09 olduğunu ortaya koymuştur. En sık kullanılan anahtar kelimeler “artroplasti” (%7, n=70), “replasman” (%6, n=63) ve “cerrahi” (%5, n=52) olmuştur. “Ortopedik Hemşirelik” ilgili yayınlar için en yaygın dergi olarak belirlenmiştir. Yazarların ülkelere göre dağılımında Türkiye altıncı sırada yer alırken, diğer ülkelerle ortak yayın yapıldığına dair bir kanıt bulunmamıştır. Değerlendirilen yayınlardan sorumlu yazarların ülkeleri incelendiğinde, 37 farklı ülke olduğu ve ABD’nin 117 yayımla ilk sırada yer aldığı görülmüştür. **Sonuç:** Diz ve kalça protezi ile ilgili hemşirelik araştırmaları protez, cerrahi, ağrı ve bakım gibi spesifik alanlara odaklanmaktadır. Son 10 yılda diz ve kalça protezi üzerine yapılan hemşirelik araştırmalarının hacminde yıllık olarak önemli bir artış olmamasına rağmen, bu alanda hala aktif bir araştırma olduğu kaydedilmiştir.

Anahtar Kelimeler: Artroplasti; ortopedik prosedürler; bibliyometri; replasman; hemşirelik

The term “bibliometrics” was first introduced by Pritchard in 1969.^{1,2} The field of bibliometrics employs quantitative methods to evaluate a set of publi-

cations.¹ Bibliometric analysis is a method that assesses the status and impact of publications in scientific journals through the application of mathematical

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and statistical techniques.³ Bibliometrics is a field of study that employs quantitative methodologies to evaluate academic productivity.⁴ By focusing on articles published in a journal, it allows for the analysis of publications on related topics, citation structure, authors, institutions, countries, and keywords.² It generates a visual representation of publications in related fields.^{1,2,5} Bibliometric studies can provide a robust foundation for advancing a field in novel and meaningful ways, enabling researchers to gain a comprehensive overview, identify knowledge gaps, derive new ideas for research, and situate their intended contributions within the broader context of the field.⁶⁻⁸ Scholars employ bibliometric analysis for a variety of reasons, including the identification of emerging trends in article and journal performance, the examination of patterns of collaboration and research components, and the investigation of the intellectual structure of a given field within the existing literature.⁶ The application of bibliometrics is becoming increasingly prevalent across all academic disciplines.^{7,9,10}

Osteoarthritis is a disease involving multiple anatomical and physiological changes in joint tissues, including cartilage degradation, bone remodeling, and osteophyte formation.^{11,12} The prevalence of osteoarthritis is increasing as a result of the aging population.^{13,14} Osteoarthritis is the most common cause of activity limitation in adults, affecting an estimated 200-300 million people worldwide.^{13,15,16} Osteoarthritis is most common in the knees and hips, followed by the hands and spine. Non-invasive and invasive treatment options include patient education, weight loss, exercise and physical therapy, intra-articular corticosteroid injections, and arthroplasty. Total joint replacement surgery is recommended when conservative methods are ineffective.¹³ The prevalence of replacement rates is on the rise due to the paucity of efficacious non-surgical therapeutic alternatives for hip and knee osteoarthritis.¹⁷ Knee and hip arthroplasty is the most effective and safest treatment option for end-stage joint disease.¹⁸

Total joint replacement therapies are employed to provide patients with efficacious pain management, reduce inflammatory processes, alleviate stiffness, enhance strength, and restore joint mobility and weight-bearing capacity.¹⁹ According to Organisation

for Economic Co-operation and Development (OECD) Health Statistics, the number of hip replacements performed in 2020 was 41,603, rising to 54,835 in 2023. Similarly, the number of knee replacement procedures performed increased from 53,359 in 2020 to 92,893 in 2023. According to OECD Health Statistics data, the number of total knee replacement surgeries in Türkiye in 2023 is 63.3 per 100,000 people, while the number of total hip replacement surgeries is 107.5 per 100,000 people.²⁰ In conjunction with the rise in musculoskeletal issues (osteoarthritis, rheumatoid arthritis, trauma, etc.) associated with an aging population and extended life expectancy, the number of total hip replacement and total knee replacement procedures, among the most common operations in Orthopaedic surgery, has been gradually increasing.²¹⁻²³ This trend is expected to continue, with an anticipated rise in the number of cases in the future.²¹⁻²³

As the number of these surgeries continues to increase, it has become imperative for nurses to enhance their knowledge, skills, and interventions for the care of these patients.¹⁹ Given the high rate of surgeries and the prediction that this number will increase in the future, a review of the literature on nursing research on the subject was deemed necessary. However, no bibliometric study on nursing research on this subject was identified in the literature. It is anticipated that this study will contribute to the existing literature and serve as a guide for nurses and researchers working in this field, enabling them to evaluate the literature and direct the development and progress of studies over the past decade.

The objective of this study was to conduct a bibliometric analysis of the literature on total knee and hip replacement in the field of nursing, with the aim of producing a comprehensive overview of the existing publications on this subject.

Research Questions

What advances have been made in nursing research on knee and hip replacement in the last decade?

What are the most common themes and research areas in nursing research on knee and hip replacement?

Which articles were cited most frequently in nursing research on knee and hip replacement and which sources were used the most?

What is the geographical distribution of nursing literature on knee and hip replacement?

MATERIAL AND METHODS

STUDY DESIGN

This study is descriptive in nature.

STUDY POPULATION AND SAMPLE

The study population comprised 125,333 articles accessed via the Web of Science (WOS) database using relevant keywords. The sample consisted of 364 articles that met the pre-established inclusion criteria.

DATA COLLECTION

The study was computerized in June 2024. The WOS Core Collection was searched using the following keywords: “*arthroplasty*”, OR “*knee replacement*”, OR “*hip replacement*”. A total of 364 articles were included in the analysis, having met the pre-established inclusion criteria (Figure 1).

Inclusion Criteria

It should include relevant keywords, be published in English, be specific to the field of nursing, be a research article and published within the last 10 years (2015-2024) to evaluate current studies.

Exclusion Criteria

Non-nursing publications, non-research articles, publications outside the last 10 years (publications prior to 2015), publications in languages other than English.

DATA ANALYSIS

The data of the publications retrieved according to the relevant keywords and inclusion criteria were retrieved from WOS in BibTeX (Developer/Manufacturer: Oren Patashnik & Leslie Lamport; Country of Origin: United States) format. The bibliometric analysis of the data from the included studies was conducted using RStudio [Developer/Manufacturer: Posit, PBC (formerly RStudio, Inc.); Country of Origin: United States] version 4.2.1 and the Biblioshiny package.⁶

The “overview” section was examined to obtain the results of the analysis of the general information of the publications, the “documents” section to analyze the word cloud of the publications, trending top-

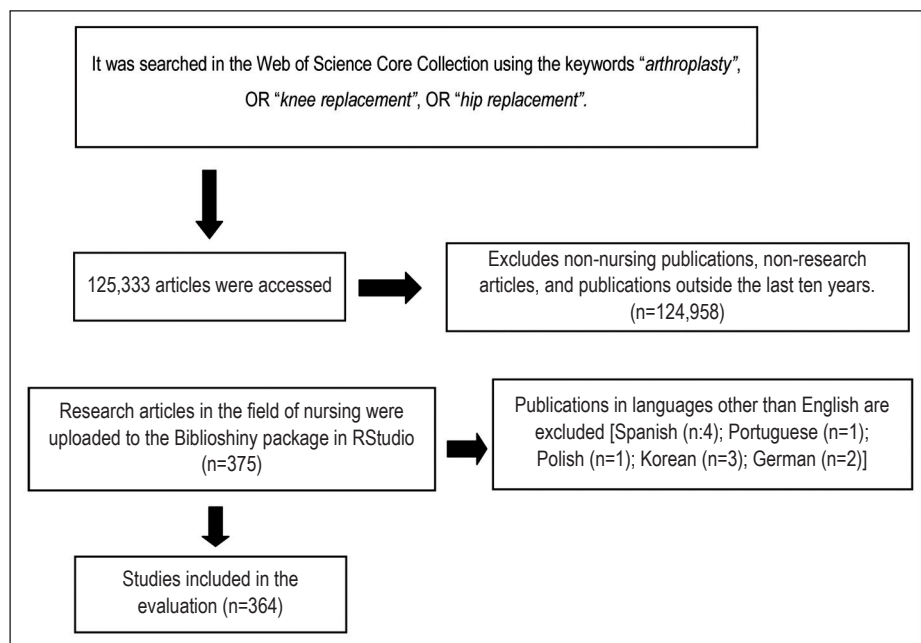


FIGURE 1: Flow diagram.

ics, most cited documents, the “network approach” section to analyze the author’s keywords occurrence network and co-occurrence network analysis in the title field. In addition, the “sources” section was used to analyze the most relevant sources and Bradford’s Law and literature distribution, the “authors” section was used to analyze the authors’ production over time, author productivity using Lotka’s Law, the country of the responsible author, the countries’ production over time, and the “Social Structure” section was used to analyze the co-creation networks between countries and the co-occurrence network between countries.

ETHICS STATEMENT

The study was conducted in a computerized environment and analyzed published articles in the literature. No ethical procedures were required. This study was conducted in accordance with the tenets of the Declaration of Helsinki.

RESULTS

OVERVIEW OF DOCUMENTS

Upon examination of the basic information about the publications, it was determined that they were included in 73 different sources between 2015 and 2024, the average number of citations per document was 6,176, 1,267 different authors were involved in the publications, and 23 were single-author articles (Table 1). A review of the distribution of analyzed publications by year revealed the following: 40 in 2015; 39 in 2016; 31 in 2017; 34 in 2018; and 42 in 2019; 41 in 2020; 33 in 2021; 40 in 2022; 39 in 2023; and 25 in 2024 (Table 2).

DOCUMENTS

According to the “WordCloud [(R package) Developer/Manufacturer: Ian Fellows (maintainer); Country of Origin: United States]” analysis result of the “words” subtab of the “documents” tab, the 50 most frequently used keywords were analyzed. According to the analysis results, the first 3 most frequently used keywords were “arthroplasty” 7% (n=70), “replacement” 6% (n=63), “surgery” 5% (n=52) (Figure 2). A “trend topics” analysis of the “words” sub-tab of the “documents” tab revealed the distri-

TABLE 1: Main data on publications on knee and hip replacement

Description	Results
Main information about data	
Timespan	2015:2024
Sources (journals, books, etc.)	73
Documents	364
Annual growth rate %	-5.09
Document average age	4.63
Average citations per doc	6.176
References	9,999
Document contents	
Keywords plus (ID)	753
Author’s keywords (DE)	834
Authors	
Authors	1,267
Authors of single-authored docs	22
Authors collaboration	
Single-authored docs	23
Co-Authors per doc	4.19
International co-authorships %	13.19
Document types	
Article	361
Article; early access	1
Article; proceedings paper	2

ID: Identified Keywords or Keywords Plus; DE: Descriptors or Author’s Keywords

TABLE 2: Average citation per year

Year	n	Mean TC per Art	Mean TC per Year	Citable Years
2015	40	11.85	1.32	9
2016	39	13.59	1.70	8
2017	31	10.23	1.46	7
2018	34	9.26	1.54	6
2019	42	6.21	1.24	5
2020	41	4.02	1.01	4
2021	33	2.91	0.97	3
2022	40	1.52	0.76	2
2023	39	0.74	0.74	1
2024	25	0.00		0

TC: Total citations

bution of trending topics over time. The shift in the topics of publications in recent years has been marked by a focus on both similar and different topics. In recent years, the focus has been on “enhanced recovery”, “risk”, and “pain” (Graphic 1). In the “Most Global Cited Documents” sub-tab of the “Documents” tab, the 10 most frequently cited

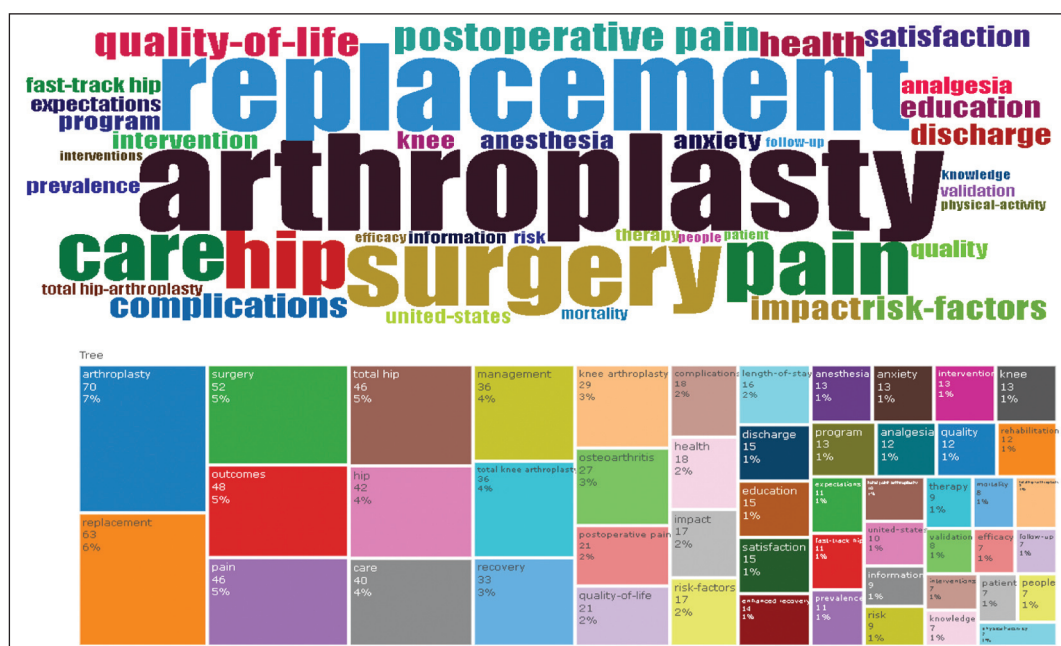
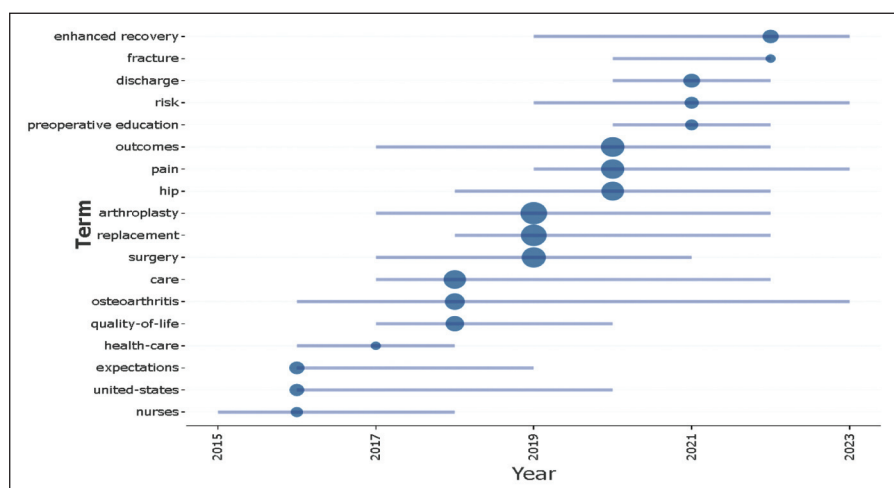


FIGURE 2: The words used

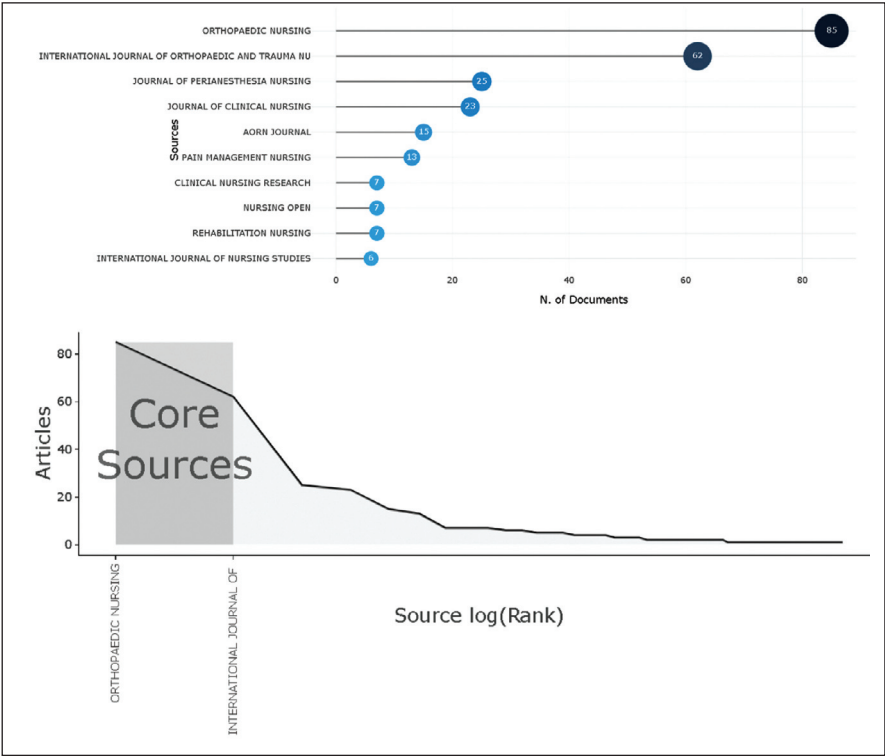


GRAPHIC 1: Trend topics

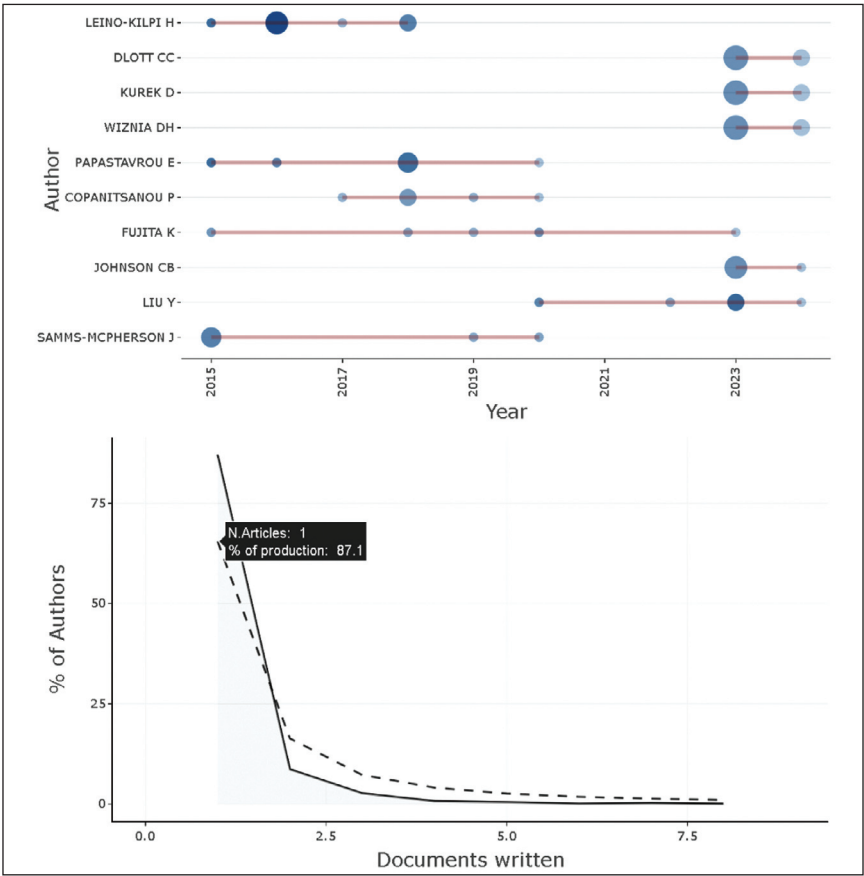
TABLE 3: Most global cited documents

Paper	Doi	Total citations	TC per year	Normalized TC
Silver JK ²⁰ , 2015, Semin Oncol Nurs	10.1016/j.soncn.2014.11.003	85	8.50	7.17
Nyvang J, 2016, Int J Qual Stud Health Well-Being	10.3402/qhw.v11.30193	53	5.89	3.90
Specht K, 2016, J Clin Nurs	10.1111/jocn.13121	51	5.67	3.75
Gwynne-Jones DP, 2017, Orthop Nurs	10.1097/NOR.0000000000000351	40	5.00	3.91
Baldwin AL, 2017, Holist Nurs Pract	10.1097/HNP.0000000000000195	35	4.38	3.42
Sjoveian AKH, 2017, Int J Orthop Trauma Nurs	10.1016/j.ijotn.2017.07.001	31	3.88	3.03
Specht K, 2015, Int J Orthop Trauma Nurs	10.1016/j.ijotn.2014.10.001	30	3.00	2.53
Klemetti S, 2015, Clin Nurs Res	10.1177/1054773814549992	28	2.80	2.36
Specht K, 2018, Int J Orthop Trauma Nurs	10.1016/j.ijotn.2018.08.002	28	4.00	3.02
Clode NJ, 2018, Int J Orthop Trauma Nurs	10.1016/j.ijotn.2018.05.004	27	3.86	2.91

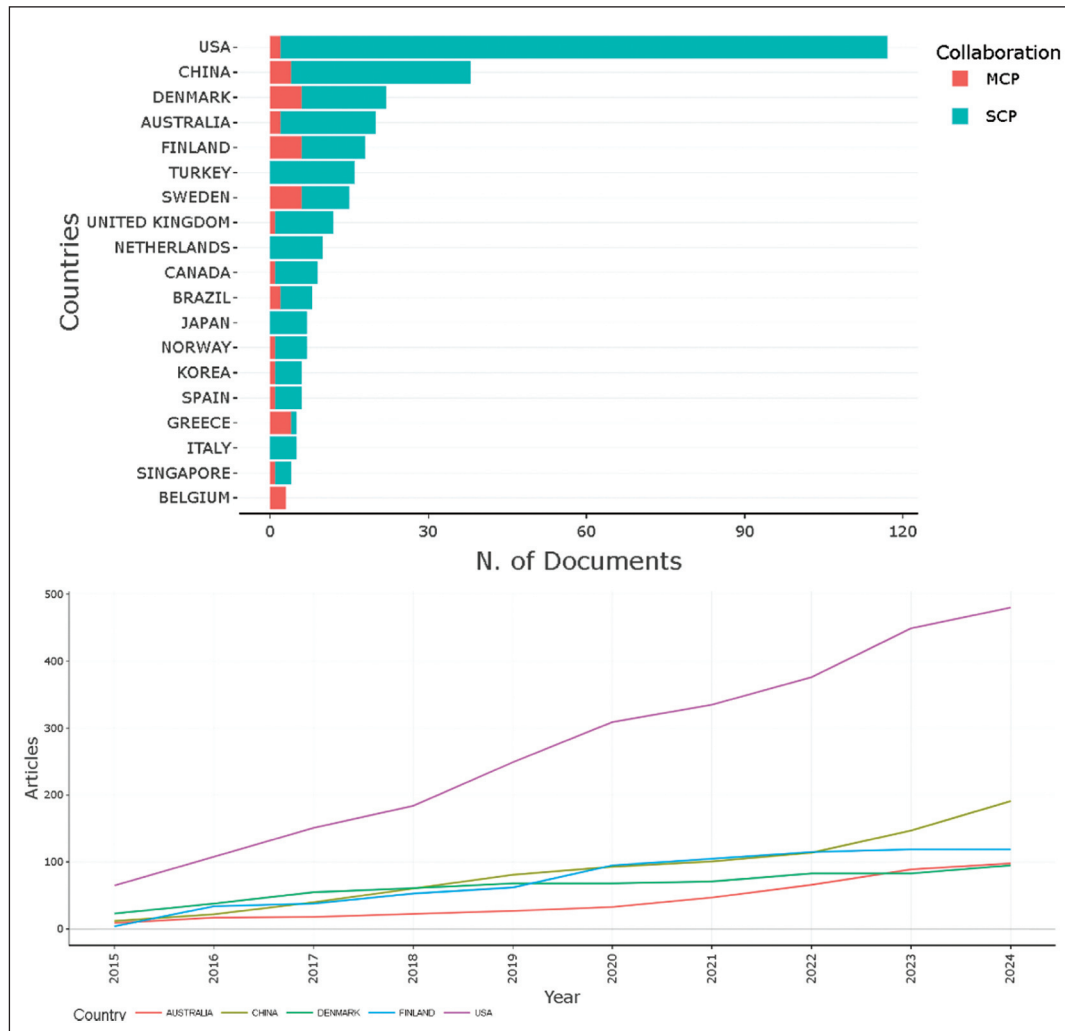
TC: Total citations



GRAPHIC 2: a: Most relevant sources, b: Source Clustering through Bradford's Law



GRAPHIC 3: a: Authors' production over time, b: Author Productivity through Lotka's Law



GRAPHIC 4: a: Corresponding Author's Country, b: Countries' production over time

there were 37 different countries, with the USA in first place with 117 publications. The results of the analysis indicated that Türkiye ranked 6th, with no joint publications with other countries (Graphic 4a). The production of countries over time was analyzed from the “countries” sub-tab of the “authors” tab, and the distribution of country publications over the years was analyzed. The results of the analysis indicated that countries have continued to produce related content since 2015, though there has not been a significant increase (Graphic 4b).

In the “collaboration network” sub-tab of the “social structure” tab, an analysis of co-creation networks was conducted across countries. It was observed that the USA was situated at the center of the

network and provided the greatest level of cooperation with other countries (Figure 4a). The “collaboration WorldMap” sub-tab of the “social structure” tab analyzed the formation network between countries. According to these results, it was observed that Türkiye did not participate in the formation network with other countries (Figure 4b).

A review of the literature shows that 17 of the 364 publications were conducted by researchers in Türkiye. These studies were published in different journals in different years. Most of the publications (n=5) were published in 2022. It was found that 2 journals, “Journal of Perianesthesia Nursing” and “Clinical Nursing Research”, were the most preferred (Table 4).

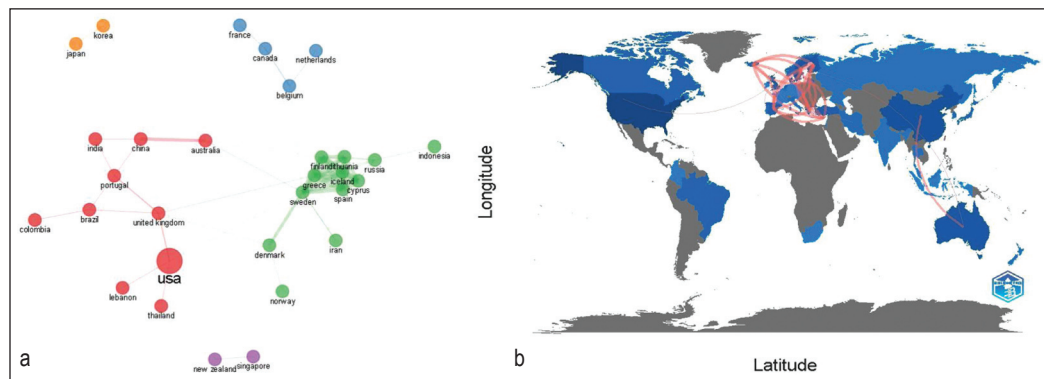


FIGURE 4: Cross-country co-creation network

TABLE 4: Data on publications by researchers in Türkiye

Year-Authors	Article Title	Journal	TC
Ter N, Yavuz M, Aydogdu S, Bicer EK, 2015	The Effect of 2 Adhesive Products on Skin Integrity Used for Fixation of Hip and Knee Surgical Dressings A Randomized Controlled Trial	Journal of Wound Ostomy and Continence Nursing	9
Ertug N, Ulusoylu O, Bal A, Ozgur H, 2017	Comparison of The Effectiveness of Two Different Interventions to Reduce Preoperative Anxiety: A Randomized Controlled Study	Nursing&Health Sciences	12
Kilic HS, Tastan S, 2017	Development of Post Hip Replacement Comfort Scale	Applied Nursing Research	4
Damar HT, Bilik O, Karayurt O, Ursavas FE, 2018	Factors Related to Older Patients' Fear of Falling During The First Mobilization After Total Knee Replacement and Total Hip Replacement	Geriatric Nursing	11
Cetinkaya F, 2019	Effect of Listening to Music on Postoperative Cognitive Function in Older Adults After Hip or Knee Surgery: A Randomized Controlled Trial	Journal of Perianesthesia Nursing	7
Adar A, Onalan O, Cakan F, Akbay T, Dasar U, Mutlu T, 2019	A Strong and Reliable Indicator for Early Postoperative Major Cardiac Events After Elective Orthopaedic Surgery: Aortic Arch Calcification	Heart & Lung	2
Iskender MD, Bektas O, Eren H, 2020	Effect of Preoperative In-Bed Exercises and Mobilization Training on Postoperative Anxiety and Mobilization Level	Japan Journal of Nursing Science	1
Ursavas FE, Yaradilmis YU, 2021	Relationship Between Pain Beliefs and Postoperative Pain Outcomes After Total Knee and Hip Replacement Surgery	Journal of Perianesthesia Nursing	8
Kaya C, Bilik O, 2021	Effect of Counseling on Quality of Life and Self-Care Agency for Patients Who are Scheduled for Total Knee Replacement	Clinical Nursing Research	3
Gunduz CS, Caliskan N, 2021	The Effect of Preoperative Video Based Pain Training on Postoperative Pain and Analgesic Use in Patients Undergoing Total Knee Arthroplasty: A Non-Randomized Control Group Intervention Study	Clinical Nursing Research	6
Turkoglu M, Sayilan AA, 2021	The Effect of Different Training Programs on Patients' Anxiety and Pain Levels Before Total Hip Arthroplasty Surgery	Pielęgniarstwo Chirurgiczne I Angiologiczne-Surgical and Vascular Nursing	0
Kizilcik Ozkan Z, Yanik F, Unver S, Yildiz Findik U, 2021	The Effect of Balloon-Blowing Exercise on Postoperative Pulmonary Functions in Patients Undergoing Total Hip Arthroplasty	Orthopaedic Nursing	0
Durmus Iskender M, Caliskan N, 2022	Effect of Acupressure and Abdominal Massage on Constipation in Patients with Total Knee Arthroplasty: A Randomized Controlled Study	Clinical Nursing Research	3
Ozturk RI, Ozturk GK, 2022	Life After Total Hip Replacement A Qualitative Study on Patient Experiences	Orthopaedic Nursing	0
Bulut A, Vatanserver NA, 2022	Determination Of Factors Affecting Early Mobilization of Patients Who Have Undergone Knee and Hip Arthroplasty	Journal of Perianesthesia Nursing	0
Seyman CC, Unlu H, 2022	The Use of Complementary and Alternative Medicine and Quality of Life in Patients With Hip and Knee Osteoarthritis	Holistic Nursing Practice	1
Ozbas N, Acar A, Karadag M, 2024	The Effect of or Code-Supported Patient Training on Total Knee Arthroplasty-Related Problems and Emergency Department Admission Rate	Computers, Informatics, Nursing	0

DISCUSSION

Bibliometric analysis is a valuable tool for studying different types of publications across various databases.²⁴ Commonly used databases for such analyses include WOS, Scopus, PubMed, Google Scholar, and ResearchGate.²⁴ The international scientific citation indexes Science Citation Index, Social Science Citation Index, and Arts&Humanities Citation Index are regarded as the most significant data sources in bibliometric research.²⁵ These indexes can be accessed via the WOS Core Collection database.²⁵ WOS serves as a pivotal resource for bibliometric studies, offering a vast repository of comprehensive bibliometric data on scientific publications from these indexes.²⁵ In this study, we focused on research articles related to total knee and hip arthroplasty within the nursing field, using the WOS database.

In this bibliometric analysis examined 364 studies published between 2015 and 2024 on total knee and hip replacements in nursing. The findings provide useful insights for researchers, health professionals, and institutions by highlighting potential collaborators, current research topics, new areas of study, appropriate journals for publication, and prominent authors, institutions, and countries. Although publications on this topic have been consistent over the past decade, the annual growth rate was found to be -5.09%. Despite this decline, the high number of authors and diverse range of sources indicate sustained interest. Additionally, the citation rate remains strong, which suggests that the impact of these studies is still significant, even with the negative growth trend.

Keyword-based research is critical for identifying dominant topics and specific areas of interest in a given publication field.²⁶ In this bibliometric analysis revealed that the most frequently used keywords were “arthroplasty”, “replacement”, and “surgery”, which aligns with expectations for studies focusing on knee and hip replacements. The co-occurrence network analysis identified “arthroplasty”, “nursing”, and “total knee arthroplasty” as central keywords, indicating their prominence in this research field. Similarly, the title-based co-occurrence analysis showed

that “total”, “arthroplasty”, and “knee” were central terms, suggesting that knee arthroplasty is more frequently studied than hip arthroplasty. This finding is consistent with previous research, such as Tunç et al. which found that 50.75% of postgraduate theses between 1998 and 2022 focused on knee and hip replacements.²⁷

In bibliometric studies on the treatment of osteoarthritis, the United States was found to lead in international collaboration and publication output, with high centrality in global networks.²⁸ Similarly, in this bibliometric analysis shows that the USA leads in both publication volume and collaboration in nursing research on arthroplasty. Türkiye ranks 6th in publication output but shows no evidence of collaboration with other countries, which is an area that could be improved. Increasing the number of publications and fostering international collaborations could enhance Türkiye’s contribution to this field. Additionally, while countries have continued to produce content consistently since 2015, there has been no significant growth in output. The year 2019 saw the highest number of publications (n=42). By mid-2024, 25 publications were recorded. This is because the scan was done in June 2024, so the year is not yet complete. Since the number of publications in 2024 is 25 in the middle of the year, it is assumed that this number will increase, perhaps even double, by the end of the year.

Leino-Kilpi H (n=8), Kurek D (n=7), Wiznia DH (n=7) and Dlott CC (n=7) were found to be the authors with the highest number of publications in the subject and field evaluated. When the scientific production of the authors was analyzed using Lotka’s Law, it was found that 87.1% of the authors produced relatively few articles. In accordance with the results, it can be said that a small number of authors have high productivity, while the majority have low productivity. Regarding the journals in which these studies were published, “Orthopaedic Nursing” was the most frequent publication venue. According to Bradford’s Law, “Orthopaedic Nursing” and “International Journal of Orthopaedic and Trauma Nursing” were found to be the most efficient and effective journals related to the subject and field evaluated. This result is unsurprising given the nursing-specific focus

on Orthopaedic conditions. In terms of citations, the article by Silver in “Seminars in Oncology Nursing” was the most cited, with 85 citations.²⁹ This can be attributed to its relevance in the nursing field and its publication date, as older articles tend to accumulate more citations over time.³⁰

LIMITATION

The study has several limitations that should be considered. The analysis is restricted to the WOS database, potentially overlooking relevant research indexed in other major databases like Scopus, PubMed, or Google Scholar. This limitation may lead to a partial view of the global research landscape. Furthermore, the study highlights a low level of international collaboration, particularly for countries like Türkiye, which could limit the broader understanding of global research trends. The analysis primarily focuses on frequently used keywords, potentially missing emerging or niche topics that could be gaining relevance in the field. Language bias is also a potential issue, as the study may predominantly include English-language publications, excluding valuable contributions from non-English-speaking countries. Lastly, the exclusion of grey literature, such as conference papers, reports, and unpublished theses, limits the ability to capture emerging trends and insights that are not yet reflected in peer-reviewed journals.

CONCLUSION

Nursing research on knee and hip replacement focuses on specific areas such as prosthesis, surgery, pain and care. Although the volume of nursing research in the relevant area and topic has not shown a significant annual increase in the last decade, it was noted that the field is still active. Türkiye, although nursing research in this area is limited to international collaborations, it is considered to be in a strong position in terms of the number of publications. It is recommended to focus on less researched topics in total knee and hip arthroplasty nursing research and to ensure global cooperation. It is anticipated that this study will provide a guide to nursing research topics related to total knee and hip arthroplasty and a resource for accessing relevant literature, scanning publications and selecting journals at the publication stage.

RECOMMENDATIONS

Based on the study findings, several recommendations can be made to enhance future research in knee and hip replacements. Firstly, efforts should be made to foster greater international collaboration, especially for countries like Türkiye, which currently show limited co-authorship with other nations. Strengthening global research networks can improve the quality and reach of studies. Additionally, researchers should aim to publish in high-impact journals to increase citation rates and overall research visibility. Expanding the research scope to include interdisciplinary studies and emerging themes within Orthopaedic nursing could diversify and enrich the existing literature. There is also value in exploring additional databases beyond the WOS, such as Scopus and PubMed, to provide a more comprehensive view of the field. Furthermore, incorporating grey literature, such as conference proceedings and reports, into future analyses could reveal new trends and insights not captured by traditional journal publications. Lastly, a broader inclusion of non-English-language studies could help address potential language biases and provide a more global perspective on knee and hip replacement research.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Züleyha Aykut, Meryem Yavuz Van Giersbergen; **Design:** Züleyha Aykut, Meryem Yavuz Van Giersbergen; **Control/Supervision:** Meryem Yavuz Van Giersbergen; **Data Collection and/or Processing:** Züleyha Aykut; **Analysis and/or Interpretation:** Züleyha Aykut, Meryem Yavuz Van Giersbergen; **Literature Review:** Züleyha Aykut; **Writing the Article:** Züleyha Aykut, Meryem Yavuz Van Giersbergen; **Critical Review:** Meryem Yavuz Van Giersbergen.

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