

NEUROUSAL: CLINICAL RESEARCH IN NEUROREHABILITATION

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Área: Ciências da Vida

Linhas de Pesquisa: Clinical Research in Neurorehabilitation; Rehabilitation treatment tools in movement disorders; Diagnosis of deficiencies or alterations of movement and functional alterations; Assessment tools for movement impairments and functional alterations; Application of new technologies and robotics in neurorehabilitation; Telerehabilitation; Quality of life in motor deficiencies; Clinical application of the Biopsychosocial model

Breve descrição das atividades de pesquisa

We have several ongoing research projects. First, we are carrying out projects to understand the mechanisms of Vojta therapy, a physiotherapy treatment. For this, we are using electromyography and near infrared spectroscopy. We have already published a study and we are in the process of finalizing the next study. We are also working to determine the efficacy of optokinetic stimulation in the treatment of patients with unilateral spatial neglect, on how it affects their postural balance. We have begun studies to determine the effect of virtual reality on the sequelae of patients with brain damage. We also study how the musculature responds to motor imagery therapies and observation of actions. Another line of research works on the application of elements that facilitate respiratory function in patients with cerebral palsy. Regarding diagnostic tools, we are in the process of validating two applicable scales for patients with brain damage, one of which is telematic and on which we have already published its feasibility.

Finally, we are in the process of developing devices that facilitate the rehabilitation of balance and mobility in neurological patients. We have worked on the development of the prototypes, and we will continue with their validation.

Impacto das pesquisas desenvolvidas para a sociedade e ciência

Our research group promotes the development tools for the treatment of people with neurological disorders. The advance in the knowledge of new approaches to these pathologies makes it possible to intervene on these people and improve their quality of life. We currently have collaboration with two patient associations, one for acquired brain injury and the other for cerebral palsy. We also work with patients from the Salamanca University Assistance Complex. We try to bring research closer to society, looking for that symbiosis to carry out a correct transfer of knowledge.

The studies and projects carried out have resulted in different work tools, from which

many patients with neurological pathology have already benefited. The current lines of research aim to further expand knowledge.

Our research team is multidisciplinary. We try to ensure that from each area of knowledge the techniques that allow a comprehensive approach to pathologies are provided. For this reason, we have health professionals, such as physiotherapists, nurses, occupational therapists, speech therapists, etc. But other professionals such as computer engineers or statisticians also participate. In this way, we get more complete solutions. We are open to working with other research groups to achieve a greater scope of our results.