

Chronic neck pain in high school students: characterization and effectiveness of pain neuroscience education and exercise

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Chronic musculoskeletal pain is a common complaint among adolescents and its prevalence has been increasing over the last few years. Furthermore, chronic musculoskeletal pain has a negative impact on several domains of life with present and future consequences. Among the numerous chronic musculoskeletal pain syndromes, neck pain (NP) has been the most reported in adolescents. Some studies have been associated chronic NP and associated disability with functional and psychosocial factors, sleep, and physical activity in adolescents. Both psychosocial factors and sleep impairments also have been associated with central sensitization. Some of these variables have also been identified in some longitudinal studies as being associated with the persistence of chronic NP and its new-onset in adolescents. However, there are few studies comparing these factors simultaneously or including other relevant factors, such as fear of movement or central sensitization, specifically in adolescents with chronic NP. Thus, there is a gap in the characterization of chronic NP and associated changes in adolescents, which prevents the design of interventions adapted to the needs of this age group. Studies exploring the effectiveness of intervention strategies, such as exercise or pain education, are also scarce.

The two main aims of this research project were: i) to characterize chronic idiopathic NP and associated psychosocial and functional changes, disability, sleep, and self-reported symptoms of central sensitization in adolescents; ii) to design and assess a tailored intervention based on exercise and Pain Neuroscience Education for adolescents with chronic NP. These aims were achieved by conducting 4 interdependent studies, that is, two systematic reviews, an observational characterization study, and a randomized clinical trial.

Rehabilitation sciences

PICK UP – Personalised CommUnity-based Physical activities for patients with chronic obstructive pulmonary disease

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Chronic Obstructive Pulmonary Disease (COPD) is a major individual, social and economic burden worldwide. Pulmonary rehabilitation (PR) is a fundamental evidence-based intervention to manage COPD, but its benefits tend to decline over time. Reasons for this decline are the challenges faced by this population to sustain a long-term physical activity (PA) lifestyle, leading to worse health-related quality of life. Personalised PA modalities with social interaction, delivered post-PR, are warranted to enable a shift from a disease-based to a patient-centred model and encourage a sustainable behavioural change. Although such programmes have the potential to sustain PR benefits and promote patients' long-term adherence to PA, their availability within the community is scarce.

This study will implement and assess the effectiveness of a personalised community-based PA programme (PICK UP) to maintain PA levels and to prevent the decline of PR benefits in several health-related domains, in people with COPD. Additionally, we aim to find predictors of adherence to the PICK UP programme and to the sustainability of a physically active lifestyle.

PICK UP will establish a collaboration between academy, health-care centres and city councils in order to integrate people with COPD within the community PAs and to embrace urban facilities. We will implement a personalised community-based PA programme, using the available resources and adapting them to patient's needs and preferences, thus, providing a sustainable response to support healthy lifestyles and enhance PR benefits. This project will be developed during 48 months and will be composed of 3 tasks: i) design of PICK UP; ii) randomised controlled trial; and iii) dissemination and knowledge transfer; resulting in the publication of at least four papers.

So far, 20 people with COPD have already been recruited and started PR (April 2021) and 27 sports-related professionals from the partner city councils completed the specific training. Our systematic review "methods to assess free-living physical activities intensity in COPD" showed that several outcomes, outcome measures and instruments have been used to assess free-living PAs intensity.

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