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## BIBLIOMETRIC ANALYSIS OF PUBLICATIONS IN THE FIELD OF PHYSIOTHERAPY IN TÜRKİYE

### ORIGINAL ARTICLE

#### ABSTRACT

**Purpose:** The aim of this study is to perform a bibliometric analysis of publications in the field of physiotherapy based in Türkiye.

**Methods:** The study included all publications in the field of physiotherapy between 1988-20024, published or accepted for publication in various international journals related to Türkiye. The publications included in the bibliometric analysis were accessed using the Web of Science (WoS) Core Collection. To access the publications, the keywords physical therapy, physiotherapy, physical rehabilitation and manual therapy were typed into the advanced search tab of the WoS Core Collection. Turkey and Türkiye were selected as the region/country filter and English was selected as the language filter. "RStudio/Biblioshiny" and "Vosviewer" software were used for analysis and visualization.

**Results:** The analysis revealed a total of 5,511 publications in the field of physiotherapy from Türkiye between 1988 and 2024. The university most affiliated with publications was Hacettepe University and the main funder was TÜBİTAK. Recently, there were trend topics like chemotherapy, muscle activation, COVID-19, quality of life, postural control, validity and reliability. In addition, when cross-country collaboration was analyzed, it was observed that researchers in Türkiye mostly collaborated with researchers in Europe and the Balkans, and that the countries of collaboration have changed recently.

**Conclusion:** As a result of the analysis, it was determined that the annual publication increase rate of Türkiye-based publications in the field of physiotherapy was 12.82% and the number of publications in the last ten years -especially after 2016- has accelerated.

**Keywords:** Bibliometric analysis, Physiotherapy, Manual Therapy

## TÜRKİYE'DE FİZYOTERAPİ ALANINDA YAPILMIŞ YAYINLARIN BİBLİYOMETRİK ANALİZİ

### ARAŞTIRMA MAKALESİ

#### ÖZ

**Amaç:** Bu çalışmanın amacı, Türkiye merkezli fizyoterapi alanında yapılmış yayınların bibliyometrik analizini gerçekleştirmektir.

**Yöntem:** Çalışma, 1988-20024 yılları arasında fizyoterapi alanında yapılmış, Türkiye ile ilişkili, çeşitli uluslararası dergilerde yayınlanan veya yayınlanması kabul edilen tüm yayınları kapsamaktadır. Bibliyometrik analize dahil edilen yayınlara Web of Science (WoS) Core Collection kullanılarak erişilmiştir. Yayınlar erişim için WoS Core Collection'ın gelişmiş arama sekmesine; fizik tedavi, fizyoterapi, fiziksel rehabilitasyon ve manuel terapi anahtar kelimeleri yazılmıştır. Bölge/ülke filtresi olarak Turkey ve Türkiye, dil filtresi olarak İngilizce seçilmiştir. Analiz ve görselleştirme için "RStudio/Biblioshiny" ve "Vosviewer" yazılımları kullanılmıştır.

**Sonuçlar:** Analiz sonucunda, 1988 ile 2024 yılları arasında Türkiye'den fizyoterapi alanında toplam 5.511 yayın olduğu tespit edilmiştir. Yayınlarla en ilişkili üniversitenin Hacettepe Üniversitesi olduğu ve başlıca fon kaynağının TÜBİTAK olduğu görülmüştür. Son dönemde kemoterapi, kas aktivasyonu, COVID-19, yaşam kalitesi, postüral kontrol, geçerlilik ve güvenilirlik konularına doğru bir yönelim olduğu belirlenmiştir. Ayrıca, ülkeler arası iş birliği incelendiğinde, Türkiye'deki araştırmacıların çoğunlukla Avrupa ve Balkanlar'daki araştırmacılarla iş birliği yaptığı ve son dönemde iş birliği yapılan ülkelerin değiştiği görülmüştür.

**Tartışma:** Analiz sonucunda fizyoterapi alanında Türkiye merkezli yayınların yıllık yayın artış oranının %12,82 olduğu ve son on yılda yayın sayısının -özellikle 2016 yılından sonra- ivme kazanarak arttığı belirlenmiştir.

**Anahtar Kelimeler:** Bibliyometrik analiz, Fizyoterapi, Manuel Terapi

## INTRODUCTION

According to the World Confederation of Physiotherapy (WCPT), physiotherapy includes services provided by physiotherapists to individuals and communities to increase mobility and improve functional ability throughout life. Physiotherapists are health professionals with roles in promotion, prevention, treatment/intervention, and rehabilitation to improve quality of life and functionality. It is accepted that physiotherapists have some skills such as examining the clients, determining their needs, formulating the diagnosis, recommending the client to another specialist if necessary, applying treatment and training programs, and evaluating the results. Physiotherapists collaborate with other health professionals to achieve their goals. The field of physiotherapists is not limited to the patient/client. They can develop strategies for public health and manage national and international projects (1-3). Physiotherapists, also known as physical therapists, are highly skilled health professionals trained in a variety of fields with a role in the treatment of both mental and physical illnesses (4).

In Türkiye, the first Department of Physiotherapy and Rehabilitation has been opened in 1961 at Hacettepe University. This department alone had trained physiotherapists for 25 years. Turkish Physiotherapists Association was the first physiotherapy association founded in 1969 and became a member of WCPT in 1974 and WCPT-Europe in 1991 (5). Specialty groups of World Physiotherapy are acupuncture, cardiorespiratory, electrophysical, HIV/AIDS, oncology, hospice and palliative care, mental health, occupational health and ergonomics, pediatrics, private practice, sports, pelvic and women's health, older people, neurology, manual/musculoskeletal physiotherapy and aquatic (6).

In a study conducted on student profiles of physiotherapy departments in Türkiye, it was seen that there was a total of 100 faculties and 6 colleges with physiotherapy programs. When the universities with departments were analyzed, it was found that 53 of them were state universities and 46 of them were within the faculty of health sciences, 4 of them were physiotherapy/physical therapy and rehabilitation faculties and 3 of them were colleges

(7). When postgraduate education was compared with the examples of European countries, it was seen that the number of postgraduate programs opened was not sufficient compared to the number of graduates (8).

Although orthopedics has been the first specialization area of physiotherapists, chest physiotherapy, cardiac rehabilitation, neurological rehabilitation, hand rehabilitation and physiotherapy in sports have been the first developing branches. Considering postgraduate studies in the field, in a bibliometric study on doctoral theses, it was reported that most publications made in the field of orthopedic physiotherapy (30.3%), general physiotherapy (23.2%) and pediatric physiotherapy (16.8%), respectively (9).

Bibliometric analysis, which is the method used in this study, is an analysis method used to evaluate publications, funders, universities, journals, trending topics, keywords, authors and countries, as well as the collaborations among authors and among countries in any field and to observe the intellectual, social and conceptual structure. With the use of this method, the problem of the rapid increase in the number of data can be overcome that a subject cannot be followed by traditional research methods (10).

In the field of physiotherapy, bibliometric studies are used to reveal the thematic structure and development of publications worldwide, to identify the main producers of research (i.e. countries and institutions), to compare research outputs and citation impacts, and to determine the trends of researchers periodically. These studies objectively have provided a perspective for researchers in the field (11,12). Apart from this, bibliometric analysis offers the opportunity to discover important researchers, journals, institutes in the field regionally and worldwide by examining publications on a specific topic in the field of physiotherapy (13,14). In a previous bibliometric study on publications in the field of physiotherapy, it has indicated that between 1986 and 2017, especially "neurological rehabilitation, methods, exercise for the prevention and rehabilitation of lifestyle diseases, assessment and treatment of musculoskeletal pain, physical

activity, health promotion and behavior change, respiratory physical therapy, hospital primary care and health economics, cancer and complementary therapies” are worldwide trend topics (15). In another study on the subject, between 2000-2018, the studies in the field of physiotherapy around the world have analyzed and “health care and education, biomechanics, psychosocial, chronic pain and quality of life outcomes, evidence-based physical therapy research methods, traumatology and orthopedics, neurological rehabilitation, psychometrics and cross-cultural adaptation, gait-balance analysis and Parkinson’s disease, exercise, respiratory physical therapy, back pain” were trend topics (11).

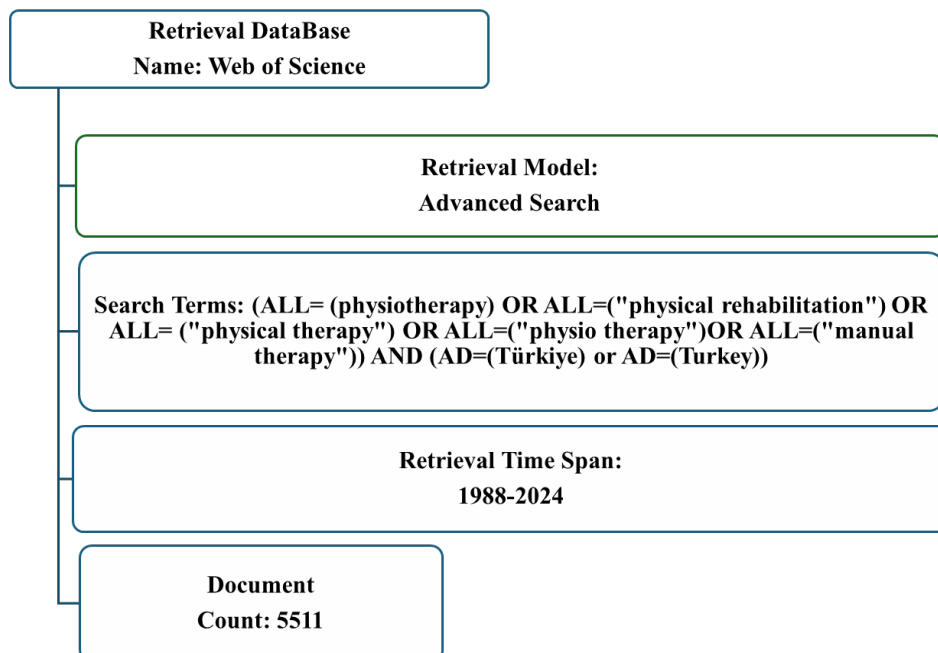
The use of RStudio/Biblioshiny and Vosviewer in bibliometric analysis has increased in recent years. While the R program provides users with the opportunity to look at the current literature from different aspects provides to its wide analysis capabilities, Vosviewer helps researchers with its visualization capability.

The aim of this study is to evaluate the development of Türkiye-based publications in the field of physiotherapy over time. In this context, publications in the field between 1988 and 2024 were

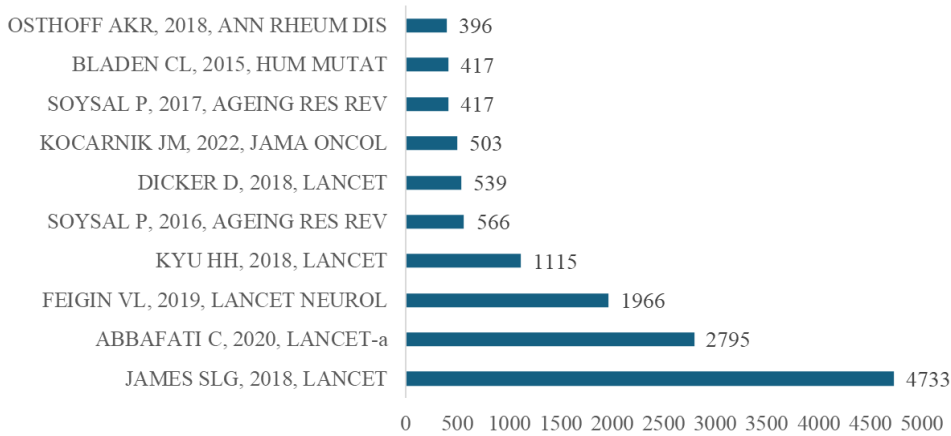
analyzed by downloading the publications from the WoS Core Collection. The most relevant universities, the most relevant researchers, the most frequently used funders, the most cited and most citing publications, the most frequently used words, the trending topics and the collaborations of researchers and countries have evaluated and presented in an understandable way with visuals and graphics.

## METHODS

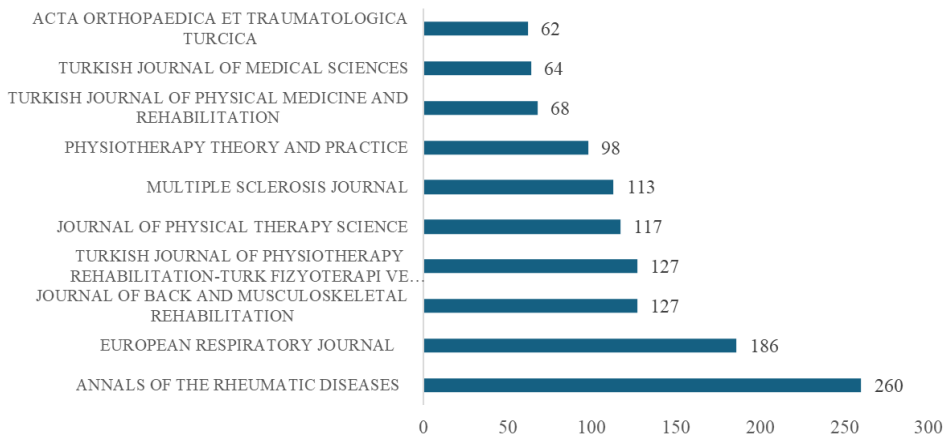
The aim of this research is to conduct a bibliometric analysis of Turkish-based physiotherapy publications listed in the WoS Core Collection, whether already published or accepted for publication. WoS Core Collection was used in this study because it is a comprehensive database indexing more than 20,000 mainstream scientific journals by Clarivate Analytics (16,17). The keywords “Physical Therapy, Physiotherapy, Physio Therapy, Physical Rehabilitation, and Manual Therapy” (as the presence of any one of these keywords was sufficient, they were included in the search code using “or”) were used to identify publications in the field of physiotherapy, while “Turkey and Türkiye” (as the presence of any one of these keywords was sufficient, they were included in the search code using “or”) were used



**Figure 1.** Data Source and Research Method



**Figure 9.** Most Global Cited Documents



**Figure 10.** Most Relevant Sources

to filter the relevant publications by country. In the search code, the word “and” was used to identify both publications in the field of physiotherapy and publications related to Türkiye. No year limitation was made during the search. Only English-language publications were included the analysis (18). Data was downloaded on February 16, 2024 (Figure 1). The study was conducted by downloading the publications on this date and analyzing the data within a one-month period using the software tools described below.

**Data analysis:** In this study, the R Studio (K-Synth Team, Italy) (19) was used for bibliometric analyses and the analyses were reported and visualized using the Shinny interface and Vosviewer software (Vosviewer version 1.6.20, Leiden University’s Centre for Science and Technology Studies (CWTS), Leiden, The Netherlands) (20). Using this method, it is possible to analyze publications in a field in terms

of key aspects such as the most relevant authors, affiliated institutions and funders, the most cited publications and authors, frequently referenced journals, commonly used keywords, trending topics, collaboration clusters among researchers, and international collaborations etc. In addition, the types and number of publications, citations, and their development over time can also be reported.

The inclusion criteria for this study were i) to be in the field of physiotherapy, ii) to be related to Turkey or Türkiye, and iii) to be conducted in English. Within the framework of these criteria, no publications were excluded from the publications downloaded from WoS Core Collection on March 16, 2024.

Since the purpose of this study is to examine documents related to the field, ethics committee permission is not required.

## RESULTS

In this study, when the publications related to Turkey were examined without year and language limits, it was seen that the first publications in the field of physiotherapy started to be made since 1988 and a total of 5,919 publications were made. 5,511 of which were published in English, 401 in Turkish and 7 in different languages. When the curve of the number of publications is analyzed in the graph, it is understood that the change started in 2008, accelerated after 2014 and showed a concave increase as of 2016 (Appendix, Figure 2).

The bibliometric analysis of the publications in the field of physiotherapy in Türkiye showed that the annual number of publications increased gradually until the end of 2023 (The average for 2024 wasn't not known as it is not finished yet).

When the main information of the available data were examined, It was seen that the total number of sources for publications was 1196, average annual publication increase was 12.82%, the average document age was 5.64, the average annual citation rate was 10.13, the total number of references was 116454, keywords plus (keywords generated by Web of Science from the titles of cited references) were 6278, the total number of author's keywords was 7889, the total number of authors was 18556, the number of single-author documents was only 121, co-authors per document were 7.5 and international co-authorships was 10.72% (Appendix, Table 1). When the types of publications were analyzed, most of all publications were articles (75%), followed by meeting abstracts and reviews (Appendix, Table 2).

When the institutions related with the publications produced were examined, it was determined Hacettepe University was the most affiliated institute, while Dokuz Eylül and Gazi University followed 2nd and 3rd. 44.6% of total publications were affiliated with Hacettepe University (Appendix, Figure 3).

The number of publications affiliated with Hacettepe University had increased more than those of other institutions over the years, gained significant momentum after 2013 (Appendix, Figure 4).

When the institutions that funded the publications were analyzed, it was found that TÜBİTAK funded

the most publications, followed by US-based organizations ranking second and third (Appendix, Figure 5).

The rate of increase in publications accelerated after 2016. But the citation average was not parallel to it. The highest publication citation average was in 2018 (Appendix, Figure 6).

When the countries of the cited publications were evaluated, it was seen that the most cited country was Türkiye. The authors of the sources in the dataset used in this analysis cite mostly Türkiye-based studies and secondly USA-based studies (Appendix, Figure 7).

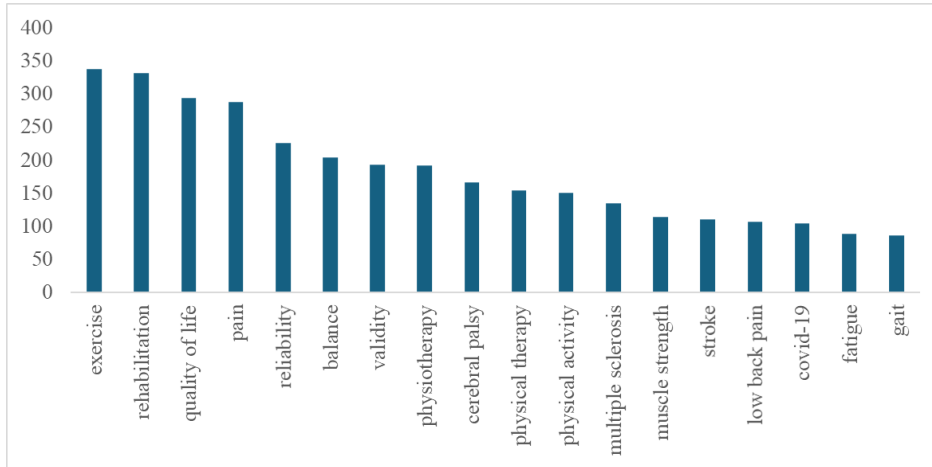
When the most cited documents were evaluated, it was founded that, the most local cited article was "Validation of the Turkish Version of the Oswestry Disability Index for Patients with Low Back Pain" by Yakut E. et al. published in the Spine. This result refers to the most cited documents in the downloaded data. In addition, the graph below shows how many citations this publication has received both within the downloaded data set and worldwide, so it is clear how much attention this publication has received worldwide (Appendix, Figure 8). Information on these publications has been given as a table in the appendix section (Appendix, Table 3)

The article with the highest international citations was the one published in Lancet by James SLG (Figure 9). The result obtained in this analysis represents the document with the highest citations, whether included or not in this dataset. The most global cited publications of Turkish researchers have been given in the table (Appendix Table 4).

When the journals with the highest number of publications related to Türkiye were evaluated, Annals of The Rheumatic Health ranked first. European Respiratory Journal became the second journal, and Journal of Back and Musculoskeletal Rehabilitation became the third journal (Figure 10).

This list (Figure 10) shows the journals with the largest number of publications, not the journals most frequently referenced for publications. When we examined the most cited journals in the downloaded data set, Arch Phys Med Rehab, Phys Ther and Spine were the top 3 journals, respectively. The list of most cited sources refers to the most ef-





**Figure 16.** Most Frequent Author's Keywords (Most Frequent 20 Words)

ficient sources in the development of the field of physiotherapy in Türkiye (Appendix, Figure 11).

The term “most local cited documents” refers to the most cited documents or papers on a particular topic. These documents can often be research papers, reports or other written material and represent the most cited sources on the topic. This data refers to the author with the highest number of citations (within the uploaded dataset) in Türkiye-based publications for this publication. When the data on the most local cited authors locally were evaluated, it was seen that Kırdı N. was the most local cited author, followed by Fırat T. and Kiraz S. (Appendix, Figure 12).

The term “most relevant author” does not indicate the author with the highest number of publications. Instead, it refers to the author who is most closely associated with the content, context, or subject of the paper, or who has made the most significant contribution to the research. Kahraman T. was found to be the most relevant author in the publications, followed by Baltacı G. and Tarakçı E. (Appendix, Figure 13).

When the productivity of the authors over the years was analyzed, it was determined that Baltacı G. was the author who produced the most over the years. The lines in the graph indicate that the authors continue to publish. The larger the dots indicate that the number of publications of the authors increase, and the darker the dots indicate that the average number of citations of the authors increase (Appendix, Figure 14).

The term “most local cited references” refers to the most cited references on a given topic. These references represent the most important and prominent sources on the topic, often used in research papers. “Most local cited documents” refers to the documents themselves, while “Most local cited references” refers to the references used in the documents (Appendix, Figure 15).

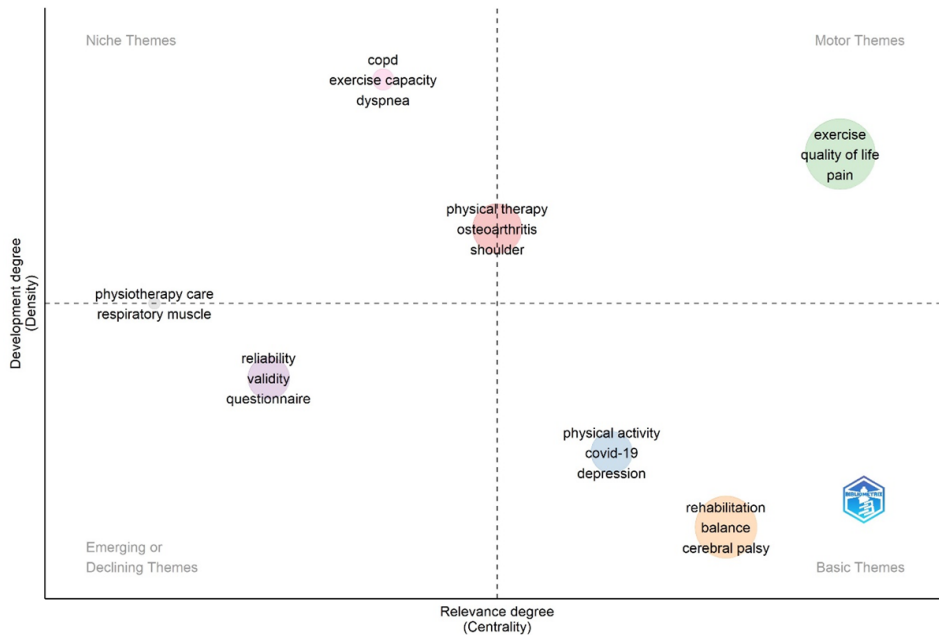
### Most frequent words

When the authors' 20 most frequently used keywords in the publications were questioned, it was seen that exercise, rehabilitation, quality of life, reliability, balance, and validity were the most frequently used words, respectively (Figure 16).

The word cloud created with the 50 most used keywords has been given below. The size of the words in the word cloud indicates the frequency of use (Appendix, Figure 17).

If the authors' keywords are expressed in different colors by year and in different sizes according to the frequency of use, the flow of keywords in the publications can be more clearly understood. The keywords changed to tele-rehabilitation and tele-health towards 2022, and these two words were associated with the words fatigue, COVID-19, quality of life, physiotherapy, and exercise. In retrospect, it was seen that the keywords used by the authors over the years changed over time, meaning that new topics of study emerged, and the focus of the researchers changed (Appendix, Figure 18).

The change in the use of terms in the field over the



**Figure 20.** Thematic Map in Publications in The Field of Physiotherapy in Türkiye

years can be observed with trending topics analyses (21). When trending topics were analyzed (using keywords identified by the authors), it was seen that the topics studied by the authors changed over time. According to this graph, researchers recently focused on chemotherapy, muscle activation, COVID-19, quality of life, and postural control. Activity questionnaires, validity and reliability were also frequently used words. For a more detailed understanding, the graph has been showing the subjects studied by year can be examined (Appendix, Figure 19).

### Thematic Map

Thematic maps are used to identify emerging topics, developing and stable research topics, and topics of declining interest in a field. In a thematic map, the position of the topic indicates its status in the field of publications. The themes in the upper right quadrant are both well developed and basic topics for a field. These are known as the motor-themes of the specialty because they provide strong centrality and high density. The positioning of themes in this quadrant implies that they are externally related to other themes that are conceptually closely connected. The themes in the upper left quadrant have well-developed internal relationships but insignificant external relationships and are therefore of marginal importance for the

domain. These themes are highly specialized and peripheral. Themes in the lower-left quadrant are both weakly developed and marginal. Themes in this quadrant have low intensity and low centrality, typically representing emerging or disappearing themes. Themes in the lower-right quadrant are important for a research field but are not developed. Therefore, this quadrant groups transversal and general, basic themes (22).

In the field of physiotherapy for the period of analysis, topics such as exercise, quality of life, and pain were developing. Topics such as COPD, exercise capacity, and dyspnea require specialization and were also developing. Validity, reliability, and scale development represented emerging topics. Topics such as physical activity, COVID-19, depression, rehabilitation, balance, and cerebral palsy were basic but not developing. The development of the field was towards exercise, pain, and quality of life. The field of pulmonary rehabilitation continued to specialize and develop. The size of nodes representing the topics is associated with the number of publications (Figure 20).

The setting used in the program: number of words-250, number of labels-3, label size 0.3, mini cluster frequency (per thousand docs) 5, mini weight index 0.1, clustering algorithm walktrap/R Biblioshiny.

## Thematic Evolution

Thematic evolution refers to the analysis made about the change, transformation or development of a subject or field over time. The thematic evaluation was made before and after 2016 when the number of publications increased particularly rapidly.

When examining the thematic map before 2016, it was observed that studies related to the spinal cord represented a specialized and developing area, while topics such as knee and osteoarthritis represented developing areas. Rehabilitation, physical therapy, exercise, cerebral palsy, and balance topics, along with validity and reliability studies, did not represent foundational yet non-developing areas (Appendix, Figure 21).

The setting used in the program: number of words-250, number of labels-3, label size 0.3, mini cluster frequency (per thousand docs) 5, mini weight index 0.1, clustering algorithm walk trap/R Biblioshiny.

After 2016, dysphagia emerged as a specialized and developing topic. Additionally, studies related to respiratory muscles determined as a newly emerging area after 2016. It was noticed that the development of topics such as exercise, pain, and physiotherapy were on the rise (Appendix, Figure 22).

## Co-Occurrence/Co-Word Analysis

Through co-occurrence/co-word analysis, the relationship and clustering of authors in the network in a field is determined. Visualizing the state of the network, elements of the same color indicate clusters, and the size of the nodes indicates the frequency of the terms. In addition, the closer the words are in clusters, the more they appear together (21,23). Co-word analysis of the keywords used by the authors showed that exercise, rehabilitation, quality of life, reliability, validity, pain and balance were the words most frequently used by the authors together (Appendix, Figure 23).

## Co-authorship of Authors

It is preferred to analyze the structure of collaborations of authors in a field. It is also used to determine the status of an author (24). Although this

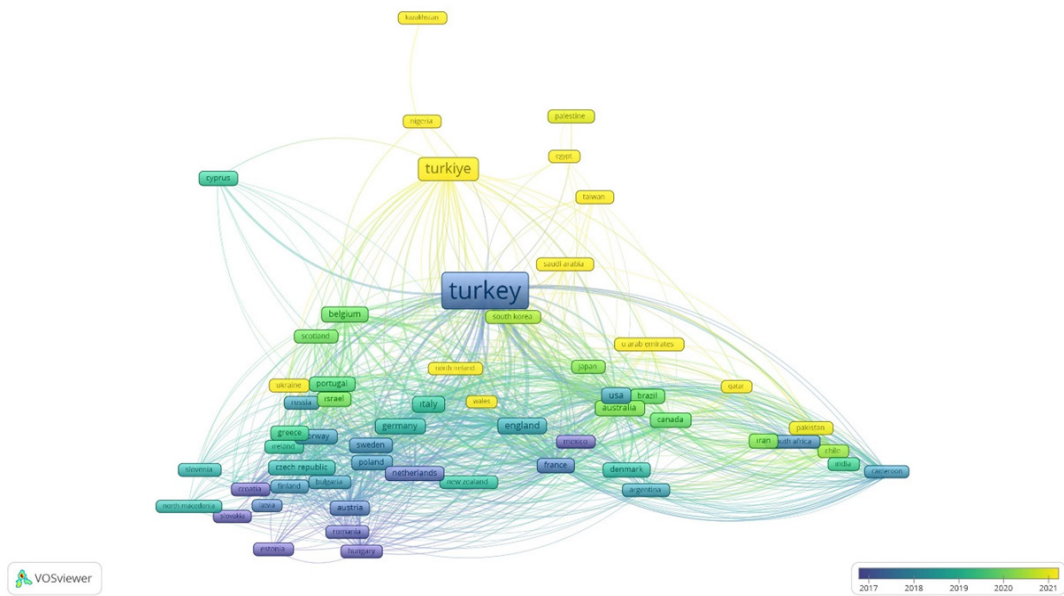
analysis provides only a partial picture of collaborations in a field, it seems to be one of the most effective methods (25). When the co-authorship analysis was visualized, it was seen that the collaboration strength of the authors changed over the years according to the colors and new authors increased their collaboration strength (Appendix, Figure 24).

The authors who produced the most publications in the field of physiotherapy in Türkiye (Sağlam M. with 110 publications, Kahraman T. with 99 publications, İnal-İnce D. with 93 publications, respectively) and the authors who received the most citations (Soysal Pınar with 1568 citations, Baltacı G. with 1486 citations, Çelik Derya with 669 citations,) were not the same person (During the co-authorship analysis, a minimum of 10 publications and 10 citations per author were restricted, and a total of 317 strong relationships were found by Vosviewer, therefore publications that do not meet this requirement eliminated.).

## International Collaboration

Collaboration between countries is used to reveal the collaboration between authors from different countries (25). When cross-country collaboration was examined for Türkiye, it was observed that there was a strong collaboration with a total of 66 countries with at least 5 publications and at least 5 citation restrictions in Vosviewer before visualization. The most collaborating countries with Türkiye were USA, UK, Italy, Spain and Belgium, respectively. When the international collaboration status of researchers in Türkiye was analyzed, it was seen that although they had collaborations with countries in different locations such as Canada, Argentina, Brazil, Japan, Australia, New Zealand, China and Nigeria, their collaborations were mostly limited to their own geographical regions. Europe and the Balkans emerged as areas of closer collaboration. New collaborations between researchers in Türkiye and countries such as Saudi Arabia, Pakistan, Qatar, Jordan, Nigeria, Bangladesh, Bangladesh, Indonesia, Libya, Kazakhstan and Ukraine were also observed. Finally, the term “Türkiye” has started to be used instead of “Turkey” in recent publications (Figure 25).





**Figure 25.** Countries' Collaboration World Map

## DISCUSSION

In this study, a bibliometric analysis was conducted to evaluate the development of the field of physiotherapy in Turkey. According to WoS Core Collection data, 5,511 publications were made in the field of physiotherapy based in Türkiye between 1988 and 2024, with an annual increase of 12.82%. Hacettepe University was most affiliated with publications and TÜBİTAK was the main funder. Recently, there was an increased focus on topics such as chemotherapy, muscle activation and COVID-19. Researchers collaborated especially with Europe and the Balkans. The number of publications in Türkiye accelerated especially after 2016, which may have been related to the increasing number of researchers in parallel with increasing number of physiotherapy programs in universities.

The fact that Hacettepe University was the university most affiliated with Türkiye-based publications was expected since it was the oldest university where the physiotherapy department was opened. It was also observed that the gap between the number of publications affiliated with Hacettepe University and the number of publications affiliated with other universities has gradually widened over the years. This shows that Hacettepe University maintained its dominance in the affiliation with publications. The fact that Gazi University (2008)

and İzmir Katip Çelebi University (2011) entered the top 5 in the number of affiliated publications even though the physiotherapy and rehabilitation departments have opened quite late compared to the others, it can be interpreted that these two universities are successful in terms of academic publications. It is also remarkable that universities from neighboring regions did not make it into the ranking. When this situation is evaluated in terms of high-quality academic publications, it can be considered that the level of development was not sufficient for neighboring universities.

According to the results of the analysis, although the number of publications in Türkiye increased in last ten years, the average number of international citations did not exceed 2018. Since the publications analyzed were from WoS Core Collection database, it can be thought that this may not be related to publication quality, but to the preferred topics or the ability of our publications to lead the literature. Researchers in Türkiye most frequently cited publications from Türkiye, followed by the United State. It can be predicted that Turkish sources were preferred because they were easier to read and understand. This may be a factor that reduces the chances of benefiting from international resources.

It was seen that the keywords preferred in publications changed over time. In particular, the fact that

the publications in the COVID-19 period were related to tele-health and tele-rehabilitation, as well as topics such as pain, fatigue, and quality of life were parallel to the international flow of academic publications. This shows that researchers followed the general trend in the world in COVID-19 period. In addition, muscle activation, chemotherapy and postural control recently became trending topics in the field of physiotherapy.

The fact that the most cited publication was a scale about low back pain can be explained by the fact that especially publications related to low back pain were made, and it can also be explained by the fact that those working on low back pain preferred this scale the most. In addition, the fact that Kırdı N. was the most cited author may be related to the fact that this researcher is a co-author on the scale related to low back pain and has many publications on electrotherapy, which is used in many different specialty groups in physiotherapy.

The journals in which the submitted publications are most accepted and published may increase awareness among researchers in terms of preference. The most cited journals can answer the question "What is the source that researchers in Türkiye benefit from?"

The results of the analysis, especially multi-authorship in publications, drew attention. This can be explained as a high level of collaboration in publications. When the intellectual structure was evaluated, it could be stated that there was clustering among the authors, which indicates specialization in some fields.

This study has some limitations. First, the publications analyzed were in English, which led to the neglect of publications in other languages. Secondly, the fact that only WoS Core Collection was used as a database to download publications and publications in other databases were not included in the evaluation means that the results cannot be generalized for all publications. For a more general evaluation of publications, it is recommended that data from different databases be combined and analyzed. On the other hand, this study offers a general perspective to researchers as the first publication to present a bibliometric analysis of publications related to Türkiye in the field of physiotherapy from past to present. It is thought that bibliometric analysis of specific topics in future publications will provide researchers with a more comprehensive perspective compared to traditional research methods.

iotherapy from past to present. It is thought that bibliometric analysis of specific topics in future publications will provide researchers with a more comprehensive perspective compared to traditional research methods.

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**Conflict of Interest:** There was no conflict of interest between the authors.

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## APPENDIX

**Table 1.** Main Information

ABOUT DATA		DOCUMENT CONTENTS	
Timespan	1988:2024	Keywords Plus	6278
Sources (Journals, Books, etc)	1196	Author's Keywords	7889
Documents	5511	<b>AUTHORS</b>	
Annual Growth Rate %	12.82	Authors	18556
Document Average Age	5.64	<b>AUTHORS COLLABORATION</b>	
Average citations per doc	10.13	Single-authored docs	121
References	116454	Co-Authors per Doc	7.5
		International co-authorships	10.72%

**Table 2.** Types of Publications in The Field of Physiotherapy

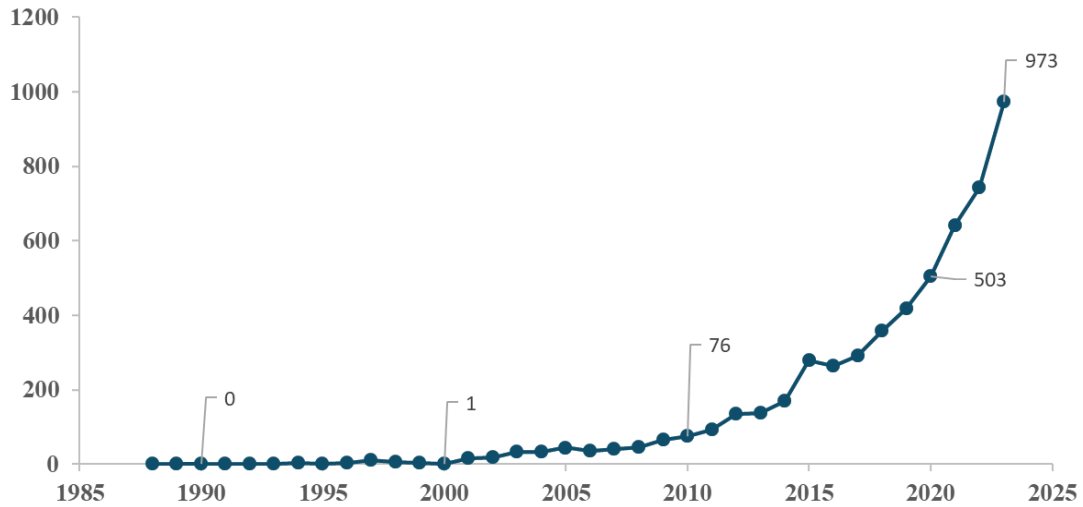
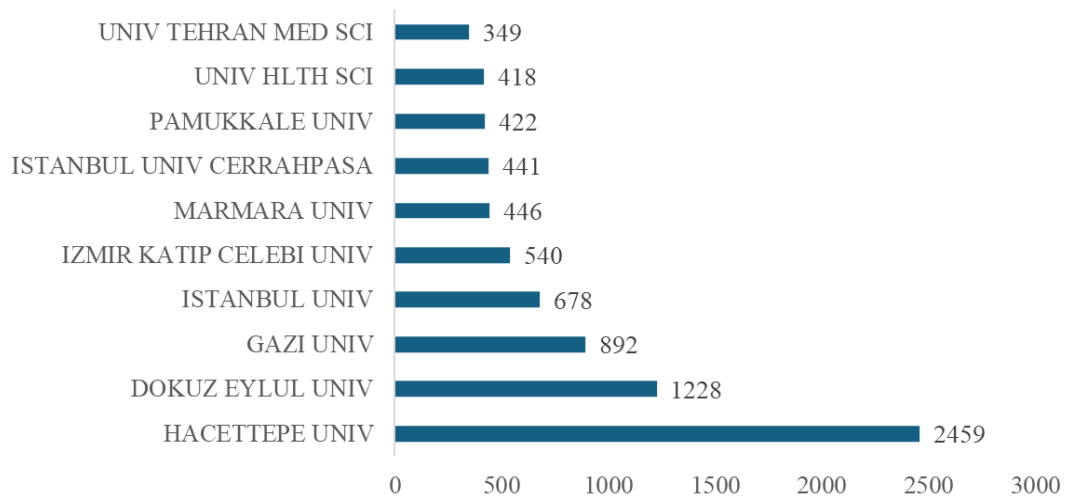
Article	4108	Editorial material	34
Article; book chapter	14	Editorial material; book chapter	1
Article; data paper	1	Letter	55
Article; early access	191	Letter; early access	2
Article; proceedings paper	54	Meeting	1
Article; retracted publication	1	Meeting abstract	744
Correction	16	Meeting abstract; withdrawn publication	2
Correction; early access	1	Proceedings paper	50
Correction; retracted publication	1	Review	228
		Review; early access	7

**Table 3.** Doi Numbers of The Most Local Cited Documents

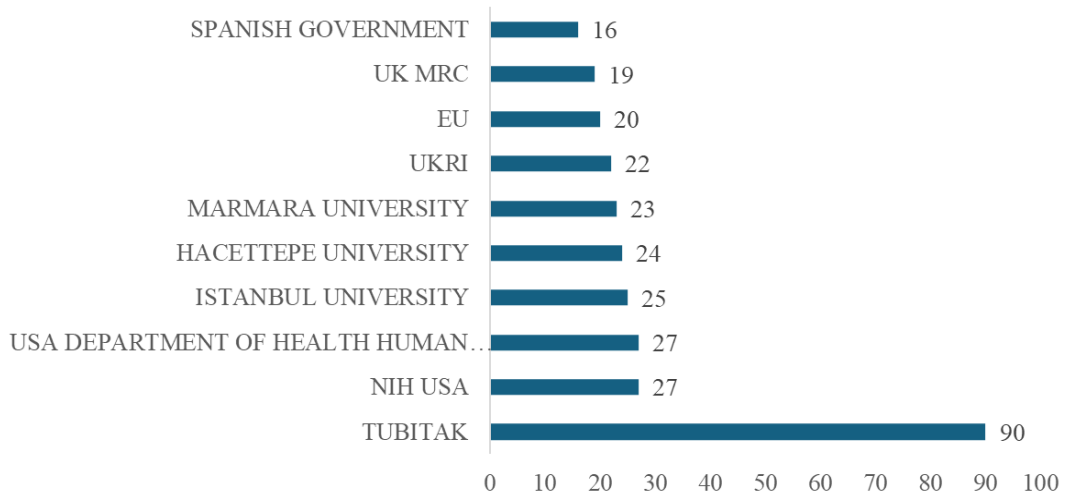
Document	DOI
YAKUT E, 2004, SPINE	10.1097/01.BRS.0000113869.13209.03
KAYA E, 2011, CLIN RHEUMATOL	10.1007/s10067-010-1475-6
UNVER B, 2005, J REHABIL MED	10.1080/16501970510035070
EINSPIELER C, 2019, J CLIN MED	10.3390/jcm8101616
AYVAT E, 2017, TURK J MED SCI	10.3906/sag-1605-7
DOGAN SK, 2008, CLIN RHEUMATOL	10.1007/s10067-007-0815-7
BENDER T, 2005, RHEUMATOL INT	10.1007/s00296-004-0487-4
KARADIBAK D, 2008, J SURG ONCOL	10.1002/jso.21035
CELENAY ST, 2012, INT UROGYNECOL J	10.1007/s00192-012-1729-8
KAYA S, 2015, INT UROGYNECOL J	10.1007/s00192-015-2786-6

**Table 4.** Doi Numbers of The Most Global Cited Documents

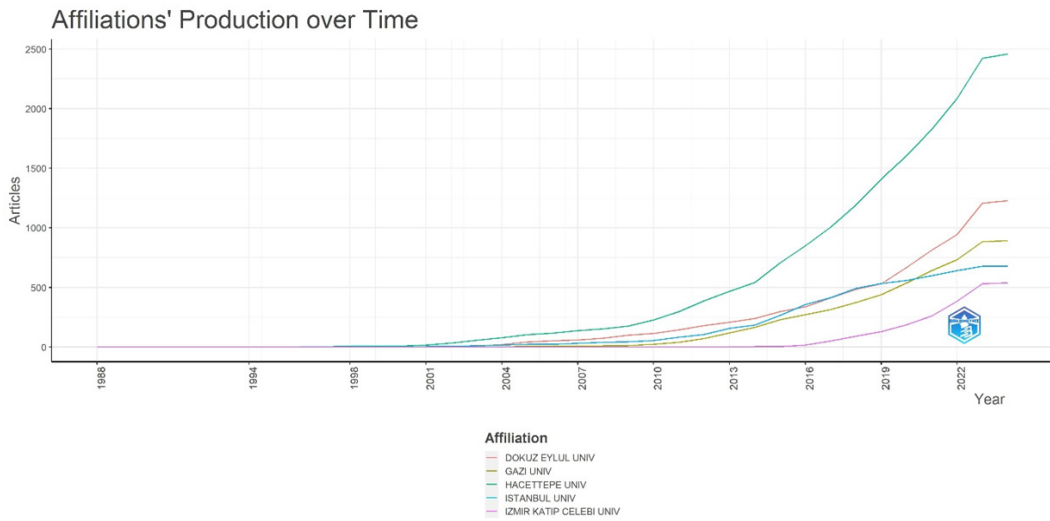
Paper	DOI
JAMES SLG, 2018, LANCET	10.1016/S0140-6736(18)32279-7
ABBAFATI C, 2020, LANCET-a	NA
FEIGIN VL, 2019, LANCET NEUROL	10.1016/S1474-4422(18)30499-X
KYU HH, 2018, LANCET	10.1016/S0140-6736(18)32335-3
SOYSAL P, 2016, AGEING RES REV	10.1016/j.arr.2016.08.006
DICKER D, 2018, LANCET	10.1016/S0140-6736(18)31891-9
KOCARNIK JM, 2022, JAMA ONCOL	10.1001/jamaoncol.2021.6987
SOYSAL P, 2017, AGEING RES REV	10.1016/j.arr.2017.03.005
BLADEN CL, 2015, HUM MUTAT	10.1002/humu.22758
OSTHOFF AKR, 2018, ANN RHEUM DIS	10.1136/annrheumdis-2018-213585

**Figure 2.** Number of Publications in The Field of Physiotherapy in Türkiye Over The Years**Figure 3.** Most Relevant Institutes

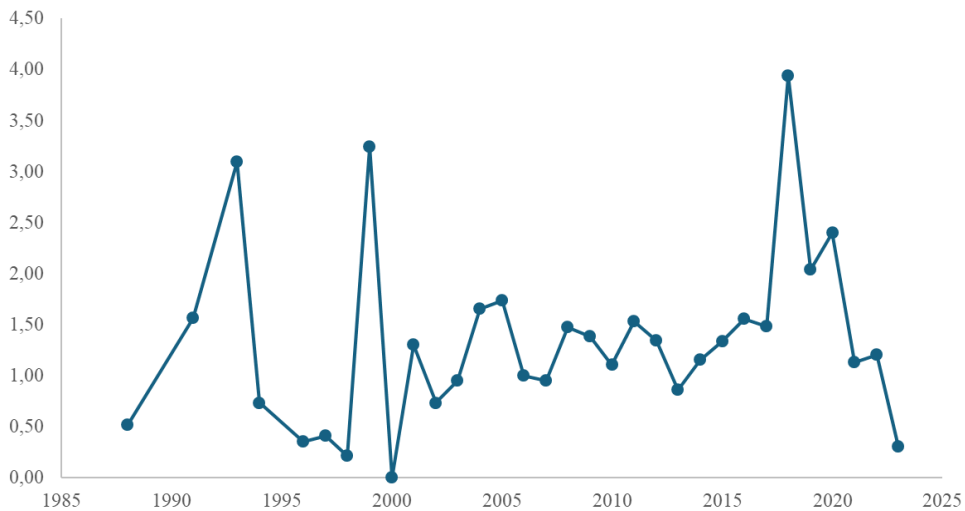




**Figure 4.** Funding Agencies for Publications



**Figure 5.** Affiliations' Production Over Time, Green Line: Hacettepe , Blue Line: İstanbul University, Pink Line: İzmir Katip Çelebi University



**Figure 6.** Average Number of Citations

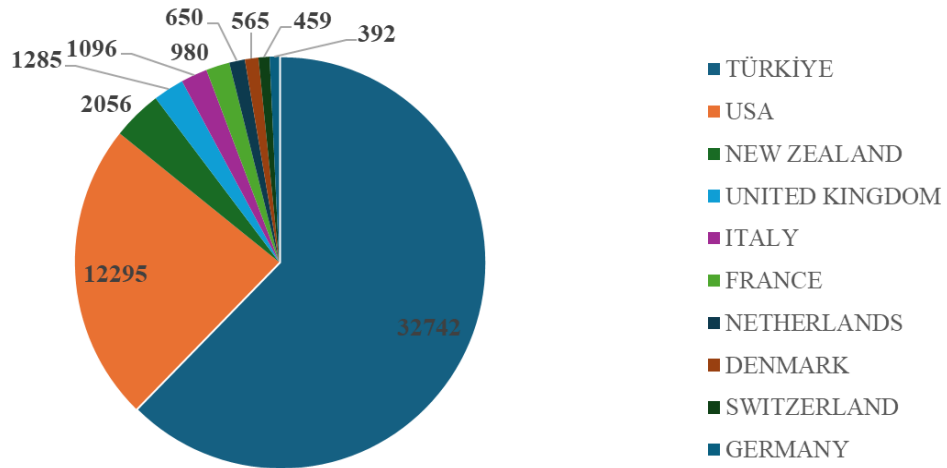


Figure 7. Most Cited Countries

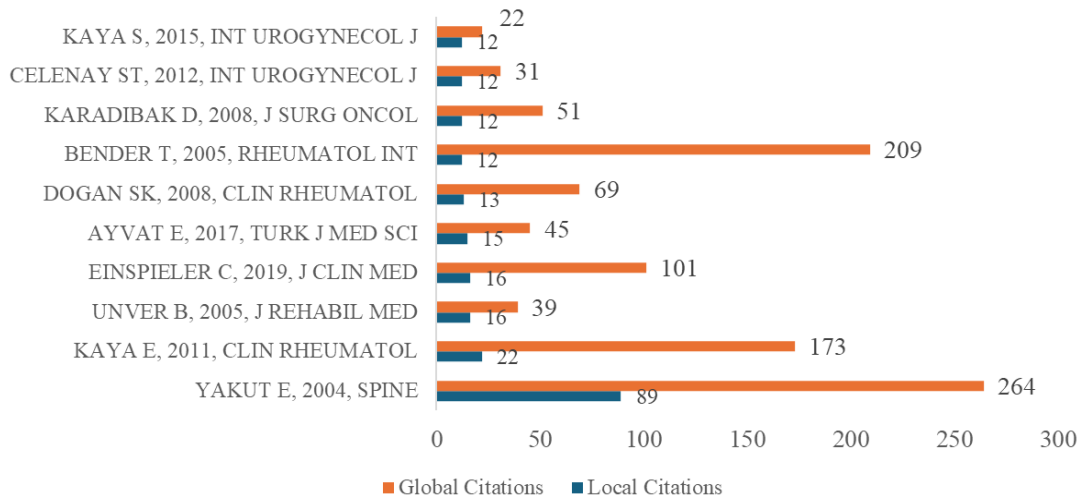


Figure 8. Most Local Cited Documents

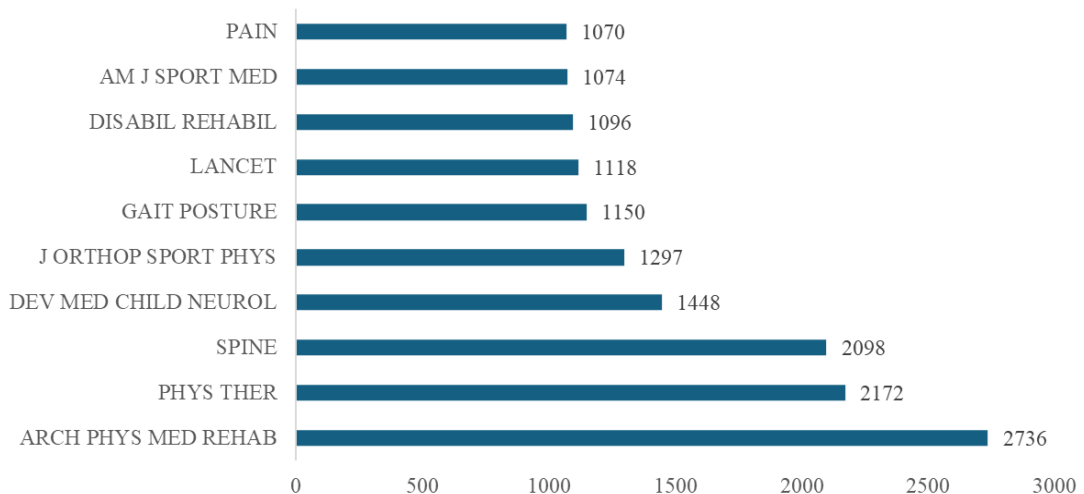
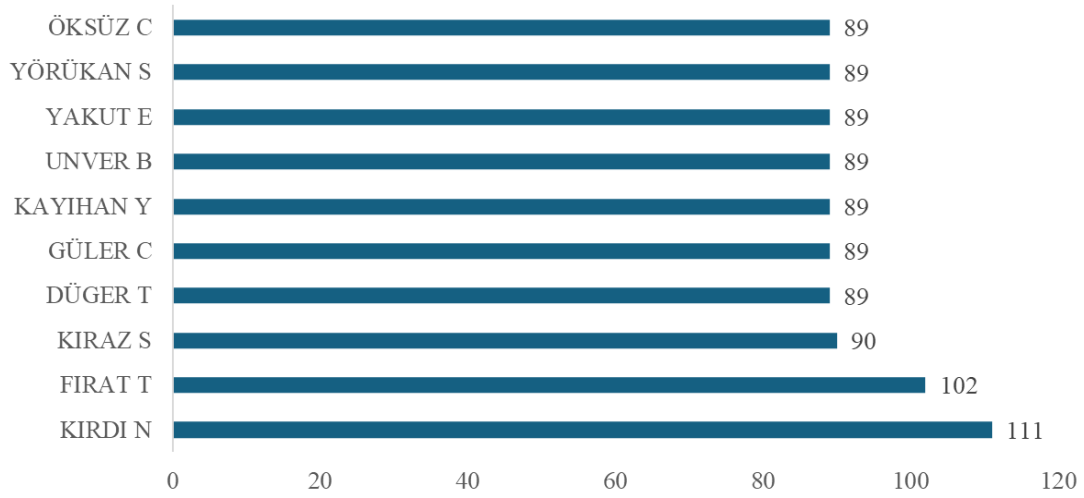
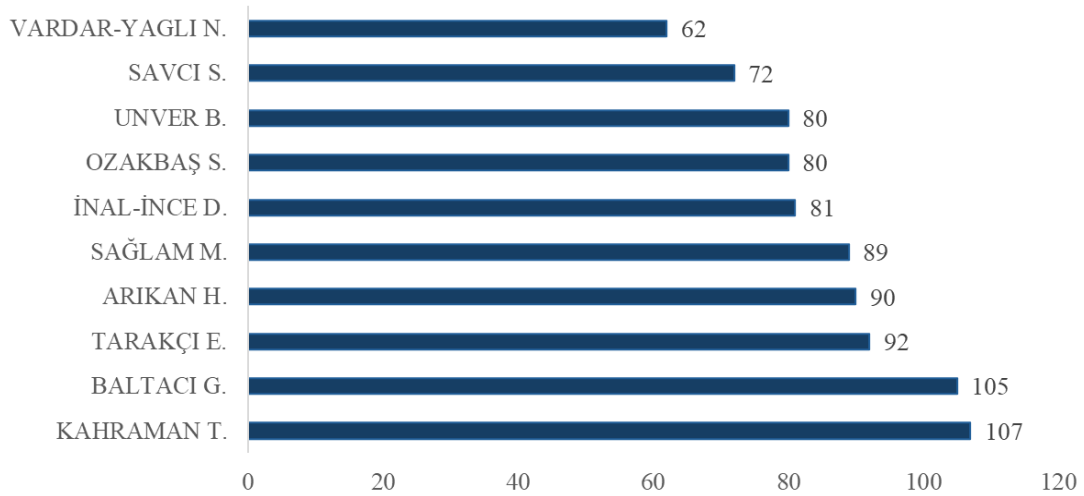


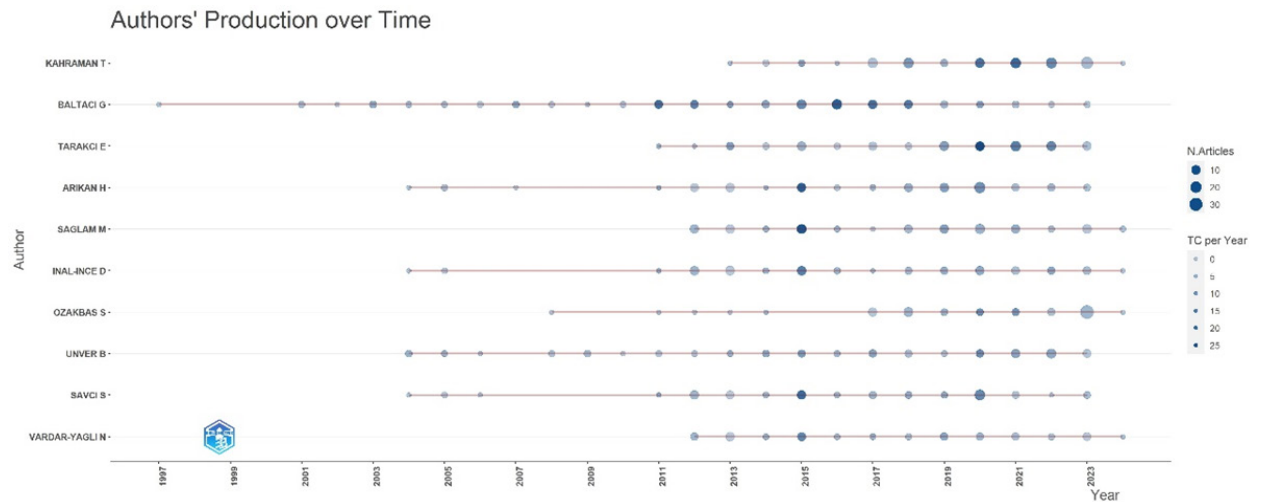
Figure 11. Most Local Cited Sources



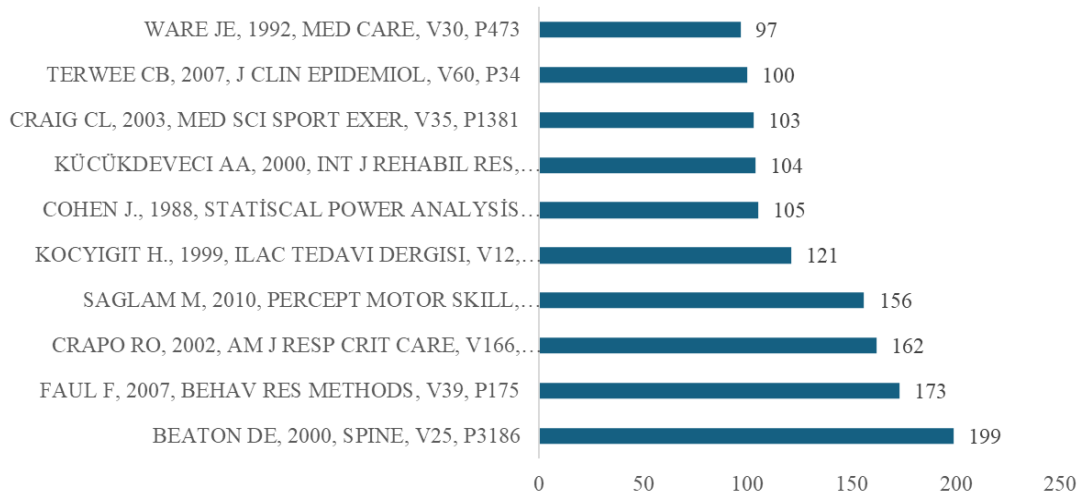
**Figure 12.** Most Local Cited Authors in Publications



**Figure 13.** Most Relevant Authors



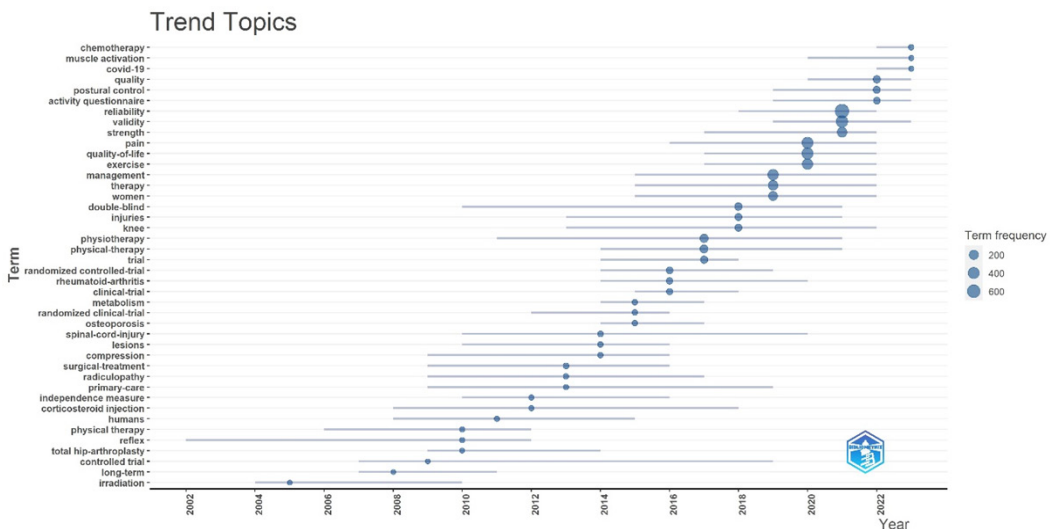
**Figure 14.** Authors' Production Over Time



### Figure 15. Most Local Cited References



**Figure 17. Word Cloud (Most Frequent 50 Words)**



**Figure 18.** Trend Topics in Physiotherapy Field in Türkiye By Years

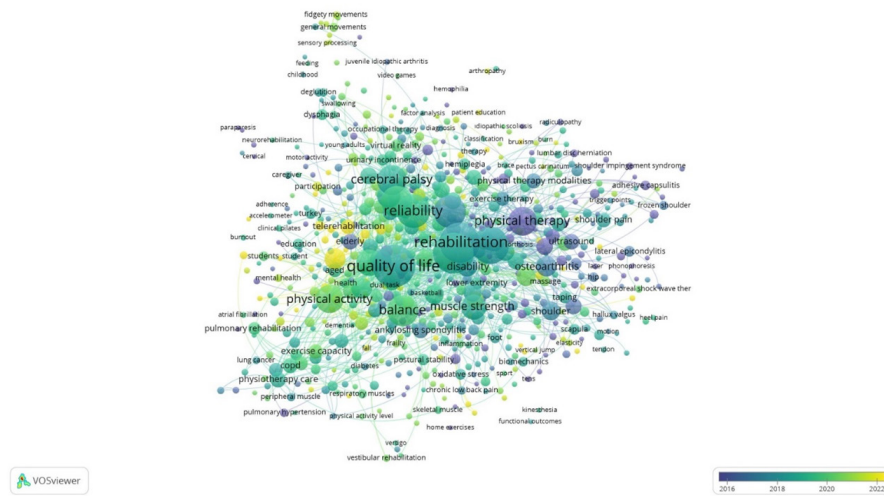


Figure 19. Usage of Keywords Over the Years

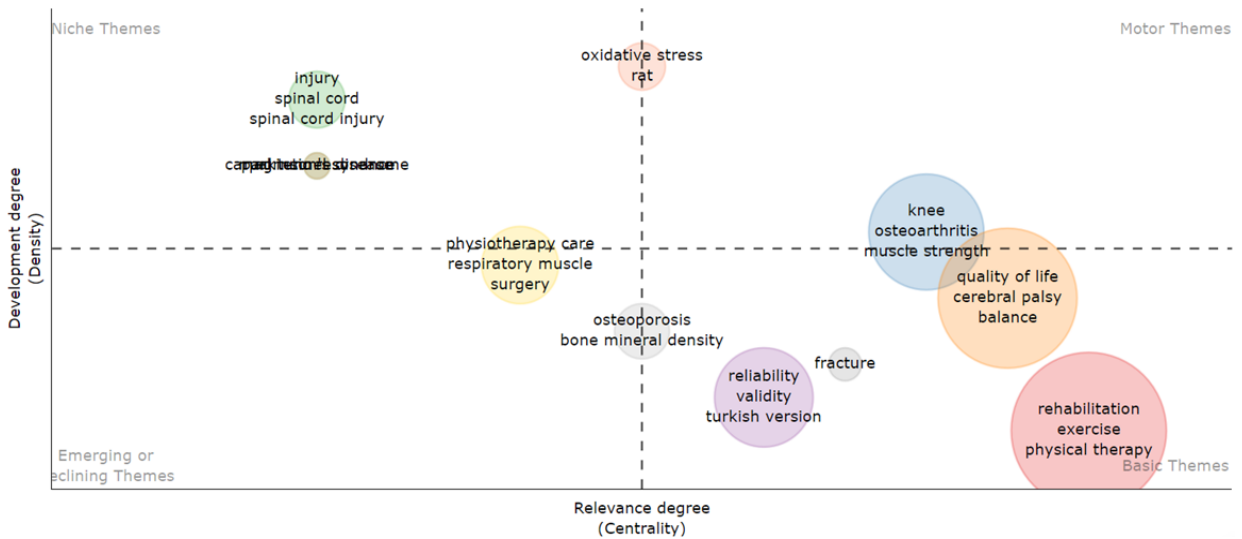


Figure 21. Thematic Evolution (Before 2016)

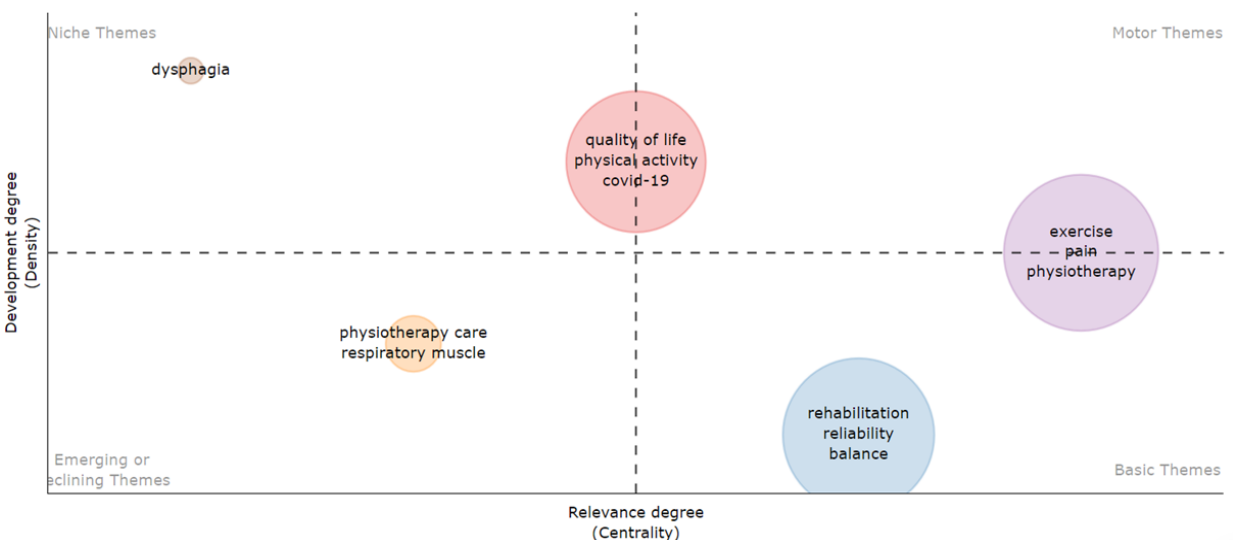
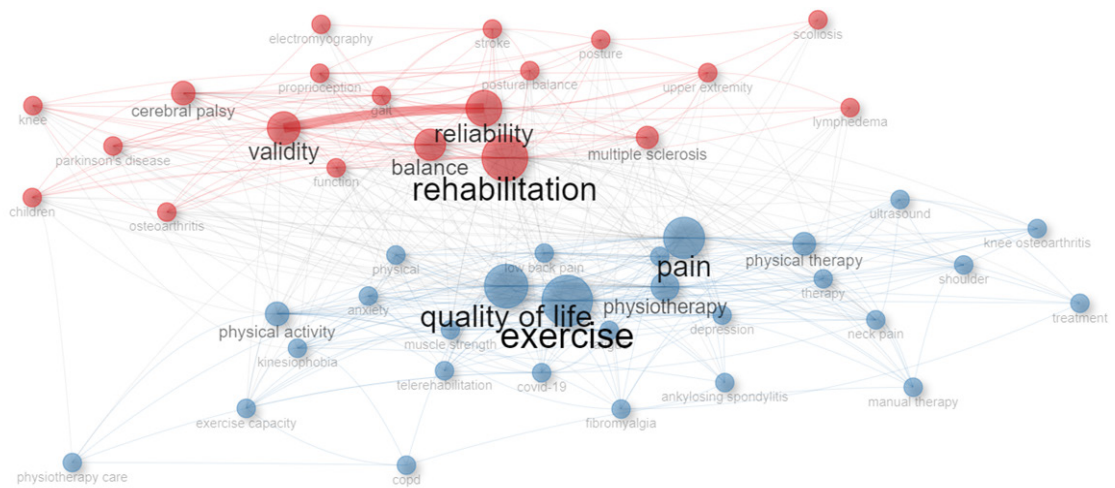
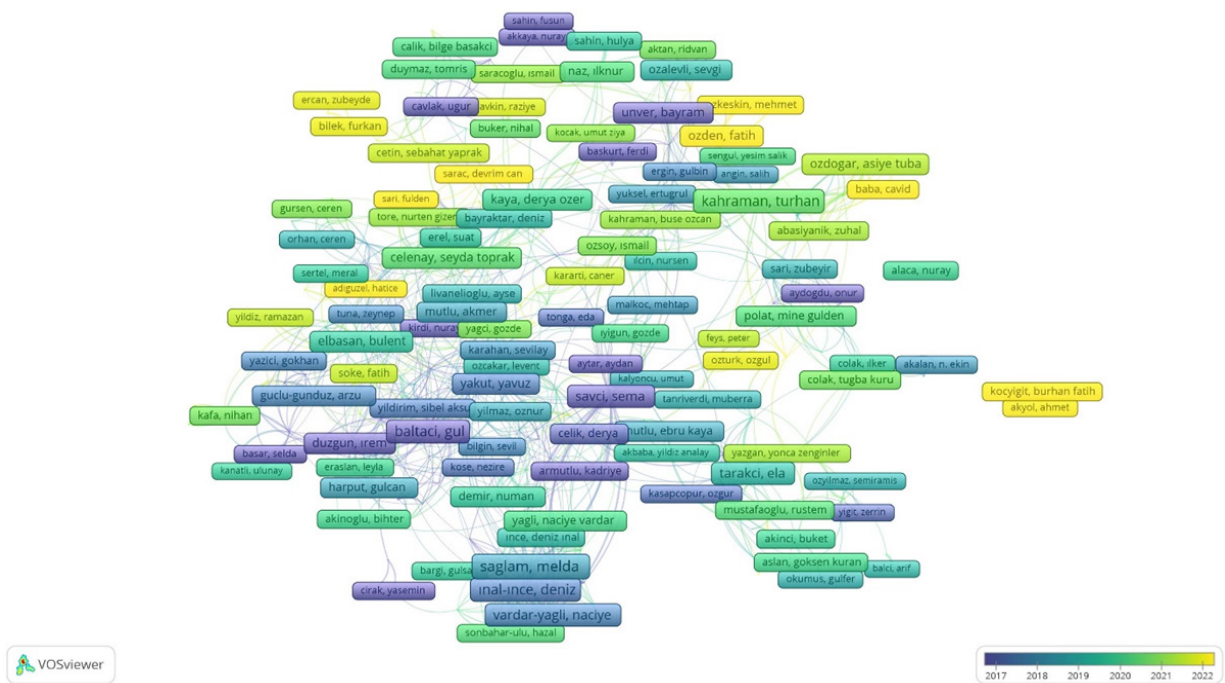


Figure 22. Thematic Evolution (After 2016)





**Figure 23. Co-Occurrence Network**



**Figure 24.** Co-Authorship Relationship Between Authors