

-Title: Effects of Electrotherapy on Pain, Anxiety, Mobility, and Proprioception in Young Adults with Mild Neck Pain: A Randomized Controlled Trial

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RESULTS

Participants

Twenty-three participants signed the informed consent. One female participant from the intervention group was not able to come back for post 2 weeks' measurements. Thus, 22 participants with a mean \pm SD age of 25.8 ± 3.1 years and body mass index of 26.7 ± 6.0 kg/m² completed the study. The majority were females (n=16, 72.7%).

Data Analyses

Data was analyzed using SPSS version 28.0. Assuming a moderate effect size of 0.3, a power of 0.80, an alpha of 0.05 and 15% dropout rate, the estimated sample size was 40 participants. Data was summarized using frequency (%) for qualitative variables, mean \pm standard deviation (SD) for continuous variables, and median (minimum, maximum) when the distribution was not approximately normal. The normality of the outcome variables was examined using the Shapiro wilk test and boxplots. The frequency distribution of gender between the two study groups was compared using Fisher's exact test. Mean baseline characteristics and outcome variables by study group was examined using independent t-test. Median VAS, NDI, and JPE rotation right were compared between the intervention and control groups using Mann-Whitney U test. For each study group, changes in mean outcome variables (cervical spine AROM, anxiety, neck proprioception, VAS, NDI) over time (post versus pre) were examined using paired t-test or Wilcoxon signed rank test when the distribution is not approximately normal. Changes in outcome variables by group (intervention versus control) overtime (post 2 weeks versus pre) were assessed using 2x2 mixed factorial analysis of variance (ANOVA). If there was a significant interaction between group and time, the changes are significantly different between the two groups. There was a significant difference in mean STAI_T and lateral flexion left between the intervention and control groups at baseline, thus this was controlled for baseline differences using analysis of covariance (ANCOVA). In the intervention group, we examined changes in outcome variables over time (pre versus post 30 minutes versus post 2 weeks) using repeated measures ANOVA or Friedman's test if the data was not approximately normal. If the results were significant, Bonferroni's post hoc comparisons were conducted, or Wilcoxon signed rank test were used to determine what times were significantly different. The level of significance was set at $p \leq 0.05$.