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Discussion and conclusions: The decrease in pain prediction in the orofacial region when two simultaneous stimuli were applied is in agreement with the principles of conditioned pain modulation, which seems to indicate that individuals with TMD have central sensitisation [3]. Given the small size of the sample and the small number of studies carried out on the present theme, it is suggested to carry out new studies with larger samples in the future.

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Effect of a single dry needling session in temporomandibular disorders

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ABSTRACT

Introduction: Temporomandibular disorders embrace a heterogeneous group of pathologies with manifestations in the orofacial region, head and neck. They are defined as a group of musculoskeletal and neuromuscular conditions that involve the temporomandibular joint, the masticatory muscles and the associated structures through interactions and reciprocal influences. They may present one or more signs or symptoms: orofacial pain, pain in the masticatory muscles or a combination of both [1]. According to available literature, pain tolerance threshold at pressure and pain intensity decrease after dry needling intervention [2]. The aim of the present study is to evaluate the effect of a single dry needling session in patients with temporomandibular muscle disorder with pain.

Material and methods: a longitudinal quasi-experimental study with 26 patients with a diagnosis of temporomandibular muscle dysfunction (group I), on the masseter and temporal muscles, according to the Research Diagnostic Criteria for temporomandibular disorder. Patients were randomly picked up from the waiting list of the physiotherapy appointment at Clinica Egas Moniz (CEA) and randomised into two groups: 13 in the experimental group (G1) and 13 in the control group (G2). The groups were evaluated simultaneously but were not submitted to any intervention. The pain tolerance threshold was evaluated at pressure (2 kg), pain intensity measured with numeric pain rating scale (NPRS), before (T0) and after (T1) the intervention, and one week after (T2) the intervention. The intervention consisted of applying the dry needling technique to the painful points of the masseter. Statistical analysis performed in SPSS with a significance level of 5%. All the assumptions of the Helsinki Declaration have been fulfilled and a informed consent for clinical case of Clinica Dentária Egas Moniz approved by the ethic commission of Instituto Universitário Egas Moniz.

Results: G1 group was formed by 12 female and 1 male subjects with an average and standard deviation of 22.78 ± 3.75. G2 group was formed by 13 female with an average and standard deviation of 23.42 ± 2.45. Pain tolerance threshold at pressure values increased from T0 to T2 in G1 group ($p < .001$) with averages and standard deviations respectively for: T0 8.34 ± 1.75; T1 $79{,}886 \pm 2.10$; T2 1.78 ± 0.79. The pain intensity values decreased in T2 when compared to T0 in the G1 group ($p < .001$) with averages and standard deviations respectively for: T0 7.56 ± 1.36; T1 7.86 ± 1.52; T2 0.89 ± 0.72.

Discussion and conclusion: Dry needling promotes an increase in pain tolerance threshold values and a decrease in pain intensity values in patients with temporomandibular muscle disorder after a single session, reinforcing their importance in the treatment of themselves.

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Effect of auditory neurosensorial stimulation in gait pattern after acute stroke

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ABSTRACT

Introduction: Auditory sensory stimulation is a therapy that influences cognitive, motor, emotional and behavioural functions and also patients' quality of life. This approach is referred to be effective in optimising motor responses in neurological conditions [1]. When a stimulation occurs in the frontal lobe region of the brain it is possible to see through functional magnetic resonance imaging (fMRI) [2] that it trigger a response in motor regulation [3]. The purpose of this study is to investigate the effect of an auditory neurosensory stimulus (music) on gait pattern in post stroke individuals.

Materials and methods: A cross sectional study was performed. Five patients (66.6 ± 14.1 years) with ischaemic stroke diagnostic participated in the study. Patients were assessed during the stance phase of gait cycle through 5-meter walking test, before and after the auditory neurosensory stimulus (music). STOMP was used to evaluate musical preference; cell phone camera to record gait pattern, speed and tibial angle in a lateral view and these data were analysed by Kinovea. All subjects signed an informed consent. This study followed all the principles of Helsinki Declaration.

Results: Patients showed gait speed improvement (7.01 ± 0.94°) with auditory neurosensory stimulus (preference music). Data analysis in a lateral view of stroke limb by Kinovea showed better results in tibial angle in initial contact with stimulation (74.0 ± 8.0°) versus before stimulus (70.4 ± 11.0°). Also during mid-stance, results in toes/ground angle with stimulation (37.6 ± 16.1°) were higher than the results without stimulation (29.8 ± 14.9°)

Discussion and conclusions: Stroke gait pattern observed in these patients changed with auditory neurosensory stimulation (preference music) which suggests increase of the responsiveness of the paretic ankle flexion. Some previous studies have shown that auditory neurosensory stimulation in stroke patient is efficient in the symmetry of the gait pattern and is a therapeutic advantage for motor recovery of the gait pattern [5]. This result enhances the importance of auditory stimulation (preference music) in a rehabilitation gait program for stroke patients. Nevertheless, only 5 patients were included, which is a limitation, so further studies are needed to extend these results.

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