Electromyographic indices, orofacial myofunctional status and temporomandibular disorders severity: A correlation study

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Abstract
This study examined whether there is an association between surface electromyography (EMG) of masticatory muscles, orofacial myofunction status and temporomandibular disorder (TMD) severity scores. Forty-two women with TMD (mean 30. years, SD 8) and 18 healthy women (mean 26. years, SD 6) were examined. According to the Research Diagnostic Criteria for TMD (RDC/TMD), all patients had myogenous disorders plus disk displacements with reduction. Surface EMG of masseter and temporal muscles was performed during maximum teeth clenching either on cotton rolls or in intercuspal position. Standardized EMG indices were obtained. Validated protocols were used to determine the perception severity of TMD and to assess orofacial myofunctional status. TMD patients showed more asymmetry between right and left muscle pairs, and more unbalanced contractile activities of contralateral masseter and temporal muscles (p< 0.05, t-test), worse orofacial myofunction status and higher TMD severity scores (p< 0.05, Mann-Whitney test) than healthy subjects. Spearman coefficient revealed significant correlations between EMG indices, orofacial myofunctional status and TMD severity (p< 0.05). In conclusion, these methods will provide useful information for TMD diagnosis and future therapeutic planning.

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