Psychosomatic Medicine and General Practice
Том 9 № 3 (2024)
DOI: 10.26766/pmgp.v9i3.518

Collaborative approaches to stroke recovery: overcoming challenges and implementing strategies

Lesia Shuranova University of South Bohemia České Budějovice
Jitka Vacková
Kvetoslava Rimárová
Andriy Hryshchuk

Rationale and purpose: Our study focuses on the importance of timely and effective rehabilitation in the context of the global problem of ischemic stroke and its consequences for health and society. With stroke as a leading cause of disability and mortality worldwide, this study seeks to identify how rehabilitation processes can be improved through coordinated care that encompasses various aspects of treatment and support for patients and their families. This work seeks to identify potential improvements in stroke care that can improve patient quality of life.

The impact of stroke extends beyond the immediate health implications to long-term disability, affecting not only the patients but also their families and communities. As such, the urgency for improving rehabilitation processes cannot be overstated.

Stroke rehabilitation is a complex and multifaceted process that requires a comprehensive approach to effectively restore function and improve the quality of life for survivors. Our research seeks to delve into the intricacies of stroke rehabilitation, exploring how it can be enhanced through coordinated care that integrates various aspects of treatment and support. The aim is to develop a more effective rehabilitation framework that addresses the diverse needs of stroke patients, facilitating their recovery and reintegration into society.

Key to this investigation is the identification of potential improvements in the rehabilitation process. We aim to highlight the significance of a coordinated and integrated approach, which includes medical treatment, physiotherapy, psychological support, and social care. By examining current practices and pinpointing areas for enhancement, we seek to propose strategies that can lead to better patient outcomes and a higher quality of life post-stroke.

One of the primary objectives of our study is to emphasize the importance of initiating rehabilitation promptly after a stroke. Delays in rehabilitation can significantly hinder recovery, leading to prolonged disability and a decrease in the potential for regaining lost functions. Our research will investigate the optimal timing for rehabilitation interventions and how timely care can be ensured within various healthcare settings.

Stroke rehabilitation should not be confined to physical recovery alone. It must encompass a holistic approach that addresses the psychological, cognitive, and social needs of patients. We will explore how multidisciplinary teams, including neurologists, physiotherapists, occupational therapists, psychologists, and social workers, can work together to provide comprehensive care that meets all aspects of a patient’s recovery needs.

The role of family and community support is pivotal in the rehabilitation process. Our study will examine how involving patients’ families and community resources can enhance the effectiveness of rehabilitation. We will assess the impact of family education, community-based rehabilitation programs, and support networks on patient outcomes.

With advancements in medical technology and therapeutic methods, there is a growing potential to improve rehabilitation outcomes through innovative techniques. Our research will explore the latest advancements in stroke rehabilitation, including the use of robotics, virtual reality, tele-rehabilitation, and other cutting-edge technologies. We aim to evaluate their effectiveness and feasibility in different healthcare settings.

Ensuring that patients have access to quality rehabilitation services is a significant challenge, particularly in low-resource settings. Our study will address issues of accessibility, including the availability of rehabilitation facilities, trained professionals, and financial barriers. Additionally, we will explore strategies to raise awareness about the importance of rehabilitation among patients, families, and healthcare providers.

Based on our findings, we aim to provide evidence-based recommendations for policy and practice. These recommendations will be geared towards improving the coordination and delivery of rehabilitation services, ensuring that patients receive timely, comprehensive, and continuous care. We will advocate for policy changes that support the integration of rehabilitation into the broader healthcare system, promoting long-term sustainability and effectiveness.

In conclusion, our study is dedicated to advancing the field of stroke rehabilitation by identifying and addressing key areas for improvement. Through a coordinated and integrated approach, we seek to enhance the recovery process, ultimately improving the quality of life for stroke survivors and reducing the burden of disability on society.

Background: a number of collaborative approaches to stroke recovery are based on an understanding of the complexity of the process and the need for an integrated approach to treatment and rehabilitation. Key aspects include:

1. Individualization of the approach: each patient has unique needs and characteristics that require personalized treatment and rehabilitation programs.
2. Multimodal approach: the use of various treatment methods (drug, physiotherapeutic, psychological, etc.) to achieve optimal results in the restoration of functions.
3. Comprehensive needs assessment: consideration of physical, mental, social and cognitive aspects of recovery to develop an individualized strategy.
4. Integration of different specialists: involvement of a team of medical, rehabilitation and social workers for a comprehensive approach to the patient.
5. Education and support of the patient and family: providing information, teaching self-care skills and supporting the psychological state of the patient and his relatives.

Material and Methods: Using a qualitative approach, we conducted semi-structured interviews with professionals involved in stroke care in two hospitals. Participants included rehabilitation therapists, social workers, psychologists, occupational therapists, physiotherapists, nurses, and general practitioners involved in the rehabilitation process. A total of 131 professionals were interviewed and asked for their impressions and experiences on the effectiveness of rehabilitation strategies and cooperation between different medical team members. The data was analyzed using ATLAS.ti software, which allowed us to identify key themes and patterns in the responses.

Results: Coordinated rehabilitation using an interprofessional approach is critical for maximizing function recovery after stroke. Effective communication and interaction between team members, psychological support, and active family involvement in rehabilitation were emphasized. However, challenges were identified, including limited access to rehabilitation services and insufficient awareness of available resources and rehabilitation programs among patients and their families.

Conclusions: Effective coordinated rehabilitation, including interprofessional collaboration, is key to the successful recovery of patients after ischemic stroke. An important aspect is the involvement and support of the patient's family and increasing accessibility and awareness of rehabilitation services. To ensure more effective and patient-centered care, integrated care models should be developed to improve the exchange of information between patients, their families, and medical professionals and strengthen the role of the family in the rehabilitation process.

Introductions

An acute cerebrovascular accident (CVA), frequently referred to as a stroke, is a critical medical emergency requiring immediate and effective intervention. The phrase "time is brain" emphasizes the importance of swift action in acute strokes, highlighting the irreversible damage that delayed treatment can cause. According to the "Guidelines for the Care of Patients with Acute Cerebrovascular Accident 2021," issued by the Czech Ministry of Health, approximately 90% of strokes are ischemic, i.e., caused by the occlusion of a cerebral artery. The remaining 10% of strokes are due to hemorrhages from smaller arteries or aneurysms in larger cerebral arteries [1].

The World Health Organization's strategy for reducing inequalities in healthcare highlights Community-Based Rehabilitation (CBR) as a fundamental feature [2]. CBR aims to ensure equal rights and opportunities for persons with disabilities, just like those of all community members, by incorporating aspects of health, education, employment, and social and community [2]. As discussed by Vacková et al. [3], coordinated rehabilitation, as part of the CBR concept, entails interdisciplinary collaboration following hospital discharge, the home-based rehabilitation environment. Such integrated care is crucial for stroke survivors because it leverages the community's therapeutic resources for effective rehabilitation [3].

In May 2023, the World Health Assembly recognized the importance of rehabilitation by adopting a resolution to strengthen rehabilitation in health systems [4]. This resolution underscores the need for expanding rehabilitation services across all healthcare levels, from primary to tertiary care. It recognizes the necessity of making quality, timely, and affordable rehabilitation accessible to all. This approach is pivotal in mitigating the socio-cultural and economic impact of stroke, facilitating reintegration into society, and enhancing the overall well-being of stroke survivors [4].

Quality rehabilitation after a stroke is indispensable for maximizing recovery and requires a multidisciplinary approach that integrates various professionals and community resources [5]. The efficacy of stroke rehabilitation largely depends on seamless collaboration and communication among team members, ensuring that the patient's journey toward recovery is holistic and patient-centered [6].

Given the high risk of mortality within the first year post-stroke and the uncertain prognoses, there is a pressing need for effective rehabilitation strategies. Stroke rehabilitation must promote equal opportunities and inclusivity for people living with post-stroke disabilities [7]. CBR has emerged as a pivotal strategy in this regard, aiming to maximize independence and improve the quality of life for stroke survivors by leveraging local resources and promoting community inclusion [7].

The World Health Assembly's resolution in May 2023 to strengthen rehabilitation in health systems marks a significant step towards recognizing rehabilitation's critical role in improving health outcomes in stroke survivors. By advocating for expanded rehabilitation services across all healthcare levels, this resolution highlights the necessity of making quality, timely, and affordable rehabilitation accessible to all, ensuring the comprehensive, quality care crucial for successfully reintegrating stroke survivors into society [4].

This study investigated how coordinated care and rehabilitation for stroke patients can be implemented before, during, and after hospital discharge. It explored the components of coordinated rehabilitation, namely, the patient/client, their family, and treatment specialists. This study focuses primarily on the role of treatment specialists. It was conducted as part of the GAJU 066/2022/S project, approved by the ethics Ie under 6/2022.

Research Strategy This study employed a qualitative research approach, focusing on the experiences of treatment specialists caring for patients after a cerebrovascular accident (CVA)/stroke. The principal data-gathering method was semi-structured interviews with treatment specialists.

Participants

Participants included a wide range of treatment specialists from two hospitals, focusing on their rehabilitation departments where patients/clients were approached. The selection captured a diverse group of experts, although not everyone participated. The participants included seven physicians specializing in rehabilitation medicine; two social workers and two psychologists from these hospitals; 4 occupational therapists and 21 physiotherapists from the RHB departments; 17 general nurses; a total of 89 general practitioners were divided into two groups: 7 caring for patients included in the study and 82 who have patients' post-stroke in their care.

This selection aimed to ensure a broad analysis by including a variety of perspectives from different rehabilitation specialists. All participants were thoroughly briefed on the research objectives before participating. All interviews were coded to ensure the confidentiality and anonymity of the respondents.

Data Collection

The semi-structured interviews were designed to gather two types of information: (a) details about the caregiver (e.g., their relationship to the patient, their caregiving role), and (b) their experiences and perceptions garnered from utilizing coordinated rehabilitation services.

The interview framework used guided conversations, allowing flexibility for participants to share their experiences and perspectives freely.

Data Analysis

Data obtained from interviews were analyzed using ATLAS.ti software. Depending on the depth and richness of the data provided by the participants, this meticulous process employed various coding strategies, including open, axial, and selective coding. This process aimed to comprehensively look for themes and patterns emerging from caregiver narratives.

Research Risks

Acknowledging the limits associated with this qualitative research is essential. Given its qualitative nature, findings cannot be generalized. Moreover, since the research focuses on the caregiver experiences of family members, combining results from multiple interviews introduces a degree of subjectivity to data coding. To mitigate this problem, the coding process was discussed with other experts in the field to reduce the influence of individual biases.

Results

Coordinated rehabilitation with an interprofessional approach is critical to maximizing post-stroke recovery. This method allows patients to learn new skills, adapt to new situations, and regain their independence and self-sufficiency. Proper rehabilitation also helps individuals embrace change and

find joy and meaning. The term “clients” is often used in this study, which corresponds to terminology in social work, whereas in a medical context, the term “patients” is preferred. For this reason, the terms patient and client should be seen as synonymous in this text. The same is true for “interprofessional” teams and “multidisciplinary” teams.

Due to the increasing incidence of stroke and subsequent disability, there is a growing need for coordinated services within coordinated rehabilitation [8]. The transition from hospital care to a return to everyday life is a considerable challenge involving many factors. Identifying effective strategies to improve cooperation between professionals and increase the availability of coordinated rehabilitation services for patients after stroke is crucial. Only these strategies can ensure that all patients receive the quality and comprehensive care crucial for their triumphant return to everyday life [8].

Rehabilitation physician statements identified key elements essential for a successful return to everyday life. The importance of post-stroke rehabilitation plans was emphasized. In consultation with the rehabilitation team, the rehabilitation physician must work together to formulate a patient-oriented plan. Effective rehabilitation plans are essential since they contribute to reducing disability, improving quality of life, and supporting the recovery process [3; 9].

Rehabilitation professionals include physiotherapists, occupational therapists, speech therapists, clinical psychologists, physical medicine and rehabilitation physicians, and rehabilitation nurses [10]. Arsénio Duarte et al. [11] noted that effective communication between rehabilitation professionals, with each understanding their roles as team members, is critical to an effectively functioning team. Communication across disciplines is fast becoming an essential requirement for all professionals, institutions, and bodies involved in intersectoral healthcare collaboration, allowing for the delivery of comprehensive and effective care focused on the individual needs of patients [11].

One rehabilitation doctor said, “A sufficient number of homes for the elderly and similar institutions, including daycare centers, are essential for the care of the elderly. Obtaining physiotherapy and occupational therapy in the home environment, with the possibility of reimbursement through insurance, is essential to providing comprehensive care. Valuing the care of a loved one should be seen as a regular and realistic job, making it much easier for everyone involved.” This need is supported by the findings of Chen et al. [12], which demonstrated that policies supporting both home rehabilitation and rehabilitation during hospitalization can significantly improve functional self-sufficiency in patients after stroke and should be further developed. Given that the number of people undergoing early comprehensive rehabilitation is still too low, informing patients about the availability and importance of rehabilitation is crucial, especially considering that it should start as soon as possible after a stroke [13].

Our research focused on the roles of different professionals in the post-stroke rehabilitation process. We paid particular attention to the role of psychologists and occupational therapists in coordinated care. According to the standards of care delivery, their involvement is essential for assessing, understanding, and managing stroke consequences, as well as for overall case management and staff supervision [14; 15]. The lack of support from psychologists in the rehabilitation process can significantly limit rehabilitation successes [15].

Based on our findings, psychologists emphasized the importance of continuing rehabilitation, working with psychiatrists and psychotherapists, being patient with the rehabilitation process, and understanding the importance of continuing the rehabilitation process. Supporting psychological needs can significantly enhance autonomous motivation and encourage participation in daily activities [16].

Occupational therapists are another critical component in the post-stroke rehabilitation process. Their role includes supporting patient education, rehabilitation, and overall health and wellness

[17]. Occupational therapists are essential in improving the health and well-being of individuals and communities by promoting meaningful occupational engagement. In addition to the role of professionals, it is essential to consider other factors that influence rehabilitation, such as comorbidities, access to healthcare, and the socioeconomic conditions of patients [18]. Based on the information gathered, several barriers and gaps in the post-stroke rehabilitation process were identified in our research. Key barriers include a lack of standardized discharge planning programs and a lack of communication and coordination between health care providers and patients, both in acute and subacute care. Many participants, particularly physiotherapists, highlighted specific problems such as limb paralysis, ataxia, inability to walk, immobility, and adherence to rehabilitation care regimens.

Other significant deficiencies identified were the lack of occupational therapists and gyms suitable for stroke patients. Lack of information about aids and other available care was also mentioned as a significant problem that limits effective care delivery. In addition, other barriers, such as a lack of time, knowledge, and psychological support for the patient and their family, were noted.

Research by Munce et al. [19] identified issues related to staff shortages and time pressures associated with implementing rehabilitation programs. Another study by Cormican et al. [20] highlighted organizational barriers to the practical application of rehabilitation, such as time constraints and a lack of resources. Galvin et al. [21] highlighted the underutilization of family members in rehabilitation after a stroke. Family support is crucial to engaging patients in rehabilitation after a stroke, as shown in a study by Ishigaki et al. [22].

As crucial care providers, nurses identified several challenges facing patients after a stroke. These challenges include the inability to carry out activities of daily living, cognitive deficits, apraxia, swallowing disorders, paresis, limb paralysis, and aphasia. Early assessment and treatment of depression and anxiety in patients after stroke is essential since these conditions can negatively impact rehabilitation and quality of life [23].

Participants noted that the rehabilitation of patients after stroke depends on other interprofessional team members, such as occupational therapists, physiotherapists, psychologists, speech therapists, doctors, and auxiliary medical staff. Nurses are involved in care delivery and care coordination between different professionals. They are vital communicators who provide information about the patient’s condition and help coordinate all services [24]. Some of the challenges that nurses encounter when caring for stroke patients include staff shortages, lack of time, and uncooperative patient families. Staff shortages can lead to time pressures and limit the capacity to provide individualized care [25]. Respondents noted that uncooperative patient families can also pose a challenge in care planning and preparing the patient for hospital discharge.

Nurses are crucial in ensuring optimal post-stroke care during hospitalization and discharge. Their role is to identify the specific needs of patients and their families and participate in the planning and implementation of care [26]. Quality nursing interventions offer emotional support and enhance the quality of care provided to family members [27]. Nurses must be fully equipped with the education and skills to provide comprehensive post-stroke patient care [28].

Research has identified key collaboration features between social workers and other health professionals needed to provide care for patients following a stroke. As Vacková et al. [3] noted, social workers often act as case managers and are critical to coordinating a team of professionals. The authors emphasized the importance of empirically understanding the dynamics of successful collaboration to support social workers in their efforts to become effective partners with other health professionals [29].

Healthcare’s ever-increasing complexity and costs require efficient and carefully coordinated service delivery systems [30], highlighting the need for collaboration among disciplines. Respondents emphasized the importance of communication between various healthcare team

members, including physicians, nurses, and other professionals, which is crucial to the successful care of patients after stroke.

Synergistic collaboration between health professionals, including social workers, is essential for delivering effective, safe, high-quality patient care [31]. However, some health professionals have little regard for social work and social workers, which can hinder effective collaboration [32]. Communication partners in the research emphasized the importance of a personalized approach to care for patients after stroke, with collaboration guided by the current needs of the client and family.

Information availability, care coordination, and available community resources are essential to support recovery after stroke [33]. At the same time, attention to the social aspects of patients' recovery, including a return to everyday life and the support needed to achieve this goal, is essential [34].

Collaboration between social workers and other health professionals is crucial to providing comprehensive care and support to patients after a stroke. It is essential not only to improve communication and coordination between team members but also to ensure that care reflects the individual needs and social context of patients.

Stroke is a severe medical condition that requires comprehensive care, including monitoring, rehabilitation, and psychosocial support. Research among general practitioners in the Czech Republic has shown a need for more patient follow-up during the first year after strokes due to the priorities and complexity of medical care [35]. This highlights the need to ensure care accessibility and problematic differences in access to travel, given geographical limits and contracts with insurance companies [36].

Practitioners face several challenges in caring for patients after stroke, including lack of social security, family non-cooperation, impaired self-sufficiency, and limited access to rehabilitation. These factors, along with the lack of specialized care and limits imposed by health insurance companies, highlight the importance of close monitoring and identifying complications that may affect patient quality of life [37; 38].

General practitioners are vital in caring for stroke patients, coordinating multidisciplinary care, and working with patient families [39]. Despite barriers, interprofessional collaboration and digital technologies have been positively evaluated in improving patient care after stroke.

Lack of information and linkage to other services were the most significant problems in discharging patients from hospital care. This factor hinders the rehabilitation process and points to the need for improved communication between hospitals and primary care providers and better preparation for patients' discharge [35].

Research has highlighted the complex nature of care required for patients after stroke, emphasizing the importance of multidisciplinary collaboration, access to rehabilitation services, and support from families. Continuous collaboration and communication between all stakeholders appear essential to improve outcomes and quality of care.

Discussion

Coordinated rehabilitation of patients after stroke is a critical aspect of the overall recovery process that focuses on restoring physical, cognitive, and social function. Our study provides important insights into the challenges and opportunities associated with coordinated rehabilitation, consistent with previous research [11; 29; 40]. One of the key findings is the need for effective interprofessional collaboration between different health professionals, which is essential for providing comprehensive and continuous care.

Like Aquino et al. [36] and Lewinter & Mikkelsen [41], our findings highlight gaps in the availability and coordination of rehabilitation services. These gaps can cause significant difficulties in the recovery process. We highlight the need to improve systems of information provision, support for families, and access to rehabilitation services. Interestingly, our study also revealed new directions for promoting peer learning and education between patients and their families, suggesting a potential area for future innovation and improvement in the care of patients after stroke.

The current research underscores the necessity of acknowledging its limitations, particularly in the scope of stakeholder representation. While valuable insights have been garnered, there remains a notable gap in perspectives from patients and their families. Future studies must prioritize expanding the sample size to ensure a more comprehensive understanding of all involved parties. This underscores the imperative for a more inclusive research approach. Additionally, forthcoming research endeavors should delve into the potential of integrating emerging technologies and digital tools. Such exploration could enhance access to rehabilitation services and foster greater patient engagement in the recovery process [39].

It is also important to stress that coordinated rehabilitation requires close collaboration between health professionals and the active involvement of patients and their families. Research has shown that support from the family and social environment is essential for the recovery of patients after a stroke. Future strategies should emphasize strengthening this support and ensuring that families are adequately informed and equipped to provide this care.

In addition, the study revealed differences in perceptions and experiences between healthcare professionals and patients and their families, highlighting the need for better communication and mutual understanding. This mismatch can lead to misunderstandings and frustration, making effective rehabilitation difficult. Therefore, future interventions should include strategies to improve communication and mutual understanding between the different parties involved in the rehabilitation process.

Finally, our study highlights the importance of continuing education for healthcare professionals regarding coordinated rehabilitation. With new technologies and treatment approaches, professionals must have up-to-date knowledge and skills to provide the best possible care to patients after a stroke. This should include regular training, multidisciplinary workshops, and sharing best practices among professionals.

In conclusion, our findings confirm that coordinated rehabilitation after stroke is a complex process that requires close collaboration, a multidisciplinary approach, and the active involvement of the patient and their families. Future research and practice should continue to seek innovative solutions to overcome current challenges and optimize rehabilitation care for patients after stroke.

Conclusions

Based on the data obtained, the following conclusions can be drawn:

1. Rehabilitation coordination is integral to effective patient recovery after cerebrovascular incidents. An interdisciplinary approach involving a wide range of specialists ensures comprehensive care and optimal rehabilitation outcomes.

2. The lack of accessibility of rehabilitation services, especially in the home, and the lack of awareness of patients and their families regarding available resources and programs are a serious problem that needs to be addressed immediately to ensure continuity and effectiveness of care after discharge from the hospital.

3. The importance of improving interdisciplinary cooperation and communication between all participants in the rehabilitation process, including healthcare professionals, patients, and their

families, is essential to ensure coordinated and effective patient-centered care.

Based on these findings, the following recommendations can be formulated to improve the coordinated rehabilitation of patients after stroke:

1. Develop and implement integrated models of care that involve multidisciplinary and multisector teams to provide comprehensive support to patients and their families.

2. Raise awareness of available rehabilitation resources and programs among patients and their families through information campaigns and digital platforms.

3. Strengthen the role of the family in the rehabilitation process through educational and support programs that provide tools for active participation in helping relatives.

4. Ensure accessibility to in-home rehabilitation services by expanding the network of service providers and optimizing funding mechanisms.

These measures can improve patient quality of life after a stroke and facilitate their rapid return to everyday life both in their home and in society.

In conclusion, to ensure more effective and patient-centered care, it is necessary to implement integrated rehabilitation models that include interprofessional collaboration, active family involvement, and improved accessibility and awareness of rehabilitation services. Only through a comprehensive approach can significant improvements be achieved in the recovery process of stroke patients and their quality of life be enhanced. Moreover, emphasizing the importance of continuous support and follow-up care, fostering community involvement, and leveraging technology for better communication and coordination among healthcare providers are crucial steps. By prioritizing these elements, healthcare systems can create a more resilient and responsive framework for stroke rehabilitation, ultimately leading to better long-term outcomes and a higher standard of care for all patients.

Funding

Funding was based on complete financial support from the Grant Agency of the University of Jihočeské Budějovice (project number GAJU 066/2022/S, duration 1.2.2022 to 31.12.2023).

Conflict of interest

The authors of this study confirm that the research and publication of the results were not associated with any conflicts regarding commercial or financial relationships, relationships with organizations and/or individuals who may have been related to the study, and interrelationships of the article’s co-authors.

Contributors: (CrediT)

Lesia Shuranova – conceptualization, investigation, methodology, writing – review & editing, visualization;

Jitka Vacková – supervision

Kvetoslava Rimárová – supervision

Andriy Hryshchuk – supervision

References

1. Methodological guideline – Care of patients with acute stroke 2021. [In Czech] Metodický pokyn – Péče o pacienty s akutní cévní mozkovou příhodou 2021. (n.d.). Ministerstvo zdravotnictví. Retrieved March 2, 2024, from https://www.mzcr.cz/metodicky-pokyn-pece-o-pacienty-s-akutni-cevni-mozkovou-prihodou-2021/
2. Community-based rehabilitation: CBR guidelines. (n.d.-b). World Health Organization (WHO). Retrieved March 29, 2024, from https://www.who.int/publications/i/item/9789241548052
3. Vacková, J. (2020). Sociální práce v systému koordinované rehabilitace: U klientů po získaném poškození mozku (zejména CMP) se zvláštním zřetelem na intervenci z hlediska sociální práce, fyzioterapie, ergoterapie a dalších vybraných profesí. Grada Publishing, a. s. In Czech
4. Landmark resolution on strengthening rehabilitation in health systems. (n.d.). World Health Organization (WHO). Retrieved March 21, 2024, from https://www.who.int/news/item/27-05-2023-landmark-resolution-on-strengthening-rehabilitation-in-health-systems
5. Smith, S., Horgan, F., Sexton, E., Cowman, S., Hickey, A., Kelly, P., McGee, H., Murphy, S., O'Neill, D., Royston, M., Shelley, E., & Wiley, M. (2013). The future cost of stroke in Ireland: an analysis of the potential impact of demographic change and implementation of evidence-based therapies. Age and Ageing, 42(3), 299–306. https://doi.org/10.1093/ageing/afs192
6. Mendes Pereira, C., Matos, M., Carvalho, D., Macedo, P., Calheiros, J. M., Alves, J., Paulino Ferreira, L., Dias, T. L., Neves Madeira, R., & Jones, F. (2024). Building Bridges between People with Stroke, Families, and Health Professionals: Development of a Blended Care Program for Self-Management. Journal of Clinical Medicine, 13(1). https://doi.org/10.3390/jcm13010300
7. Daviet, J. -C., Compagnat, M., Bonne, G., Maud, L., Bernikier, D., & Salle, J.-Y. (2023). Individualized home-based rehabilitation after stroke in France: a pragmatic study of a community stroke rehabilitation team. Canadian Journal of Neurological Sciences / Journal Canadien des Sciences Neurologiques, 50(3), 405–410. https://doi.org/10.1017/cjn.2022.26
8. Shuranova, L., Vacková, J., & Míková, M. (2023). The benefits of coordinated rehabilitation in the treatment of stroke patients: A literature review. Medicni Perspektivi (Medical Perspectives), 28(1), 48–55. https://doi.org/10.26641/2307-0404.2023.1.275869
9. Mills, J. -A., Cieza, A., Short, S. D., & Middleton, J. W. (2021). Development and Validation of the WHO Rehabilitation Competency Framework: A Mixed Methods Study. Archives of Physical Medicine and Rehabilitation, 102(6), 1113–1123. https://doi.org/10.1016/j.apmr.2020.10.129
10. World Health Organization. (2020). Fact sheets: Rehabilitation. World Health Organization. Retrieved February 4, 2024, from https://www.who.int/news-room/fact-sheets/detail/rehabilitation
11. Arsénio Duarte, A., Paula Martin, A., Santos, D., Santos, R., & Viegas, R. (2021). Stroke unities: the role of the occupational therapist and the perception of the multidisciplinary team. MOJ Gerontology & Geriatrics, 4(6), 102–105. https://doi.org/10.15406/mojgg.2021.06.00276
12. Chen, Y. -C., Chou, W., Hong, R. -B., Lee, J. -H., & Chang, J. -H. (2023). Home-based rehabilitation versus hospital-based rehabilitation for stroke patients in post-acute care stage: Comparison on the quality of life. Journal of the Formosan Medical Association, 122(9), 862–871. https://doi.org/10.1016/j.jfma.2023.05.007
13. Kuliński, W., & Pasieka, A. (2021). Physical procedures in post-stroke patients. Clinical and social problems. Wiadomości Lekarskie, 74(12), 3119–3125. https://doi.org/10.36740/WLek202112101
14. The British Association for Cardiovascular Prevention and Rehabilitation is an affiliated group of the British Cardiovascular Society. (2023). The BACPR Standards and Core Components (4th Ed.) Primary Writing Group. Retrieved January 28, 2024 from http://www.cardiacrehabilitation.org.uk/docs/BACPR-Standards-and-Core-Components-2023.pdf
15. Griffiths, M., Kontou, E., & Ford, C. (2023). Psychological support after stroke: unmet needs and workforce requirements of clinical neuropsychological provision for optimal rehabilitation outcomes. British Journal of Hospital Medicine, 84(11), 1–8.

https://doi.org/10.12968/hmed.2023.0289
16. Lau, S. C. L., Connor, L. T., & Baum, C. M. (2023). Associations Between Basic Psychological Need Satisfaction and Motivation Underpinning Daily Activity Participation Among Community-Dwelling Survivors of Stroke: An Ecological Momentary Assessment Study. Archives of Physical Medicine and Rehabilitation, 104(2), 229–236. https://doi.org/10.1016/j.apmr.2022.07.011
17. World Federation of Occupational Therapists. (2021). Occupational therapy human resources: Policies, planning, and research.
18. Morgado-Pérez, A., Coll-Molinos, M., Valero, R., Llobet, M., Rueda, N., Martínez, A., Nieto, S., Ramírez-Fuentes, C., Sánchez-Rodríguez, D., Marco, E., Puig, J., & Duarte, E. (2023). Intensive Rehabilitation Program in Older Adults with Stroke: Therapy Content and Feasibility – Preliminary Results from the BRAIN-CONNECTS Study. International Journal of Environmental Research and Public Health, 20(6). https://doi.org/10.3390/ijerph20064696
19. Munce, S. E. P., Graham, I. D., Salbach, N. M., Jaglal, S. B., Richards, C. L., Eng, J. J., Desrosiers, J., MacKay-Lyons, M., Wood-Dauphinee, S., Korner-Bitensky, N., Mayo, N. E., Teasell, R. W., Zwarenstein, M., Mokry, J., Black, S., & Bayley, M. T. (2017). Perspectives of health care professionals on the facilitators and barriers to the implementation of a stroke rehabilitation guidelines cluster randomized controlled trial. BMC Health Services Research, 17(1). https://doi.org/10.1186/s12913-017-2389-7
20. Cormican, A., Hirani, S. P., & McKeown, E. (2023). Healthcare professionals' perceived barriers and facilitators of implementing clinical practice guidelines for stroke rehabilitation: A systematic review. Clinical Rehabilitation, 37(5), 701–712. https://doi.org/10.1177/02692155221141036
21. Galvin, R., Cusack, T., & Stokes, E. (2009). To what extent are family members and friends involved in physiotherapy and the delivery of exercises to people with stroke? Disability and Rehabilitation, 31(11), 898–905. https://doi.org/10.1080/09638280802356369
22. Ishigaki, T., Izumi, M., Tanaka, H., Ogawa, T., Matsunami, S., Miyao, K., Nishimoto, E., & Matsumoto, D. (2015). Impacts of family support on the rehabilitation outcome of stroke inpatients at rehabilitation hospitals in Japan – a multi-center study. Physiotherapy, 101, e647–e648. https://doi.org/10.1016/j.physio.2015.03.3480
23. Loft, M. I., Poulsen, I., Esbensen, B. A., Iversen, H. K., Mathiesen, L. L., & Martinsen, B. (2017). Nurses' and nurse assistants' beliefs, attitudes and actions related to role and function in an inpatient stroke rehabilitation unit – A qualitative study. Journal of Clinical Nursing, 26(23-24), 4905–4914. https://doi.org/10.1111/jocn.13972
24. Drollinger, L., & Prasun, M. A. (2023). Bundled Approach to Improve Inpatient Stroke Recognition and Time to Treatment. Journal of Neuroscience Nursing, 55(1), 18–23. https://doi.org/10.1097/JNN.0000000000000685
25. Creasy, K. R., Lutz, B. J., Young, M. E., & Stacciarini, J. -M. R. (2015). Clinical Implications of Family-Centered Care in Stroke Rehabilitation. Rehabilitation Nursing, 40(6), 349–359. https://doi.org/10.1002/rnj.188
26. Lehto, B., Kylmä, J., & Åstedt-Kurki, P. (2019). Caring Interaction with stroke survivors' family members – Family members' and nurses' perspectives. Journal of Clinical Nursing, 28(1-2), 300–309. https://doi.org/10.1111/jocn.14620
27. Long, A. F., Kneafsey, R., Ryan, J., & Berry, J. (2002). The role of the nurse within the multi-professional rehabilitation team. Journal of Advanced Nursing, 37(1), 70–78. https://doi.org/10.1046/j.1365-2648.2002.02059.x
28. Mizrahi, T., & Abramson, J. S. (2000). Collaboration Between Social Workers and Physicians. Social Work in Health Care, 31(3), 1–24. https://doi.org/10.1300/J010v31n03_01
29. Abramson, J. S., & Mizrahi, T. (1996). When social workers and physicians collaborate: positive and negative interdisciplinary experiences. Social work, 41(3), 270–281.
30. Wei, H., Corbett, R. W., Ray, J., & Wei, T. L. (2020). A culture of caring: the essence of healthcare interprofessional collaboration. Journal of Interprofessional Care, 34(3), 324–331. https://doi.org/10.1080/13561820.2019.1641476
31. Glaser, B., & Suter, E. (2016). Interprofessional collaboration and integration as

experienced by social workers in health care. Social Work in Health Care, 55(5), 395–408. https://doi.org/10.1080/00981389.2015.1116483
32. Magwood, G. S., Ellis, C., Nichols, M., Burns, S. P., Jenkins, C., Woodbury, M., & Adams, R. (2019). Barriers and Facilitators of Stroke Recovery: Perspectives From African Americans With Stroke, Caregivers and Healthcare Professionals. Journal of Stroke and Cerebrovascular Diseases, 28(9), 2506–2516. https://doi.org/10.1016/j.jstrokecerebrovasdis.2019.06.012
33. Lehnerer, S., Hotter, B., Padberg, I., Knispel, P., Remstedt, D., Liebenau, A., Grittner, U., Wellwood, I., & Meisel, A. (2019). Social work support and unmet social needs in life after stroke: a cross-sectional exploratory study. BMC Neurology, 19(1). https://doi.org/10.1186/s12883-019-1451-y
34. Pedersen, R. A., Petursson, H., Hetlevik, I., & Thune, H. (2021). Stroke follow-up in primary care: a discourse study on the discharge summary as a tool for knowledge transfer and collaboration. BMC Health Services Research, 21(1). https://doi.org/10.1186/s12913-020-06021-8
35. Kernan, W. N., Viera, A. J., Billinger, S. A., Bravata, D. M., Stark, S. L., Kasner, S. E., Kuritzky, L., & Towfighi, A. (2021). Primary Care of Adult Patients After Stroke: A Scientific Statement From the American Heart Association/American Stroke Association. Stroke, 52(9). https://doi.org/10.1161/STR.0000000000000382
36. Aquino, M. R. J. (R.) V., Olander, E. K., Needle, J. J., & Bryar, R. M. (2016). Midwives' and health visitors' collaborative relationships: A systematic review of qualitative and quantitative studies. International Journal of Nursing Studies, 62, 193–206. https://doi.org/10.1016/j.ijnurstu.2016.08.002
37. Teasell R. W. (1992). Long-Term Sequelae of Stroke: How should you handle stroke complications? Canadian family physician Medecin de famille canadien, 38, 381–388.
38. Ozdemir, H., Sagris, D., Abdul-Rahim, A. H., Lip, G. Y. H., & Shantsila, E. (2023). Management of ischaemic stroke survivors in primary care setting: the road to holistic care. Internal and Emergency Medicine. https://doi.org/10.1007/s11739-023-03445-y
39. Terry, G., & Kayes, N. (2020). Person centered care in neurorehabilitation: a secondary analysis. Disability and Rehabilitation, 42(16), 2334–2343. https://doi.org/10.1080/09638288.2018.1561952
40. Santos, E., Broussy, S., Lesaine, E., Saillour, F., Rouanet, F., Dehail, P., Joseph, P. -A., Aly, F., Sibon, I., & Glize, B. (2019). Post-stroke follow-up: Time to organize. Revue Neurologique, 175(1–2), 59–64. https://doi.org/10.1016/j.neurol.2018.02.087
41. Lewinter, M., & Mikkelsen, S. (2009). Patients' experience of rehabilitation after stroke. Disability and Rehabilitation, 17(1), 3–9. https://doi.org/10.3109/09638289509166621