Conclusion: Research using the CC method was carried out, in greater numbers, in developed countries, demonstrating the involvement and importance of the participation of the lay public (citizen scientists) of these nationalities in the promotion of health research, facilitated and improved through new technologies. These studies pointed to the positive and significant impact of these technologies not only on data collection and analysis but also on the perceptions of empowerment, autonomy, and the collective environment of the individuals involved, promoting greater interaction and contribution to discussions in solving the scientific problem that impacts health. and/or the well-being of a community.
Implications: The CC method associated with new technologies proves to be an important tool in monitoring the health of the community and the environment in which it lives, as well as in formulating proposals for public policies for improvements.
Keywords: Citizen Participation in Science and Technology, Public Perception of Science, Technology and Innovation in Health

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ANTICIPATORY SYNERGY ADJUSTMENTS: A NARRATIVE REVIEW OF STUDIES USING THE UNCONTROLLED MANIFOLD APPROACH IN INDIVIDUALS WITH NEUROLOGICAL DYSFUNCTIONS

Alice Brochado Campolina[1], Valéria Andrade Pinto[2], Daniela Virgínia Vaz[1]
[1] *Department of Physical Therapy, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil*
[2] *Department of Psychology, University of Cincinnati, Ohio, United State of America*

Background: According to the Uncontrolled Manifold (UCM) approach, motor synergies allow motor flexibility while ensuring stable task performance. The stronger the motor synergies, the greater performance stabilization. Thus, just before the start of a new motor task, the synergies need to be attenuated to facilitate the initiation or change of movement. This reduction in synergy during the preparation for movement initiation is called Anticipatory Synergy Adjustments (ASAs). In individuals with neurological deficits, changes in the timing or magnitude of ASAs can result in reduced movement agility or greater difficulty initiating a new task. Additionally, altered ASAs can serve as preclinical markers of neurological dysfunctions such as Parkinson's disease or multiple sclerosis.
Objectives: The aim of this study was to characterize the behavior of ASAs in populations with neurological dysfunctions and analyze their clinical implications.
Methods: A narrative review of studies that used the UCM approach to quantify ASAs in individuals with neurological dysfunctions was conducted.
Results: The review resulted in the inclusion of 9 exploratory studies. The study samples consisted of individuals with Parkinson's disease (PD), olivopontocerebellar atrophy (OA), stroke, multiple sclerosis (MS), and cerebral palsy (CP). The motor tasks analyzed in the studies were divided into manual tasks and standing postural control tasks. In individuals with PD, MS, and OA, delayed and smaller magnitude of ASAs were observed when compared to healthy individuals. In individuals with CP and stroke, ASAs in manual tasks differed from healthy individuals in small magnitudes.
Conclusion: In general, the observed changes in ASAs in the study lead to reduced agility during task execution and greater difficulty initiating new movements.
Implications: The use of the UCM method and the analysis of ASAs appears to be sensitive for the early detection of some neurological conditions and tracking disease progression and intervention effects, especially in individuals with subcortical disorders. However, using UCM to evaluate patients in the clinical context is still challenging. Its application requires specific technology and knowledge, which limits its use to the search environment. It would be interesting if future studies investigated the relationship between the behavior of ASAs and performance in commonly used functional instruments/questionnaires in clinical practice so that the understanding and application of the UCM method in the clinical context can be optimized.
Keywords: Anticipatory synergy adjustments, UCM, Neurological dysfunctions

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PAIN NEUROSCIENCE EDUCATION IN NECK PAIN MANAGEMENT: A SYSTEMATIC REVIEW

Alícia Correa Brant[1], Simone Amaral Farias[2], Antonio Igor de Castro Alves[2], Priscylla Ruany Mendes Pestana[3], Rebato Guilherme Trede Filho[1]
[1] *Programa de Pós-Graduação em Reabilitação e Desempenho Funcional da Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, Minas Gerais, Brasil*
[2] *Curso de graduação em Fisioterapia do Centro Universitário Funorte (UNIFUNORTE), Montes Claros, Minas Gerais, Brasil*
[3] *Instituto Superior de Educação Verde Norte (FAVENORTE), Mato Verde, Minas Gerais, Brasil*

Background: Neck pain is a worldwide public health problem, highly prevalent, and varies significantly between countries. It is one of the leading causes of disability in the world. It is estimated that half of the world's population will experience an episode of neck pain. On the other hand, compared to other conditions, the number of treatments dedicated to the management of neck pain is relatively low. In comparison with traditional biomechanical models, Pain Neuroscience Education (PNE) is a recent approach, providing the patient with a better understanding of pain and the sensation experienced by him. Considering the heterogeneous nature of each individual and its multidimensionality, it is necessary to use the PNE in a heterogeneous way based on the patient.
Objectives: The purpose of this study was to explore the effectiveness of PNE as a treatment approach for people suffering from chronic neck pain.
Methods: This is a systematic review prospectively registered in PROSPERO (CRD42021283000), following the PRISMA checklist and Cochrane recommendations. Titles and abstracts were screened by independent reviewers, the inclusion criteria were published in the English language, investigating the effects of PNE on neck pain in adult subjects. The third reviewer will resolve discrepancies between reviewers The analysis of the methodological quality of the eligible studies was performed using the PEDro quality scale. Data were analyzed and extracted using the PICO strategy. For data

analysis, the GRADE system was considered. Outcome measures were described in a narrative form.
Results: 2670 studies were identified; 54 were considered potentially relevant and 10 of these were read in full. Finally, five articles met the inclusion criteria. The included studies analyzed the effect of PNE on 516 participants, of which 350 (67.82%) were female and 166 (32.17%) were male. The mean age of patients ranged between 18 and 65 years. The content of the educational sessions included approaches on peripheral sensitization, central sensitization, biopsychosocial factors related to pain, catastrophic thoughts, understanding and accepting pain, coping with pain, catastrophic factors, emotional response to pain, anxiety, fear of harm, concerns/ fear of pain, goal setting, nociceptive inhibition and facilitation, participation in social contexts, pain neurophysiology, general nervous system physiology, coping strategies, stress management, and progressive return to activities. The five studies included in this review addressed the effectiveness of PNE by addressing pain-related issues. The methodological quality ranged from 6 (moderate quality) to 10 (high quality), with an average score of 7.4. The duration of the educational sessions ranged from 30 to 90 minutes, some held in groups and others individually.
Conclusion: The results of this review show that NDT is a promising intervention for neck pain; however, based on the GRADE evidence rating systems, the strength of evidence is low.
Implications: The authors of this review consider that many studies have neglected to characterize the educational intervention and have provided little information about the educational system used. Future research must be done with more rigorous attention to the methods employed.
Keywords: Neck pain, Education, Pain, Cognitive neuroscience

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DOES THE LOWER EXTREMITY MOTOR ACTIVITY LOG FIT THE BIOPSYCHOSOCIAL FUNCTIONING MODEL?

Aline de Lima[1], Clarissa Volpato Sombrio Foschi[1], Natalia Duarte Pereira[2], Jocemar Ilha[1]
[1] *Departamento de Fisioterapia, Universidade Estadual do Estado de Santa Catarina (UDESC), Florianópolis, Santa Catarina, Brasil*
[2] *Departamento de Fisioterapia, Universidade Federal de São Carlos (UFSCar), São Carlos, São Paulo, Brasil*

Background: The misuse of the lower extremities during mobility activities can affect individuals with different health conditions and directly impact their daily routines. Thus, it is essential to assess the performance of individuals in these activities for an accurate diagnosis of the limitation. The Lower Extremity Motor Activity Log (LE-MAL) is an instrument developed to assess the use of the lower extremities in mobility activities. However, how the content of the LE-MAL items is related to the framework of the current biopsychosocial functioning model is unknown.
Objectives: To link the LE-MAL items with the International Classification of Functioning, Disability, and Health (ICF) and identify the contents of the LE-MAL items.
Methods: Concepts within each item of the LE-MAL were linked to the best-matched ICF categories using established linking rules. Two independent researchers performed the initial linkage of the items, and the final consensus was reached after a meeting with the other researchers involved in the study.
Results: Ten concepts were identified. The two-level main concepts identified were d410 (changing basic body position), d450 (walking), d455 (moving around), and d460 (moving around in different locations). All items assess performance through information about need or dependence, personal and environmental factors, and appraisal. All items are covered in the Mobility domain (d4) of the Activity and Participation component. Moderate agreement was obtained between researchers.
Conclusion: The LE-MAL fits into the mobility domain of ICF, and the items' general construct is the performance evaluation. The study highlighted the conceptual connection between the LEMAL and the ICF framework.
Implications: The use of the functioning model proposed as a framework — the ICF, enables the use of the LE-MAL as a tool that supports clinical professionals' use of ICF coding in clinical settings. This allows the common language between professionals and the classification of patients with different conditions. Moreover, the LE-MAL was developed for people with gait dysfunction and might represent a comprehensive way to analyze the lower extremity use during mobility activities in different health conditions.
Keywords: Mobility, Lower extremity, Biopsychosocial model

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BODY MASS INDEX PROFILE OF INDIVIDUALS WITH COVID-19 WHO DEVELOPED ARDS AND SUBMITTED TO IMV AND PRONE POSITION

Álllef Diego Bonfim de Andrade[1], Thaise Helena Cadorin[1], Regiana Santos Artismo[1], Anderson Brandão dos Santos[2], Rodrigo Della Méa Plentz[3], Darlan Laurício Matte[1]
[1] *Departamento de Fisioterapia, Universidade do Estado de Santa Catarina (UDESC), Florianópolis, Santa Catarina, Brasil*
[2] *Centro Universitário Integrado (CEI), Campo Mourão, Paraná, Brasil*
[3] *Departamento de Fisioterapia, Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA), Porto Alegre, Rio Grande do Sul, Brasil*

Background: In 2020, COVID-19 was classified as a global public health emergency. The disease affects individuals of all ages and social classes, with certain populations, such as individuals with obesity, being more susceptible to developing the severe form of the disease, known as acute respiratory distress syndrome (ARDS). Recommended treatments included invasive mechanical ventilation (IMV) and improvement of oxygenation with the prone position. In this context, understanding the body mass index (BMI) profile of patients with COVID-19 who develop moderate or severe ARDS and undergo these therapies is a gap in scientific knowledge.
Objectives: To identify whether individuals with COVID-19 who developed moderate or severe ARDS and underwent IMV and prone position had a characteristic BMI profile.
Methods: Multicenter, analytical observational retrospective cohort study of patients admitted to 5 hospitals in southern Brazil, admitted to intensive care units (ICU) between July 2020 and June 2021. The medical records of individuals who developed ARDS were