

The Occupational Therapy Intervention in Post-Stroke Patients: A Bibliometric Analysis

A Intervenção da Terapia Ocupacional em Pacientes Pós-AVC: Uma Análise Bibliométrica

La Intervención de la Terapia Ocupacional en Pacientes Post-ACV: Un Análisis Bibliométrico

RESUMO

O Acidente Vascular Cerebral (AVC) é uma das principais causas de incapacidade funcional e dependência, afetando o desempenho físico, cognitivo e social do indivíduo. Pode se manifestar em duas formas: o AVC isquêmico, causado pela obstrução de um vaso sanguíneo cerebral, e o AVC hemorrágico, decorrente da ruptura de um vaso e extravasamento de sangue no tecido cerebral, ambos resultando em danos neurológicos de diferentes intensidades. A Terapia Ocupacional (TO) tem papel fundamental na reabilitação pós-AVC, promovendo recuperação funcional, autonomia e reintegração social. O objetivo deste estudo foi analisar a intervenção da Terapia Ocupacional no processo de reabilitação funcional e social de pacientes pós-AVC, a partir de uma análise bibliométrica. Realizou-se pesquisa qualitativa, descritiva, baseada em revisão de literatura narrativa, utilizando a base de dados PubMed com os descritores "occupational therapy and post-stroke or rehabilitation" e recorte temporal de 2014 a 2024. A busca inicial resultou em 902.337 publicações, das quais 437.303 correspondiam ao período definido; após critérios de exclusão, restaram 976 estudos incluídos. A análise foi conduzida com o software VOSviewer (versão 1.6.1), permitindo mapear redes de coautoria, palavras-chave e instituições participantes. Os resultados indicam que a Terapia Ocupacional possui relevância crescente na reabilitação pós-AVC, atuando de forma abrangente e centrada no sujeito. Sua prática contribui para o desenvolvimento da independência funcional, a reintegração social e a melhoria da qualidade de vida, reforçando a necessidade de políticas públicas que garantam acesso precoce, integral e continuado aos serviços de reabilitação, sustentando um cuidado humanizado e baseado em evidências.

DESCRIPTORES: Terapia ocupacional; reabilitação; alta hospitalar; inclusão social.

ABSTRACT

Stroke is one of the leading causes of functional disability and dependence, affecting an individual's physical, cognitive, and social performance. It can manifest in two forms: ischemic stroke, caused by the obstruction of a cerebral blood vessel, and hemorrhagic stroke, resulting from the rupture of a vessel and blood leakage into brain tissue, both leading to neurological damage of varying severity. Occupational Therapy (OT) plays a fundamental role in post-stroke rehabilitation, promoting functional recovery, autonomy, and social reintegration. The aim of this study was to analyze the intervention of Occupational Therapy in the functional and social rehabilitation process of post-stroke patients through a bibliometric analysis. A qualitative, descriptive study was conducted based on a narrative literature review, using the PubMed database with the descriptors "occupational therapy and post-stroke or rehabilitation" and a temporal cut-off from 2014 to 2024. The initial search retrieved 902,337 publications, of which 437,303 corresponded to the defined period; after applying exclusion criteria, 976 studies were included. The analysis was conducted using VOSviewer software (version 1.6.1), allowing the mapping of co-authorship networks, keywords, and participating institutions. The results indicate that Occupational Therapy has an increasing relevance in post-stroke rehabilitation, acting in a comprehensive and client-centered manner. Its practice contributes to the development of functional independence, social reintegration, and improved quality of life, reinforcing the need for public policies that ensure early, comprehensive, and continuous access to rehabilitation services, supporting humanized and evidence-based care.

DESCRIPTORS: Occupational therapy; rehabilitation; hospital discharge; social inclusion.

RESUMEN

El Accidente Cerebrovascular (ACV) es una de las principales causas de discapacidad funcional y dependencia, afectando el desempeño físico, cognitivo y social del individuo. Puede manifestarse de dos formas: el ACV isquémico, causado por la obstrucción de un vaso sanguíneo cerebral, y el ACV hemorrágico, derivado de la ruptura

Literature Review

Santana FC, Lima EE, Cordeiro ARL, Brito AMA, Silva DM, Silva FDS, Costa AL, Araujo JAS
The Occupational Therapy Intervention in Post-Stroke Patients: A Bibliometric Analysis

de un vaso y la extravasación de sangre en el tejido cerebral, ambos resultando en daños neurológicos de diferente intensidad. La Terapia Ocupacional (TO) desempeña un papel fundamental en la rehabilitación post-ACV, promoviendo la recuperación funcional, la autonomía y la reintegración social. El objetivo de este estudio fue analizar la intervención de la Terapia Ocupacional en el proceso de rehabilitación funcional y social de pacientes post-ACV, a partir de un análisis bibliométrico. Se realizó una investigación cualitativa y descriptiva, basada en una revisión narrativa de la literatura, utilizando la base de datos PubMed con los descriptores "occupational therapy and post-stroke or rehabilitation", con un recorte temporal de 2014 a 2024. La búsqueda inicial arrojó 902.337 publicaciones, de las cuales 437.303 correspondían al período definido; tras la aplicación de criterios de exclusión, se incluyeron 976 estudios. El análisis se llevó a cabo mediante el software VOSviewer (versión 1.6.1), lo que permitió mapear redes de coautoría, palabras clave e instituciones participantes. Los resultados indican que la Terapia Ocupacional presenta una relevancia creciente en la rehabilitación post-ACV, actuando de manera integral y centrada en la persona. Su práctica contribuye al desarrollo de la independencia funcional, la reintegración social y la mejora de la calidad de vida, reforzando la necesidad de políticas públicas que garanticen el acceso temprano, integral y continuo a los servicios de rehabilitación, sustentando una atención humanizada y basada en evidencias.

DESCRIPTORES: Terapia ocupacional; rehabilitación; alta hospitalaria; inclusión social.

RECEIVED: 12/27/2025 **APPROVED:** 01/1301/2026

How to cite this article: Santana FC, Lima EE, Cordeiro ARL, Brito AMA, Silva DM, Silva FDS, Costa AL, Araujo JAS. The Occupational Therapy Intervention in Post-Stroke Patients: A Bibliometric Analysis. *Saúde Coletiva (Brazilian Edition)* [Internet]. 2026 [cited year month day]; 17(104):18862-18875. Available from: DOI: 10.36489/saudecoletiva.2026v17i104p18862-18875

ID Francisca Cândido Santana
Undergraduate Student in Occupational Therapy – UNINASSAU
ORCID: <https://orcid.org/0009-0008-8773-1282>

ID Elvis Estilak Lima
Bachelor's Degree in Biology – URCA
ORCID: <https://orcid.org/0000-0002-1707-6736>

ID Ana Ruth Lima Cordeiro
Specialist in Public Health – FAVENI
ORCID: <https://orcid.org/0009-0001-4601-1878>

ID Ana Maria Alves de Brito
Master's Degree in Biology Education – UFPB
ORCID: <https://orcid.org/0009-0004-7656-1557>

ID Dionê Moreira da Silva
Specialist in People Management
ORCID: <https://orcid.org/0009-0002-6824-5808>

ID Francisca Daliane Severino da Silva
Master's Degree in Biological Chemistry – URCA
ORCID: <https://orcid.org/0000-0002-3236-1076>

ID Alexandre Leite da Costa
Specialist in Computer Networks – ESAB
ORCID: <https://orcid.org/0009-0003-6862-3300>

ID José Augusto Soares de Araújo
Master's Degree in Biological Diversity and Natural Resources – URCA
ORCID: <https://orcid.org/0000-0003-4617-0067>

INTRODUCTION

Cerebral vascular accident (CVA) occurs due to the interruption of cerebral blood flow, causing neurological damage that results in temporary or permanent functional deficits ⁽¹⁾. This condition manifests itself in two main forms: ischemic stroke, responsible for about 85% of

cases, occurs when there is obstruction of a cerebral artery, preventing the supply of oxygen and nutrients to the nervous tissue; and hemorrhagic stroke, which occurs when a blood vessel ruptures, leading to blood leakage and compression of brain structures ⁽²⁾. It is the second leading cause of death worldwide and the leading cause of death in Brazil, and is consid-

ered one of the greatest public health challenges today ⁽³⁾.

The sequelae resulting from stroke vary in intensity and duration, depending on the affected area and the response time in care ⁽⁴⁾. While some individuals experience temporary disabilities and are able to recover some function over time and with appropriate rehabilitation, others remain

with permanent limitations that affect their physical, cognitive, and social lives ⁽⁵⁾. This diversity of manifestations reinforces the importance of intervention strategies that consider both the clinical process and the psychosocial dimensions of the patient's life ⁽⁶⁾.

In addition to motor limitations, such as partial paralysis, speech difficulties, and coordination problems, stroke can trigger cognitive and emotional changes, affecting memory, reasoning, decision-making, and triggering anxiety and depression ^(7,8). When combined, these impacts reduce quality of life and hinder social participation ⁽²⁾. It is clear that rehabilitation should not be limited to physical recovery, but should integrate emotional, family, and social care in order to provide greater autonomy and inclusion ⁽⁹⁾.

In this context, occupational therapy plays an essential role by acting in an interdisciplinary and individual-centered manner ⁽¹⁰⁾. Its interventions promote functional recovery and autonomy, covering motor, cognitive, and social skills, as well as collaborating in the adaptation of the home environment, the training of caregivers, and social reintegration ⁽⁵⁾. Currently, the literature points to different techniques applied in this process, such as the use of assistive technologies, virtual reality, functional electrical stimulation, task-oriented training, and client-centered approaches, which have proven effective in enhancing rehabilitation outcomes ⁽¹¹⁾.

At the same time, community and occupational approaches are also emerging that value meaningful activities, engagement in therapeutic groups, and rehabilitation programs based on social inclusion ⁽¹²⁾. Such strategies broaden the scope of rehabilitation, reducing the effects of isolation and contributing to improved self-esteem and quality of life ⁽¹³⁾.

Thus, it can be observed that Occupational Therapy practices have been evolving to integrate innovative techniques with broader perspectives of care ⁽¹⁴⁾.

Given this scenario, the present study aims to analyze the intervention of Occupational Therapy in the functional and social rehabilitation process of post-stroke patients, based on a bibliometric analysis. The aim is to identify the main contributions, techniques used, and advances described in the literature between 2014 and 2024, highlighting the relevance of Occupational Therapy in promoting autonomy, social participation, and improving the quality of life of people affected by stroke ⁽¹⁵⁾.

METHODOLOGY

This is a qualitative, descriptive study conducted through a narra-

tive literature review based on a bibliometric analysis of scientific production on Occupational Therapy in post-stroke rehabilitation. The search was conducted in the *PubMed* database, using the descriptors and Boolean operators "*occupational therapy and post-stroke or rehabilitation*," with a time frame from 2014 to 2024. The initial search identified 902,337 publications, of which 437,303 corresponded to the established period.

After applying exclusion criteria, disregarding review articles, case reports, and editorial materials, and retaining only Adaptive Clinical Trials, books, and documents, a total of 976 studies were included. The research covered three main dimensions: the evolution of the number of publications over the period analyzed; the collaboration network between authors; and the predominant thematic axes, identified from the keywords.

Table 1: Set of terms for the PubMed search

Set of combinations	Total potential
occupational therapy and post-stroke or rehabilitation	902,337

Source: the authors (2025)

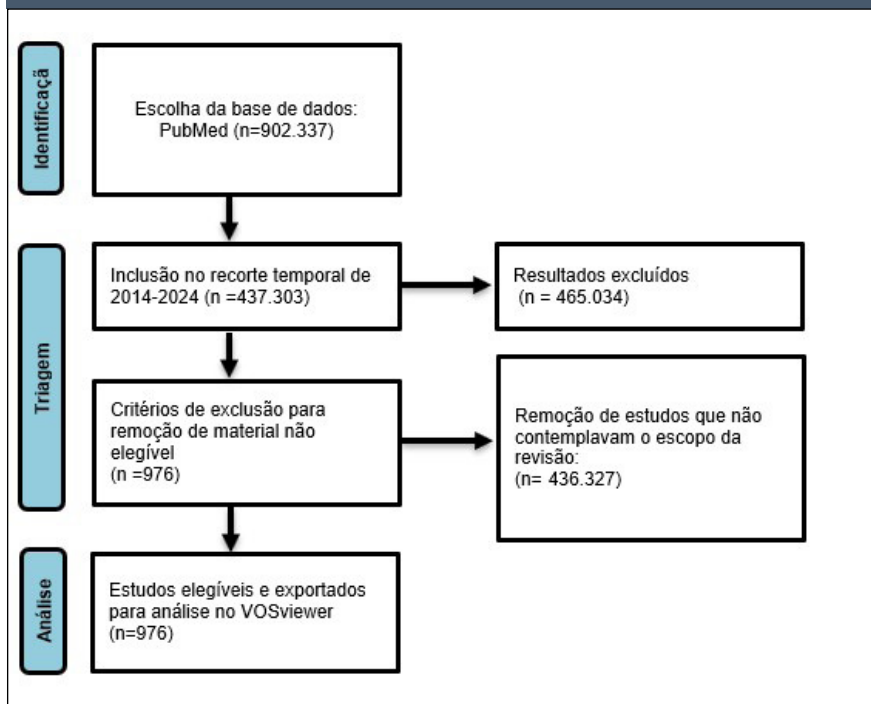
The selected articles were exported in .txt format and subsequently analyzed to construct and visualize relationship networks. This analysis included co-authorship networks (between authors, institutions, and countries), co-occurrence (of keywords), and bibliographic coupling (between documents). The

VOSviewer software (version 1.6.1), widely recognized for its efficiency in organizing and interpreting large volumes of bibliographic information ⁽¹⁶⁾, was used to process and map these data. The process of filtering and selecting data, in accordance with the established inclusion and exclusion criteria, was conducted according to the scheme illustrated in Figure 1.

Literature Review

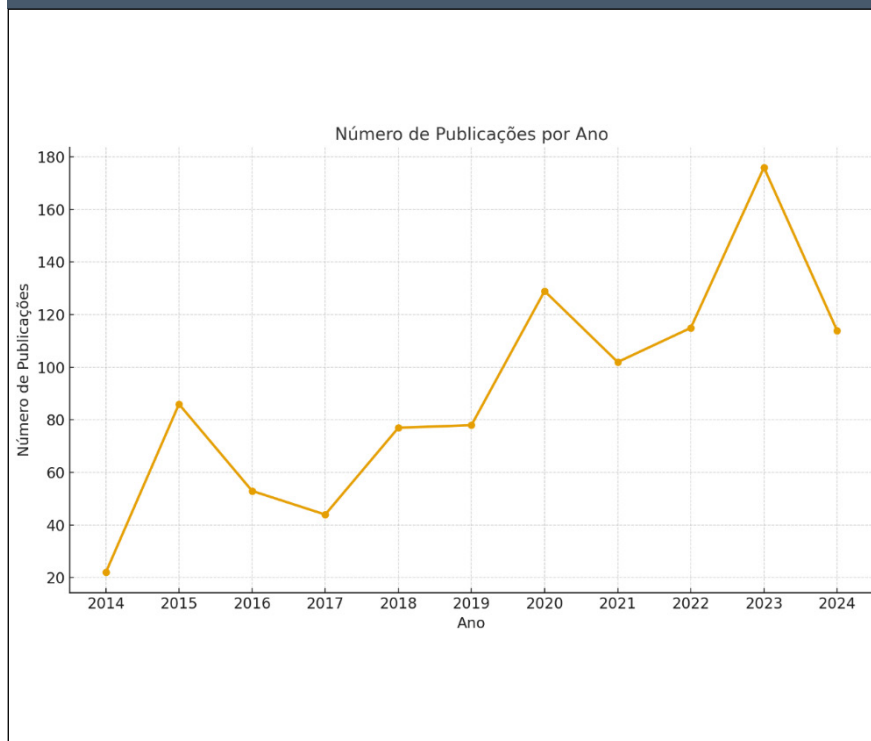
Santana FC, Lima EE, Cordeiro ARL, Brito AMA, Silva DM, Silva FDS, Costa AL, Araujo JAS
The Occupational Therapy Intervention in Post-Stroke Patients: A Bibliometric Analysis

Figure 1: Prism 2020 diagram adapted from the search steps



Source: the authors (2025)

Figura 1: produções científicas analisadas por ano.



Source: the authors (2025)

RESULTS AND DISCUSSIONS

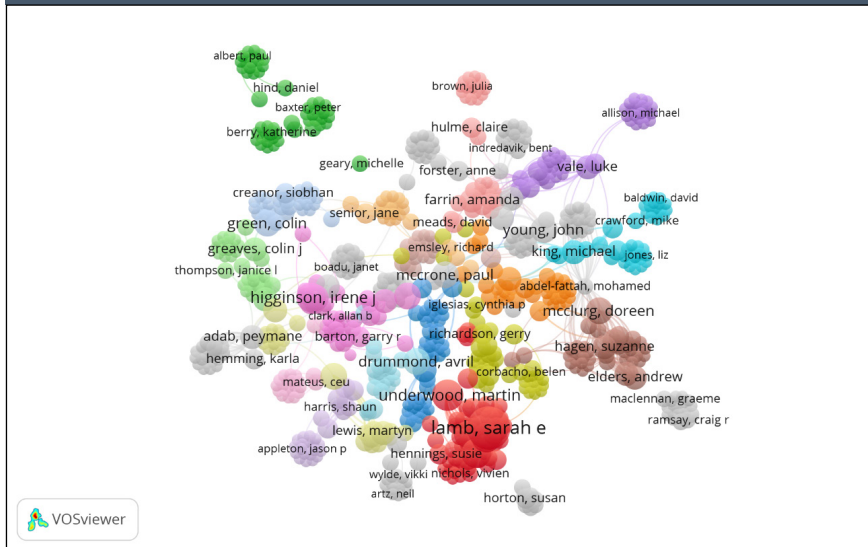
The analysis in Figure 1 shows the evolution of scientific production on post-stroke rehabilitation over the last ten years. Between 2014 and 2015, there was a significant increase in publications, revealing a growing interest in the topic among the academic community. From 2016 to 2017, there was a decline, followed by a new increase between 2017 and 2018 and stabilization between 2018 and 2019.

The highest peak in publications was recorded between 2019 and 2020, a period marked by the COVID-19 pandemic, which drove the search for alternative therapies, such as virtual reality and telerehabilitation. In subsequent years, there was a quantitative variation accompanied by theoretical maturation and consolidation of interest in the subject.

With regard to the network of authors, researcher Sarah and Lamb stand out, with greater centrality in scientific production, being frequently cited and serving as a basis for new studies.

This centrality demonstrates a chain of ramification, in which other authors develop research based on her contributions, possibly revealing an interdisciplinary character by articulating knowledge of occupational therapy, physical therapy, nursing, and rehabilitation medicine. In addition to her, researchers such as John Young, Mary Godfrey, and Irene J. Higginson also occupy strategic positions in the network. There are also isolated authors who, despite not being directly connected to the main core, develop research of specific relevance.

Figure 2: Relationship between authors grouped by clusters.



Source: the authors (2025)

When comparing the two graphs presented (Figures 2 and 3), a clear chronological order in the authors' work can be observed. Graph 1 shows a wide network of connections, reflecting the interaction

between different research groups over time.

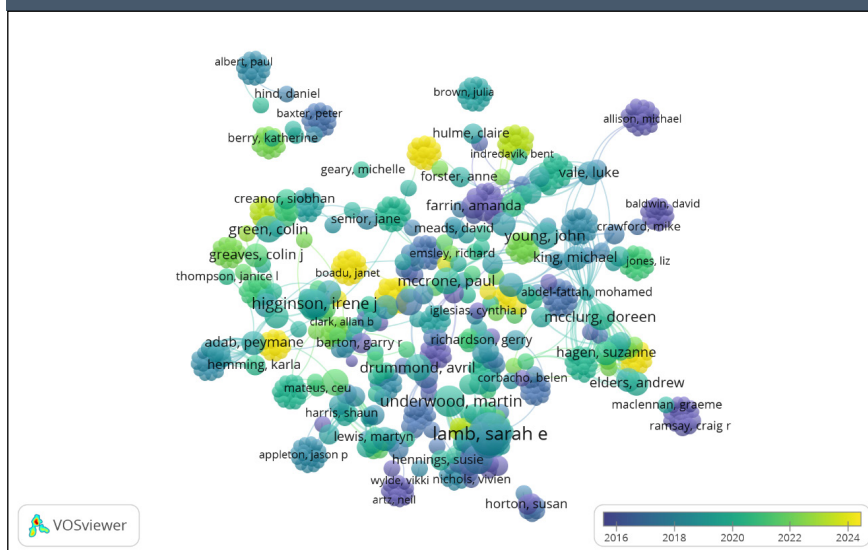
Graph 2 shows that most authors are long-standing, as already mentioned, i.e., well established in the field, with few new authors emerging. There are 28 distinct

clusters, with some authors standing out due to the size of their spheres, influence, or centrality in the network, such as 'Sarah and Lamb', members of Cluster 1, and 'Paul', from Cluster 24, among others.

Despite the gradual emergence of new researchers, the predominance still falls on authors with medium and long-term experience, consolidating the theoretical and methodological basis of the area.

This configuration demonstrates a scenario of continuity and renewal in the field of Occupational Therapy applied to post-stroke rehabilitation, in which experienced researchers continue to exert strong influence, while new authors begin to contribute with contemporary perspectives and innovative approaches. The relationship between tradition and renewal is essential for scientific advancement, allowing the integration of classical references with new technological, methodological, and interdisciplinary trends, strengthening the consolidation and evolution of the field.

Figura 3: relação entre autores agrupados por clusters.



Source: the authors (2025)

The keyword analysis shown in Figure 4 highlights the main thematic axes of scientific production on Occupational Therapy in post-stroke reha-

bilitation. The term "rehabilitation" predominates as the central focus of the studies, reflecting the emphasis on therapeutic practices aimed at the functional and social recovery of individuals

affected by stroke.

The term "humans" highlights the humanized nature of interventions and individual-centered care, while "*network construction*" refers to the interconnection between research groups and institutional contexts, indicating a collaborative movement in the production and sharing of knowledge.

Other recurring terms, such as "depression," "COVID-19," and "post-stroke rehabilitation," broaden the understanding of the emotional and contextual impacts on the rehabilitation process. The presence of the word "depression" reinforces the focus on mental health during recovery, and the emphasis on "COVID-19" reflects the challenges of the pandemic, which have driven the use of assistive technologies and telerehabilitation.

Thus, the set of keywords reveals the integration between physical, cog-

Santana FC, Lima EE, Cordeiro ARL, Brito AMA, Silva DM, Silva FDS, Costa AL, Araujo JAS
The Occupational Therapy Intervention in Post-Stroke Patients: A Bibliometric Analysis

cused on social inclusion, technological innovation, and the strengthening of collaborative research networks.

On the other hand, there are universities located in peripheral areas of the network, with a lower density of connections, but which still maintain collaborative links with the central groups, contributing to the diversification and expansion of the field. Even with a lower volume of publications, these emerging centers play an important role in the construction of the scientific network, strengthening the exchange of knowledge and the construction of a broader and more integrated knowledge base on the subject.

The present study aimed to analyze the intervention of Occupational Therapy in the functional and social rehabilitation process of post-stroke patients through a bibliometric analysis of scientific production between 2014 and 2024. The results obtained point to a significant growth in publications on the subject, highlighting the strengthening of Occupational Therapy as an essential field in the rehabilitation process. This increase reflects the global interest in understanding the impact of stroke on functionality, quality of life, and psychosocial well-being, as well as in improving therapeutic strategies and inclusion policies.

Data analysis revealed that studies on post-stroke rehabilitation are organized into 28 distinct clusters, representing different lines and approaches within the same field of research. This diversity demonstrates the transdisciplinary nature of scientific production, in which authors and institutions explore not only the neurological and functional aspects of stroke, but also its interfaces with topics such as mental health, depression, COVID-19, and health promotion. Thus, the field is not limited to physical rehabilitation but expands to cognitive, emotional, and social dimensions, reflecting a broader and more integrated view of the care process.

The most recurring keywords, such

in certain university groups, which stand out for their consistent publications and extensive international partnerships. These centers function as reference hubs, coordinating research focused on functional rehabilitation, assistive technologies, and social inclusion practices.

birmingham centre for mental heal

clinical research and imaging

division of psychiatry, univer

school of social and community

warwick medical school, univer

institute of health and societ

faculty of medical sciences, n

school of health and related r

faculty of health sciences, un

department of health sciences,

health services research unit,

nursing, midwifery and allied

york trials unit, department o

faculty of medicine and health

department of neurology, king

centre for health economics, u

centre for biostatistics, scho

VOSviewer

Source: the authors (2025)

as rehabilitation, *humans*, depression, and post-stroke rehabilitation, reinforce the humanized and multidimensional nature of therapeutic interventions. The presence of the terms COVID-19 and *telerehabilitation* highlights the adaptation of health services during the pandemic, which has driven the use of technological resources and new care methodologies. These data indicate a transformation in the practice of occupational therapy, which has begun to incorporate digital tools, virtual environments, and remote engagement strategies to maintain continuity of care.

With regard to teaching and research institutions, a significant number of universities were involved, with an initial concentration in large academic centers,

especially in health and science departments. These groups have a high density of connections and a high impact on international scientific production. At the same time, there are also peripheral institutions in the network which, although with a lower volume of publications, maintain significant collaborations with the central hubs, contributing to the thematic and geographical diversity of the research. This configuration shows that, although some institutions lead the scene, there is a constant expansion of the knowledge network, strengthening the collaborative and global nature of the field.

The results of this research reveal that the study of Occupational Therapy in post-stroke rehabilitation transcends

disciplinary boundaries and plays a strategic role in promoting comprehensive health. The articulation between universities, researchers, and areas of knowledge reflects an increasingly broad concern with the concept of stroke and its implications for the physical and mental health of patients. Thus, there is a reinforced need to expand access to evidence-based therapeutic practices, encourage the formation of collaborative networks, and consolidate public policies that guarantee early, comprehensive, and humanized rehabilitation, focused not only on motor recovery but also on the well-being and social reintegration of individuals affected by stroke.

REFERENCES

1. Araújo JP, Santos LS, Silva MA, Oliveira RC. Tendência da mortalidade por acidente vascular cerebral no município de Maringá, Paraná, entre os anos de 2005 a 2015. *Int J Cardiovasc Sci*. 2018;31(1):56-62.
2. Feigin VL, Nguyen MN, Thurston HJ, Nguyen QH. Global burden of stroke and risk factors in 195 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet Neurol*. 2019;18(11):1013-46.
3. World Health Organization. Global health estimates 2021: stroke mortality. Geneva: World Health Organization; 2021.
4. Langhorne P, Bernhardt J, Kwakkel G. Stroke rehabilitation. *Lancet*. 2011;377(9778):1693-702. doi:10.1016/S0140-6736(11)60325-5.
5. García-Pérez P, López-López MJ, Martínez-Martínez JJ, Pérez-Pérez C. Interventions within the scope of occupational therapy in the hospital discharge process post-stroke: a systematic review. *Healthcare (Basel)*. 2022;10:1645. doi:10.3390/healthcare10091645.
6. Moraes DF, Silva MC, Pereira AB, Rodrigues EL. Aspectos psicossociais e funcionais na reabilitação de pacientes com AVC. *Rev Saude Publica*. 2020;54:112.
7. Cruz DMC, Toyoda CY. A atuação da terapia ocupacional na reabilitação de pacientes com lesões neurológicas. *Rev Neurocienc*. 2009;17(1):56-62.
8. Silva ALCC, Lima KFO, Carvalho SAD. O uso da mobilização precoce na reabilitação funcional em pacientes após acidente vascular cerebral: uma revisão sistemática. *Res Soc Dev*. 2022;11(7):e31111730050. doi:10.33448/RSD-V1117.3005.
9. Nunes MA, Lopes PR. Abordagens integradas na reabilitação pós-AVC. *Rev Ter Ocup Debate*. 2021;6(1):55-67.
10. Stoffel V, Nickel A. Fundamentos da terapia ocupacional na reabilitação neurológica. São Paulo: Manole; 2013.
11. Landim SF, López R, Caris A, Castro C, Castillo RD, Avello D, et al. Effectiveness of virtual reality in occupational therapy for post-stroke adults: a systematic review. *J Clin Med*. 2024;13(16):4615. doi:10.3390/jcm13164615.
12. Nunes MA, Silva RF, Souza AC, Costa BV. Intervenções comunitárias em saúde e reabilitação pós-AVC. *Rev Bras Ter Ocup*. 2019;27(3):433-45.
13. Bittencourt MA, Rosa CF, Silva LM. Práticas comunitárias na reabilitação de pacientes pós-AVC. *Cad Ter Ocup UFSCar*. 2021;29(4):887-99.
14. Carvalho AP, Silva DS. Inovações em terapia ocupacional no contexto da reabilitação neurológica. *Rev Interdiscip Saude*. 2023;7(2):112-26.
15. Oliveira JC, Gomes RF, Santos TP. Avanços da terapia ocupacional na reabilitação pós-AVC: análise bibliométrica (2014–2024). *Rev Bras Ter Ocup*. 2024;32(2):201-15.
16. Fahimnia B, Sarkis J, Davarzani H. Green supply chain management: a review and bibliometric analysis. *Int J Prod Econ*. 2015;162:101-14. doi:10.1016/j.jipe.2015.01.003.
17. Cruz V, Toyoda K. Neuropsicologia do AVC. *J Stroke Rehabil*. 2009;16(2):101-10.
18. Laver KE, George S, Thompson S. Virtual reality for stroke rehabilitation. *Cochrane Database Syst Rev*. 2020;(11):CD008349. doi:10.1002/14651858.CD010255.pub3.
19. Stoffel DP, Nickel R. A utilização da atividade como ferramenta no processo de intervenção do terapeuta ocupacional em reabilitação neurológica. *Cad Ter Ocup UFSCar*. 2013;21:621. doi:10.4322/CTO.2013.064.