



**ASSOCIATION OF STRESS AND DIGITAL FUNCTIONAL
OCCLUSION ANALYSIS IN PATIENTS WITH
TEMPOROMANDIBULAR DISORDERS (TMDs)**

By

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ABSTRACT

BACKGROUND AND OBJECTIVES: Temporomandibular disorders (TMDs) is an umbrella term for a group of disorders causing pain in the masticatory muscles or temporomandibular joint (TMJ), clicking or crepitus with TMJ and limited mouth opening leading to functional impairment of the masticatory system as a whole. The worldwide prevalence of TMD is 7% to 84% but usually the patients are asymptomatic. Numerous studies have shown its varied etiology, with occlusion and psychosocial factors such as anxiety and depression playing a role in TMD but results are still inconclusive. With this background, the purpose of this study was to determine association between stress factors viz. anxiety and depression and digitally recorded functional occlusal parameters of occlusion time (OT) and disclusion time (DT).

METHODOLOGY: Study consisted of 60 patients divided in two equal groups – control (Group I) and study (Group II) with 30 patients each. The study group comprised of patients with one or more signs/symptoms of TMD while control group included healthy patients. Thorough clinical examination was done and type of occlusal scheme in the two groups was noted. Study group patients were examined and diagnosed using the DC/TMD criteria. The anxiety and depression scores were recorded using a self reporting HADS questionnaire. This was followed by digital recording of the functional occlusal parameters of OT, right and left lateral DT using T-scan III. The association of occlusal scheme was analysed using Chi-square test while that of the occlusal parameters between the two groups was done using Student t-test. The association of the stress and occlusal parameters was assessed using Karl Pearson's correlation coefficient.

RESULTS: The age of the study participants ranged from 18 to 49 years with equal gender distribution of patients. Significant association was found between the type of occlusal scheme ($p=0.004$) with canine guided occlusion being predominant in study group and group function occlusion in control group. Subjects with group function occlusion in study group showed increased balancing side interferences but values were not statistically significant. The digital occlusal parameters of OT ($p=0.002$), right lateral DT ($p=0.000$) and left lateral DT ($p=0.000$) showed high statistical significance between the two groups with the study group showing higher values. The Study group showed higher subjects with borderline and abnormal anxiety scores than control group. Statistically significant positive correlation was noted between anxiety and right and left lateral DT in Study group. Positive correlation was observed between depression and right lateral DT in study group but values were not statistically significant. Statistically significant positive correlation was observed between anxiety and depression, and left lateral DT in control group.

CONCLUSION: A statistically significant association was seen for the type of occlusal scheme between the two groups and few functional occlusal parameters and anxiety and depression showed positive correlation in the groups.

KEYWORDS: Temporomandibular disorders; Group function; Canine guidance; DC/TMD; Anxiety; Depression; T-scan; Occlusion time; Disclusion time.