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BIBLIOMETRIC ANALYSIS OF PUBLICATIONS ON PULMONARY REHABILITATION

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Abstract: Pulmonary rehabilitation plays important role in patients with lung diseases, and it is applied in acute, subacute, and chronic stages of the disease. Bibliometrics, which refers to the application of quantitative and statistical methods to analyze scientific publications on a specific topic, authors, journals, citation scores, and countries. Web of Science (WOS) search engine the selected keywords were those related to "pulmonary'' and "rehabilitation" was used. Using the search query and 3,582 different types of results were gained and they were analyzed according to document types and after 20,645 entries, the number of journal articles was 1,493. Retrieved data were analyzed to present various bibliometric indicators while maps were visualized using the WOS viewer technique. The Hirsch (h) index and the impact factor (IF) of the publishing journal were used. Bibliometric overview of the literature on "pulmonary" and" rehabilitation" between 1970 – 2021 was given. The publications gained momentum after 2013. Most publications belong to 2020. In terms of the type of publications, meeting constitutes 80% of the publications published as abstracts and articles. About half of the published research articles are about the respiratory system and 11% of them are related to rehabilitation. The most frequent country was USA with 19.9 % of articles and England is the second most frequent country. In terms of the most cited country, the USA ranks first with 8238 citations. England is in second place with 5940 citations. Publications on "pulmonary" and "rehabilitation" have been increasing and growing rapidly in the past decade. The results can be used as context for analyzing broad-scale strengths and gaps in the current state of evidence in a field and for informing a comprehensive strategic plan for further advancing the field and more countries should be encouraged to participate in the studies on this subject.

Keywords: Pulmonary Rehabilitation, Bibliometrics, Analysis, Scopus Database, Publication

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1. Introduction

Pulmonary rehabilitation consists of complex applications and is shaped according to the needs of patients with respiratory problems (Nici et al., 2014). It is necessary to reduce symptoms with evidence-based, multidisciplinary, and comprehensive interventions in patients who are symptomatic and have respiratory problems in activities of daily living (Spruit et al., 2013). In these patients, training on the management of respiratory tract disease, exercise training, behaviour change, improvement of physical and mental status, and development of permanent health behaviours are performed (Nici et al., 2014). World Health Organization accepts pulmonary rehabilitation within the concept of integrated care with services such as diagnosis, treatment, care, rehabilitation, and health promotion (Gröne et al., 2001).

Pulmonary rehabilitation can be applied to the patient with a multidisciplinary approach in the acute phase of the disease, afterwards or in any chronic phase. It has goals such as reducing symptoms, increasing exercise performance, participation in daily activities, improving health-related quality of life, and making changes in health behaviour long-term (Cooper, 2015). Bibliometric analysis is an important tool to assess the impact or value in a specific field (Cooper, 2015). Bibliometrics, which refers to the application of mathematical and statistical methods to analyze scientific publications on a specific topic, (Thompson et al., 2015) serves to provide quantitative information on bibliographic properties, such as authors, journals, citation scores, and countries of distribution (Roldan-Valadez et al., 2019). Many different techniques such as citation analysis, co-citation analysis, bibliometric matching analysis, co-asset analysis and bibliometric mapping can be used together in bibliometric analysis methods (Chai et al., 2012).

To comprehensively summarize the pulmonary rehabilitation studies and provide valuable insights into the practice; we try to explore the results of these findings that can be used as context for analyzing broad-scale strengths and gaps in the current state of evidence in a field, and for informing a comprehensive strategic plan for further advancing the field.

2. Material and Methods

2.1. Search Tools

This study was carried out to retrieve data about the journals with a dataset as "dataset: TI=(pulmonary) and TI=(rehabilitation)" in the Web of Science (WOS) search engine. "Sci-Expanded, Ssci, A&Hci, Cpci-S, Cpci-Ssh, Bkci-S, Bkci-Ssh, Esci" indexes were searched.

2.2. Search Strategy

Keywords related to "Pulmonary" and "Rehabilitation" were used in a search query in the WOS search engine. For more accurate results, "United Kingdom English and United States English words used. The period was set from 1970 to 2021. Data pertaining to the growth of publications, the most active countries and institutions, the most cited journals, and the mapping of publications and keywords were analyzed.

In this study, the selected keywords to be used in the WOS search engine were those related to "(pulmonary) and (rehabilitation)". We used the search query and got 3,582 different types of results and analyzed them according to document types and year they were published. After we deducted from 20,645 entries to only the journal articles 1,493. Retrieved data were analyzed to present various bibliometric indicators while maps were visualized using the WOS viewer technique. The Hirsch (h) index and the impact factor (IF) of the publishing journal were used as indicators of the impact of publications.

3. Results

In this study, a total of 3582 publications were retrieved. The period between 1970 and 2021 was searched and it was seen that the first article was in 1970. While the maximum publication year is 2020 with 349 publications; The years 2018 (330 publications), 2019 and 2017 were years with the highest number of publications. With the number of publications, 1973 and 1972 were the years with the least number of publications (Table 1).

The majority of the retrieved articles were from research areas of "Respiratory System" (N=764; 51.17%), Followed By "General Internal Medicine" (N=304; 20.36%), "Cardiovascular System Cardiology" (N=225; 15.07%), "Rehabilitation" (N=168; 11.25%), "Sport Sciences" (N=65; 4.35%) and the rest was various areas (Table 2).

According to the analysis results from the point of view of active countries, institutions, and journals; the leading country on journal number is USA with (n=288; 19.29%), followed by England (n=193; 12.92%), Canada (n=108; 7.23%), Netherlands (n=108; 7.23%), Italy (n=99; 6.63%), Australia (n=97; 6.49%). Other 70 countries which around the globe (Table 3).

Top of most cited articles and journals were listed in Table 4 and 5. By evaluating the ranking of the most cited countries, USA, England, Canada, Netherlands are the most cited countries, respectively (Table 5).

Table 1. Distribution of publication

Publication Years	Number of Publications	% of 3582
2021	149	4.16
2020	349	9.743
2019	325	9.073
2018	330	9.213
2017	279	7.789
2016	253	7.063
2015	258	7.203
2014	246	6.868
2013	237	6.616
2012	113	3.155
2011	135	3.769
2010	122	3.406
2009	108	3.015
2008	80	2.233
2007	70	1.954
2006	50	1.396
2005	39	1.089
2004	32	0.893
2003	28	0.782
2002	24	0.67
2001	26	0.726
2000	20	0.558
1999	44	1.228
1998	16	0.447
1997	27	0.754
1996	28	0.782
1995	8	0.223
1994	11	0.307
1993	33	0.921
1992	7	0.195
1991	6	0.168
1990	18	0.503
1989	6	0.168
1988	10	0.279
1987	5	0.14
1986	16	0.447
1985	8	0.223
1984	2	0.056
1983	7	0.195
1982	6	0.168
1981	6	0.168
1980	11	0.307
1979	9	0.251
1978	5	0.14
1977	4	0.112
1976	4	0.112
1975	2	0.056
1974	4	0.112
1973	1	0.028
1972	1	0.028
1971	2	0.056
1970	2	0.056

Table 2. Research areas

Research Areas	NA	% of 1493
Respiratory System	764	51.172
General Internal Medicine	304	20.362
Cardiovascular System Cardiology	225	15.07
Rehabilitation	168	11.253
Sport Sciences	65	4.354
Research Experimental Medicine	40	2.679
Health Care Sciences Services	38	2.545
Nursing	36	2.411
Public Environmental Occupational Health	36	2.411
Surgery	35	2.344
Geriatrics Gerontology	26	1.741
Orthopedics	17	1.139
Psychology	17	1.139
Oncology	14	0.938
Science Technology Other Topics	14	0.938
Nutrition Dietetics	13	0.871
Pediatrics	13	0.871
Pharmacology Pharmacy	12	0.804
Allergy	10	0.67
Otorhinolaryngology	9	0.603
Physiology	9	0.603
Transplantation	8	0.536
Environmental Sciences Ecology	7	0.469
Neurosciences Neurology	7	0.469
Social Sciences Other Topics	6	0.402
Endocrinology Metabolism	5	0.335
Engineering	5	0.335
Immunology	5	0.335
Medical Informatics	5	0.335
Psychiatry	5	0.335
Biotechnology Applied Microbiology	4	0.268
Gastroenterology Hepatology	3	0.201
Integrative Complementary Medicine	3	0.201
Biochemistry Molecular Biology	2	0.134
Biomedical Social Sciences	2	0.134
Business Economics	2	0.134
Hematology	2	0.134
Infectious Diseases	2	0.134
Instruments Instrumentation	2	0.134
Life Sciences Biomedicine Other Topics	2	0.134
Materials Science	2	0.134
Cell Biology	1	0.067
Chemistry	1	0.067
Education Educational Research	1	0.067
Emergency Medicine	1	0.067
Genetics Heredity	1	0.067
Information Science Library Science	1	0.067
Mathematical Computational Biology	1	0.067
Optics	1	0.067
Physics	1	0.067
Toxicology	1	0.067
Virology	1	0.067
Zoology	1	0.067

NA= number of articles

Table 3. Countries and journals

Countries/Regions	NA	% of 1493
Usa	288	19.29
England	193	12.927
Canada	108	7.234
Netherlands	108	7.234
Italy	99	6.631
Australia	97	6.497
Germany	73	4.889
France	72	4.823
Turkey	65	4.354
Peoples R China	59	3.952
Belgium	57	3.818
Brazil	49	3.282
Japan	48	3.215
Spain	44	2.947
Portugal	32	2.143
South Korea	31	2.076
Switzerland	31	2.076
Denmark	30	2.009
Poland	22	1.474
Taiwan	19	1.273
Austria	18	1.206
Norway	17	1.139
Romania	17	1.139
Sweden	16	1.072
Greece	14	0.938
Wales	14	0.938
India	13	0.871
Ireland	12	0.804
Scotland	11	0.737
Egypt	10	0.67
Russia	10	0.67
Colombia	9	0.603
New Zealand	9	0.603
North Ireland	9	0.603
Hungary	7	0.469
Israel	7	0.469
Saudi Arabia	7	0.469
Serbia	7	0.469
Luxembourg	5	0.335
Malta	5	0.335
Iran	4	0.268
Singapore	4	0.268
South Africa	4	0.268
Tunisia	4	0.268
Ussr	4	0.268
Chile	3	0.201
Mexico	3	0.201
Slovenia	3	0.201
Thailand	3	0.201
Argentina	2	0.134
Croatia	2	0.134
Finland	2	0.134
Ger Dem Rep	2	0.134
Lithuania	2	0.134
Sri Lanka	2	0.134
Uganda	2	0.134
Ukraine	2	0.134
Venezuela	2	0.134
Albania	1	0.067
Antigua Barbu	1	0.067

NA= number of articles

Table 3. Countries and journals (continuing)

Countries/Regions	NA	% of 1493
Venezuela	2	0.134
Albania	1	0.067
Antigua Barbu	1	0.067
Azssr	1	0.067
Barbados	1	0.067
Cyprus	1	0.067
Czech Republic	1	0.067
Fed Rep Ger	1	0.067
Indonesia	1	0.067
Jordan	1	0.067
Kuwait	1	0.067
Oman	1	0.067
Pakistan	1	0.067
Panama	1	0.067
Slovakia	1	0.067
Trinidad Tobago	1	0.067
Uruguay	1	0.067
West Germany	1	0.067

NA= number of articles

An international collaboration which papers co-authored by authors from more than one country were classified as "international collaborations". International collaboration network map visualized in Figure 1

International collaboration analysis for active countries which has to have at least 1 document, using the VOS viewer technique showed that there were clusters of international collaboration. The list of active countries represents all the world regions: USA, England, Netherlands, and Canada (Figure 1).

Network visualization map of co-authorship among countries with a minimum of one publication on "pulmonary" and "rehabilitation". Lines connecting countries are indicative of collaboration. Thicker lines indicate stronger collaborations. Countries represented with larger circle sizes or font sizes had relatively more international collaboration. According to the results of this in terms of citing situation; a total of 1493 article publications were retrieved with an average of 23,41 and a total of 34.957 citations. Hirsch index was found as 85 (Figure 2).

Annual citation growth of "pulmonary" and "rehabilitation" showed slow growth until 1994 followed by an increase in the last decade. The highest number of citations was seen in 2020, a total of 3666 citations (Figure 3).

Network visualization map of citation map among countries with a minimum of one publication on "pulmonary" and "rehabilitation". Lines connecting countries are indicative of collaboration. Thicker lines indicate stronger collaborations. Countries represented with larger circle sizes or font sizes had relatively more international collaboration.

4. Discussion

In this study, we sought to give a bibliometric overview of the literature on "pulmonary" and "rehabilitation" between 1970 - 2021. When the publications are examined, it is seen that the publications on pulmonary rehabilitation gained momentum after 2013. It belongs to the year 2020 at most. In terms of the type of publications, the meeting constitutes 80% of the publications published as abstracts and articles. About half of the published research articles are about the respiratory system and 11% of them are related to rehabilitation. The United States ranked first and England second, accounting for 19.9% of the 1,493 articles produced. In terms of the most cited country, the USA ranks first with 8238 citations. England is the second most frequent with 5940 citations. The fact that most of the studies are from the USA and England may have indirectly affected that the citations are mostly from those countries.

Pulmonary rehabilitation it is an effective non-drug treatment method in diseases such as chronic obstructive pulmonary disease (COPD), bronchial asthma, bronchiectasis, interstitial lung disease, cystic fibrosis, and post-tuberculosis sequelae, intensive care, obstructive sleep apnea, pulmonary hypertension, lung transplantation (Croitoru et al., 2014; Pesut et al., 2008). The wide variety of diseases in which pulmonary rehabilitation is applied may create diversity in the components of pulmonary rehabilitation practice and may have created a challenge for researchers. In addition, pulmonary rehabilitation methods are very diverse according to the existing lung disease; for example, in pulmonary arterial hypertension, exercise training is safe and effective, pulmonary rehabilitation for bronchiectasis, including exercise training and airway clearance techniques, improves exercise capacity and quality of life (Holland et al., 2013). In different patient groups; Randomization, homogeneous patient selection, and standard treatment approach with appropriate and sufficient doses may have made it difficult to conduct studies on this subject (Holland et al., 2013). To accomplish this study, we used the well-known WOS database, which has been used in previously published bibliometric studies (Küçük et al., 2021; Özlü, 2021). Bibliometrics, which is a purely quantitative measure, is important in terms of recognition rather than the quality of the article and its impact on future studies. sound It can be combined with qualitative assessment methods such as peer review and methodological analysis to provide a more holistic assessment with bibliometric analysis (Akmal et al., 2020).

In the literature, the word "pulmonary" and the word bibliometric analysise were not found under the word rehabilitation; However, publications such as The top 100 most cited articles on bronchoscopy: a bibliometric analysis (He et al., 2020) and the 100 Top-Cited Articles in Pulmonary Imaging: A Bibliometric Analysis (Hong et al., 2017) were found; It is the first bibliometric analysis in terms of rehabilitation. This study showed that publications "pulmonary" and "rehabilitation" have been increasing and growing rapidly in the past decade. However, studies advocating that pulmonary

rehabilitation is necessary to reduce dyspnea caused by covid 19 infection, relieve anxiety, reduce complications, minimize disability, preserve function and improve quality of life (Zhonghua, 2020) and studies describing the necessity of pulmonary rehabilitation in addition to traditional interventions in the treatment of Covid 19 (Wang et al., 2020) may require different analysis studies of pulmonary rehabilitation publications in the future.

Table 4. Top 20 of most cited articles and journals

Source Title	Article Title	Times Cited
American Journal of Respiratory and Critical Care Medicine	An Official American Thoracic Society/European Respiratory Society Statement: Key Concepts and Advances in Pulmonary Rehabilitation	1627
Circulation	ACC/AHA 2007 Guidelines for the Management of Patients With unstable Angina/Non-ST-Elevation Myocardial Infarction A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines for the Management of Patients With Unstable Angina/Non-ST-Elevation Myocardial Infarction) Developed in Collaboration with the American College of Emergency Physicians, the Society for Cardiovascular Angiography and Interventions, and the Society of Thoracic Surgeons Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation and the Society for Academic Emergency Medicine	1106
Circulation	Core Components of Cardiac Rehabilitation/Secondary Prevention Programs: 2007 Update - A Scientific Statement From The American Heart Association Exercise, Cardiac Rehabilitation, And Prevention Committee, The Council On Clinical Cardiology; The Councils On Cardiovascular Nursing, Epidemiology And Prevention, And Nutrition, Physical Activity, And Metabolism; And The American Association Of Cardiovascular And Pulmonary Rehabilitation	672
Annals Of Internal Medicine	Effects Of Pulmonary Rehabilitation on Physiological and Psychosocial Outcomes In Patients With Chronic Obstructive Pulmonary-Disease	616
Lancet	Results At 1 Year of Outpatient Multidisciplinary Pulmonary Rehabilitation: A Randomised Controlled Trial	602
Lancet	Meta-Analysis of Respiratory Rehabilitation in Chronic Obstructive Pulmonary Disease	480
American Review of Respiratory Disease	Prevalence And Characteristics of Nutritional Depletion in Patients with Stable Copd Eligible for Pulmonary Rehabilitation	471
American Journal of Medicine	Short- And Long-Term Effects of Outpatient Rehabilitation in Patients with Chronic Obstructive Pulmonary Disease: A Randomized Trial	333
American Journal of Respiratory and Critical Care Medicine	Physiologic Benefits of Exercise Training in Rehabilitation of Patients with Severe Chronic Obstructive Pulmonary Disease	312
Chest	Improvement In Exercise Tolerance with The Combination of Tiotropium and Pulmonary Rehabilitation In Patients With Copd	294
American Journal of Respiratory and Critical Care Medicine	An Official American Thoracic Society/European Respiratory Society Policy Statement: Enhancing Implementation, Use, And Delivery of Pulmonary Rehabilitation	272
Annals Of Internal Medicine	Effects Of Home-Based Pulmonary Rehabilitation in Patients with Chronic Obstructive Pulmonary Disease A Randomized Trial	252
European Respiratory Journal	Randomized Controlled Trial of Pulmonary Rehabilitation in Severe Chronic Obstructive Pulmonary Disease Patients, Stratified with The Mrc Dyspnoea Scale	245
Thorax	Pulmonary Rehabilitation	244
American Journal Of Respiratory And Critical Care Medicine	Maintenance After Pulmonary Rehabilitation in Chronic Lung Disease - A Randomized Trial	232
European Respiratory Journal	Pulmonary Rehabilitation and The Bode Index In Copd	224
Chest	A Comparison Between an Outpatient Hospital-Based Pulmonary Rehabilitation Program and A Home-Care Pulmonary Rehabilitation Program in Patients with Copd - A Follow-Up Of 18 Months	223
Bmj-British Medical Journal	Community Pulmonary Rehabilitation After Hospitalisation for Acute Exacerbations of Chronic Obstructive Pulmonary Disease: Randomised Controlled Study	211
European Respiratory Journal	Quality-Of-Life in Patients with Chronic Obstructive Pulmonary-Disease Improves After Rehabilitation At Home	208
European Respiratory Journal	Predictors Of Success and Failure in Pulmonary Rehabilitation	206

Table 5. Top countries according to citation

Country	Documents	Citations
Usa	264	8238
England	192	5940
Canada	106	3052
Netherlands	104	3971
Italy	98	2286
Australia	95	1665
Germany	72	1037
France	69	945
Turkey	65	440
Peoples R China	59	365
Belgium	57	1357
Brazil	49	694
Japan	48	961
Spain	43	931
Portugal	32	383
South Korea	31	178
Denmark	30	509
Switzerland	26	285
Poland	22	180
Taiwan	18	212
Austria	17	310
Norway	17	396
Romania	17	55
Sweden	16	304
Wales	14	1094
Greece	13	405
India	13	39
Ireland	12	288
Scotland	11	216
Egypt	10	73
Russia	10	9
Colombia	9	65
New Zealand	9	406
North Ireland	9	99
Hungary	7	67
Saudi Arabia	7	24
Serbia	7	39
Israel	7	226
Luxembourg	5	210
Malta	5	32
Singapore	4	131
South Africa	4	27
Tunisia	4	52
Iran	4	9
Chile	3	6
Mexico	3	33
Slovenia	3	33
Swıtzerland	3	79
Thailand	3	96
Argentina	2	2
Croatia	2	1
Lithuania	2	34
Sri Lanka	2	1
Uganda	2	28
Venezuela	2	149
Antigua & Barbu	1	9
Australıa	1	139
Barbados	1	13
Czech Republic	1	5
Fed Rep Ger	1	7
Finland	1	8

Table 5. Top countries according to citation (continuing)

Country	Documents	Citations
Fınland	1	12
Jordan	1	5
Kuwait	1	20
Slovakia	1	2
Spaın	1	10
Taıwan	1	1
Trinidad Tobago	1	6
Uruguay	1	14

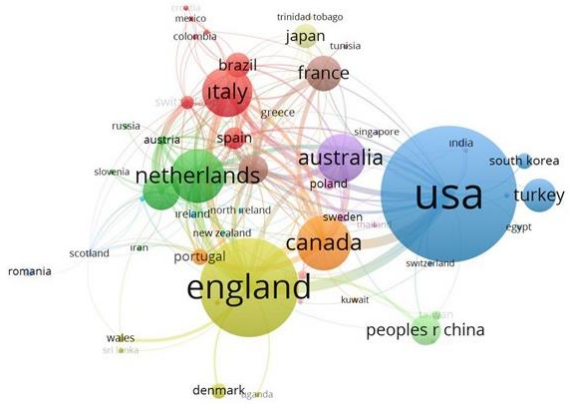

Figure 1. Network visualization map of co-authorship among countries with a minimum of one publication on "pulmonary" and "rehabilitation".

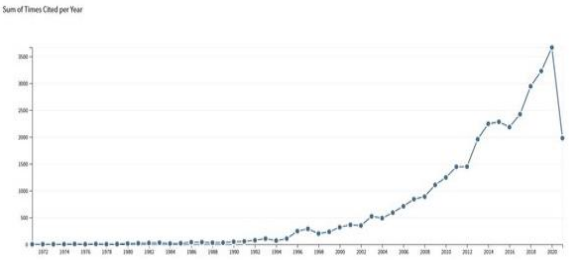

Figure 2. Graphics of citation by years between 1971 - 2021. Line express the cite number.

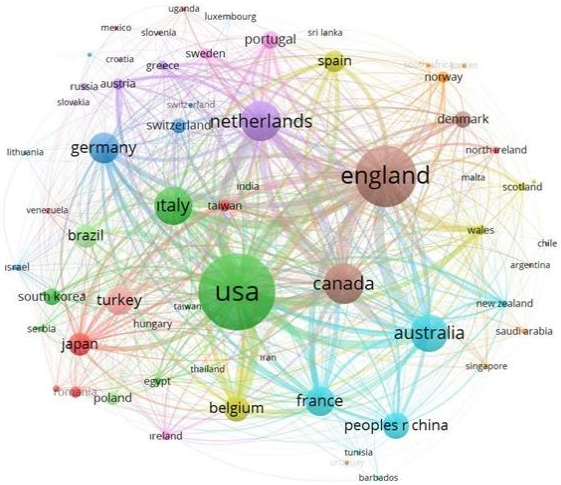

Figure 3. Network visualization map of citation

5. Conclusion

This study provides historical insights into the trends of pulmonary rehabilitation research. The number of published papers significantly increased over the last 10 years, and the overall trend of publications increased from 122 publications in 2010 to 349 publications in 2020. The results of our study could provide useful information for pulmonary rehabilitation researchers, funding agencies, and health managers.

Limitations

This study is the first bibliometric analysis to assess the trends of the pulmonary rehabilitation research from WOS database in the recent forty years. Furthermore, this bibliometric study has some limitations. The electronic database is limited to WOS database and other electronic databases are not searched and analyzed, for example, SCI-Expanded of Web of Science, PubMed, Embase, Scopus, Cochrane Library. Furthermore, the non-English papers were excluded. Most included papers use English in this study; however, the limitation may induce a publication bias. The last limitation is that influential publications were not cited with high citation frequency, since some potential influential papers were published recently, which could be not cited with frequent times. Another limitation is that the data for 2021 is incomplete as the year is not yet over, and it will be more accurate to evaluate it when the year is over.

Author Contributions

All task made by single author and the author reviewed and approved the manuscript.

Conflict of Interest

The author declares that the article content was composed in the absence of any commercial or financial relationships that could be constructed as a potential conflict of interest.

Ethical Approval/Informed Consent

The study complied with the Helsinki Declaration, which was revised in 2013. Ethics committee approval is not required as there is no human or animal research.

References

Akmal M, Hasnain N, Rehan A, Iqbal U, Hashmi S, Fatima K, et al. 2020. Glioblastome Multiforme: A Bibliometric Analysis. World Neurosurg,136:270-282.

Chai KH, Xiao X. 2012. Understanding design research: A bibliometric analysis of Design Studies (1996–2010). Design Studies, 33(1):24-43.

Cooper ID. 2015. Bibliometrics basics. J Med Libr Assoc,103(4):217–218.

Croitoru A, Bogdan MA. 2014. Evidențe legate de reabilitarea pulmonară în patologia respiratorie [Evidences related to pulmonary rehabilitation in the respiratory pathology]. Pneumologia, 63(2):88-90.

Gröne O, Garcia-Barbero M. 2001. WHO European Office for Integrated Health Care Services. Integrated care: a position paper of the WHO European Office for Integrated Health Care Services. Int J Integr Care,1:21.

He B, Zhang P, Cai Q, Shi S, Xie H, Zhang Y et al. 2020. The top 100 most cited articles on bronchoscopy: a bibliometric analysis. BMC Pulm Med,27;20(1):229.

Holland AE, Wadell K, Spruit MA. 2013. How to adapt the pulmonary rehabilitation programme to patients with chronic respiratory disease other than COPD. Eur Respir Rev,22(130):577-86.

Hong SJ, Lim KJ, Hwang HJ, Baek S, Seo YL, Yun EJ, Yun JY, Choi CS, Yoon DY. 2017. The 100 Top-Cited Articles in Pulmonary Imaging: A Bibliometric Analysis. J Thorac Imaging, 32(3):198-202.

Küçük U, Alkan S, Uyar C. 2021. Bibliometric analysis of infective endocarditis. Iberoam J Med,3(4):350-355.

Nici L, Zu Wallack RL. 2014. Pulmonary rehabilitation definition, concept, and history. Clin Chest Med,35:279-82.

Özlü C. 2021. Bibliometric Evaluation Based On Scopus Database: A Global Analysıs of Publications on Myelodysplastic Syndrome and Evaluation of Publications From Turkey. Biotech Strateg Health Res,5(2):125-31.

Pesut D, Ciobanu L, Nagorni-Obradovic L. 2008. Pulmonary rehabilitation in chronic respiratory diseases--from goals to outcomes. Pneumologia,57(2):65-9.

Roldan-Valadez E, Salazar-Ruiz SY, Ibarra-Contreras R, Rios C. 2019. Current concepts on bibliometrics: a brief review about impact factor, Eigen factor score, Cite Score, SCImago Journal Rank, Source-Normalised Impact per Paper, H-index, and alternative metrics. Ir J Med Sci, 188(3):939–951.

Spruit MA, Singh SJ, Garvey C, ZuWallack R, Nici L, Rochester C, et al. 2014. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. Am J Respir Crit Care Med,15;188(8):13-64.

Thompson DF, Walker CK. 2015. A descriptive and historical review of bibliometrics with applications to medical sciences. Pharmacotherapy,35(6):551–559.

Wang TJ, Chau B, Lui M, Lam GT, Lin N, Humbert S. 2020. Physical Medicine and Rehabilitation and Pulmonary Rehabilitation for COVID-19. Am J Phys Med Rehabil,99(9):769-774.

Zhonghua Jie He He Hu Xi Za Z. 2020. Recommendations for respiratory rehabilitation of coronavirus disease 2019 in adult. 12;43(4):308-314.