

Abstract 4 – August 21, 2017

Rosar JV, Barbosa TS, Dias IOV1, Kobayashi FY, Costa YM, Gavião MBD, Bonjardim LR, Castelo PM. Effect of interocclusal appliance on bite force, sleep quality, salivary cortisol levels and signs and symptoms of temporomandibular dysfunction in adults with sleep bruxism. Arch Oral Biol. 2017 May 27;82:62-70.

OBJECTIVE:

The purpose was to evaluate the effect interocclusal appliance therapy on bite force (BF), sleep quality and salivary cortisol levels in adults with SB diagnosed by polysomnography. As a secondary aim, signs and symptoms of temporomandibular dysfunction (TMD) were evaluated.

DESIGN:

Forty-three adults (19-30 y/o) were divided into two groups: experimental group (GSB), composed of 28 subjects with SB, and control group (GC), without SB and TMD (n=15). GSB was treated with stabilization interocclusal splint and evaluated at time intervals: before (baseline), one month (T1) and two months (T2) after therapy began, to collect data related to BF, sleep quality (Pittsburgh Sleep Quality Index), salivary cortisol levels and TMD. GC was also examined three times and received no therapy. Data were analysed by means of normality tests, t-test/Mann-Whitney and One-way ANOVA repeated measures (Tukey post-test). Two-way ANOVA test for repeated measures was applied to verify the effect time*group interaction on the variance of each dependent variable ($\alpha=0.05$).

RESULTS:

GSB showed an increase in BF and a positive effect on muscular symptomatology, range of mandibular movements and sleep quality; in GC these parameters did not differ. Cortisol concentration decreased between baseline and T1 in GSB ($F(1,31)=4.46$; test power=62%; $p=0.017$). The variance observed for BF, TMD and sleep quality among time points was dependent on the group (moderate effect size: partial Eta square >0.16 ; test power $>80\%$).

CONCLUSIONS:

The results suggested that short-term interocclusal appliance therapy had a positive effect on BF, temporomandibular symptomatology, sleep quality and salivary cortisol levels in adults with SB.