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Editorial

Maximizing functional recovery after stroke: the importance of individualized assessment and evidence-based rehabilitation

Maximizando a recuperação funcional após AVC: a importância da avaliação individualizada e da reabilitação baseada em evidências

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The recent study by Gardenghi *et al.* [1], published in the Brazilian Journal of Exercise Physiology, which deals with the association between stroke severity and functional dependence in hospitalized patients, has significant implications for physical therapy, especially neurofunctional physical therapy. This editorial discusses the main implications for rehabilitation, and how this study can help us to reflect and create critical clinical reasoning, enabling us to see beyond the horizons, with the central aim of enhancing physical therapy clinical practice and future scientific production.

At university we were taught that when we carried out an assessment, or popularly known as an "*anamnesis*", we should start with sociodemographic data and then investigate what health condition motivated the individual to seek health services. And so, later, these individuals were led to interventions based on the clinical condition in question and, based on technical and plastered protocols, placing us in a "*twilight zone*", related to the lack of information about the prognosis and rehabilitation time. However, the "*health condition*" is only the sea and the "*individualized assessment*" is the compass that will guide us to our destination. Just as the painter captures the essence of the landscape he wishes to express, the assessment carried out by the neurofunctional physiotherapist is the compass that points the way to recovery, where rehabilitation is the path and functional improvement is the destination.

So, when we are faced with the scenario of assessing an individual with a stroke, we must first visualize that this is the basic condition that the subject presents when the clinical interview is carried out, in other words, this is the

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sea. But the compass is there to allow us to visualize the key points that we should enhance, since "*If you don't know where you want to go, any path will do*". In this case, we should visualize the deficiencies in body functions/structures, limitations in activities and restrictions in social participation, as well as environmental factors that can influence the rehabilitation cycle, in addition to visualizing positive factors that can enhance it [2]. To do this, we have various tools, such as the NIHSS for classifying stroke severity and the Barthel Index [3] for analyzing functional status, as well as duly validated maximum and submaximal tests, which allow the neurofunctional physiotherapist to begin rehabilitation with qualitative/quantitative data and an objective understanding of the patient's starting point in terms of functionality and aspects that may influence rehabilitation, with the aim of generating reserve mobilizations and nurturing the patient with personalized care.

In addition, therapeutic planning, previously considered a one-way street, has now become a two-way street. This is because the patient is now also considered to be the protagonist of their evolution. Based on evidence-based practice, therapeutic planning is based on the best available evidence, associated with the professional's expertise and the patient's preferences [4]. This allows us to understand that factors such as structural severity and functional impairment can influence crucial factors such as intervention (sets, repetitions, time of use, type of intervention), rehabilitation time (prognosis) and outcomes associated with planning, suggesting that adjustments to rehabilitation cycles can be modified as necessary.

In line with this, early patient mobilization is a positive strategy indicated by the main evidence. Emphasis is placed on task-oriented physical exercise, aiming at improving functional demand [5,6], as well as potentiating the release of substances such as irisin, BDNF, and other neurotrophic factors, with the aim of enhancing positive neuroplasticity [7]. And this ultimately raises awareness of the crucial role of neurofunctional physiotherapists in the functional recovery and quality of life of these patients. Another point is that the results of the study may encourage further research, especially into the development of new techniques and treatment approaches that may be more effective for different levels of stroke severity.

In summary, the study provides valuable information that can guide and improve the practice of neurofunctional physiotherapy in the rehabilitation of patients after stroke, with emphasis on the need for an individualized and evidence-based approach to maximize functional recovery, where "*Every step is a stanza in the poem of rehabilitated life*".

References

1. Barbosa IOF, Nunes ELG, Pereira LS, Ferreira BK, Campos MLS, Petto J, et al. Correlação entre a gravidade do acidente vascular cerebral e a dependência funcional de pacientes internados. Rev Bras Fisiol Exerc. 2024;23:e5577. doi: 10.33233/rbfex.v23i2.5577

2. Farias N, Buchalla CM. A Classificação Internacional de Funcionalidade, Incapacidade e Saúde da

Organização Mundial da Saúde: conceitos, usos e perspectivas. Rev Bras Epidemiol. 2005;8(2):187-93.

3. Caneda MAG, Fernandes JG, Almeida AG, Mugnol FE. Reliability of neurological assessment scales in patients with stroke. Arq Neuropsiquiatr 2006;64(3-A). doi: 10.1590/S0004-282X2006000400034

4. Filippin LII, Wagner MB. Fisioterapia baseada em evidência: uma nova perspectiva. Braz J Phys Ther. 2008;12:(5). doi: 10.1590/S1413-35552008000500014

5. Cheng-Yu Lee, Tsu-Hsin Howe. Effectiveness of Activity-Based Task-Oriented Training on Upper Extremity Recovery for Adults With Stroke: A Systematic Review. Am J Occup Ther. 2024;78(2):7802180070. doi: 10.5014/ajot.2024.050391

6. Barbosa RM, Barbosa LGS, Queiroz HS, Oliveira LS, Silva-Júnior MN, Silva BS et al. Eficácia do treinamento resistido na força muscular e funcionalidade em indivíduos adultos após o acidente vascular cerebral: uma revisão sistemática de revisões. Rev Bras Fisiol Exerc 2021;20(4):405-421. doi:10.33233/rbfex.v20i4.4799

7. Schmolesky MT, Webb DL, Hansen RA. The effects of aerobic exercise intensity and duration on levels of brain-derived neurotrophic factor in healthy men. J Sports Sci Med. 2013;1;12(3):502-11. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3772595/