

# Aktivitas Otot Mastikasi pada Pasien Gangguan Sendi Temporomandibula Sebelum Perawatan Ortodonti (Studi Elektromiografi Kasus Maloklusi) = Masticatory Muscles Activity in Orthodontic Patients Before Orthodontic Treatment with Temporomandibular Joint Disorder: An Electromyography Study

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## Abstrak

Objectives: (1) To assess the masticatory muscles activity in patients with Temporomandibular Disorder (TMD) before orthodontic treatment, (2) to determine the correlation between TMD and the masticatory muscles activity (masseter muscles and anterior temporalis muscles). Methods: Twenty-two patients with malocclusion before undergoing orthodontic treatment (8 males, 14 females; mean age of  $26,78 \pm 4.34$  years) were enrolled in the study and were divided into two groups: 11 patients with TMD and 11 patients without TMD (Non- TMD). The masticatory muscles were evaluated using standardized electromyography during 5 seconds of maximum voluntary contraction (MVC) through cotton-roll biting. For statistical analysis, the root mean square (RMS) value of masticatory muscles was calculated and compared between the two groups. Results: The TMD groups showed a lower electromyographic activity than the non- TMD group during MVC, with no significant differences in the right and left masticatory muscles between these groups. A weak negative correlation and no statistically significant differences were found between TMD and the electromyography activity of masseter muscles. Conclusions: Patients with TMD had a lower electromyographic activity in the masticatory muscles than those without TMD. Thus, electromyography can be an objective parameter to assess muscles activity for TMD diagnosis.

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