

Study title: Could Apnea Induce Hypoalgesia? An Explorative Randomized Controlled Trial.

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Statistical analysis.

Shapiro-Wilks test was employed to examine normal data distribution between groups for all variables. According to its results, T-test for independent samples or Mann-Whitney U tests were employed to examine differences between groups in baseline data.

Repeated measures ANOVA was employed to test time, group and time x group interaction effects on pressure pain threshold (PPT) for the dorsal distal-phalange base of the thumb dominant arm and tibialis anterior muscle belly of the dominant leg, respectively.

Repeated measures ANOVA was also employed for evaluating conditioned pain modulation (CPM) responses for upper limbs, analysing basal and conditioned PPT before and after interventions. Time, group, and time x group interaction effects were explored.

Arterial oxygen saturation, and heart rate (HR) response were explored with a repeated measures ANOVA, with the basal and during-training values between groups, for mean partial oxygen saturation (SpO_2), minimum SpO_2 , mean $\%HR_{max}$, and peak $\%HR_{max}$ were explored. Times through the 4 hypoxemia zones and 5 $\%HR_{max}$ zones were explored for pairwise differences between groups with T-Student test for independent samples or Mann-Whitney U test.

According to normal distribution analysis, Spearman rank or Pearson tests were used to evaluate linear correlations between PPT post-preintervention changes and the following variables: (1) basal CPM response (difference between conditioned and unconditioned pre-intervention PPT); (2) rated perceived exertion (RPE); (3) mean SpO_2 , minimum SpO_2 value, and time in the 4 hypoxemia zones; (4) mean $\%HR_{max}$, peak $\%HR_{max}$, and time in the 5 zones of $\%HR_{max}$. All these correlation analyses were explored only in the apnoea group. As a secondary objective we aimed to establish associations between RPE and HR and SpO_2 in the apnoea group.