TMD Muscle Pain and Night-to-night Variability in Sleep Bruxers Patients

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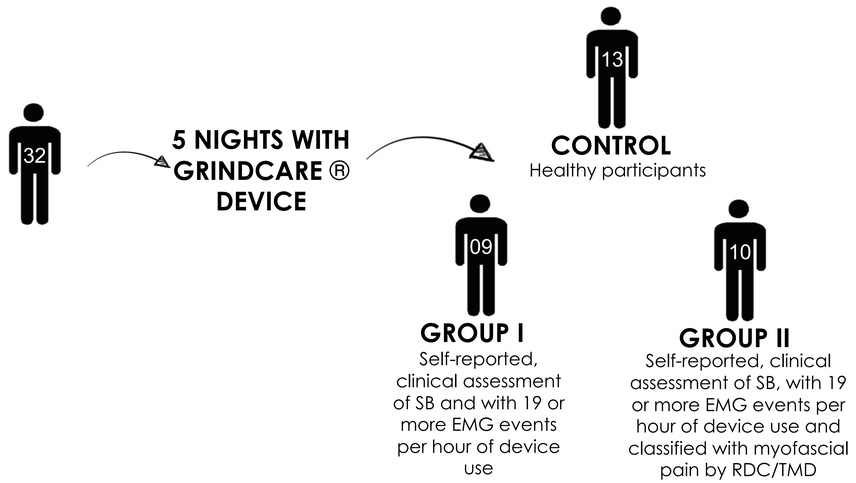
SUMMARY

The role of Sleep Bruxism as risk factor of TMD is controversial. Polysomnographic studies failed to prove an association between SB and TMD. A possible explanation could be that PSG studies measured only one or two nights of SB activity. According to the SB literature, masticatory muscle activity has a night-to-night variability, altered in patients with craniofacial pain compared to healthy controls. Little is known about the influence of this variability in bruxers with or without masticatory myofascial pain.

AIM OF INVESTIGATION

To test the night-to-night variability of EMG activity during sleep between in SB patients, with or without masticatory myofascial pain and health controls.

METHODS



The night-to-night variability of EMG events of the temporalis muscle was analyzed by the **coefficient of variance (CV),** which was calculated by **the standard deviation/mean of the EMG events per hour of sleep in the 5 nights**.
The non-parametric Kruskal-Wallis test was used to evaluate differences between groups regarding to age, number of events per sleep hour and the CV. The level of significance was set at 5%.

RESULTS

Table 1- Descriptive characteristics related to age, electromyographic events per hour of Grindcare® use (EMG/h) and coefficient of variance in Group I (Sleep Bruxism), Group II (Sleep Bruxism plus Myofascial Pain) and control group.

	Group I			Group II			Control Group		
	Mean	Standard deviation	Median	Mean	Standard deviation	Median	Mean	Standard deviation	Median
Age	28,1	9,21	26	32,1	8,29	30	28	5,69	27
Events/h	41,3	30,1	31,8	25,1	12,7	31,9	8,99	4,68	8,24
CV	0,32	0,12	0,27	0,39	0,14	0,35	0,43	0,23	0,37

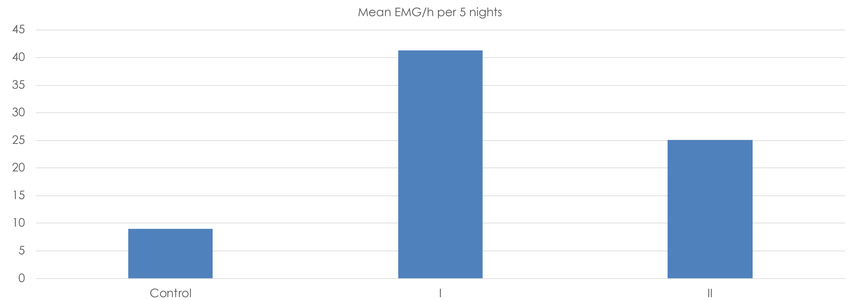


Figure 1- Bruxers had significantly higher EMG activity per hour of device use [Group I (41. 3 ± 30. 1 events/hr); Group II (25 ± 12. 7)] compared with healthy control participants (8. 9 ± 4. 6, p >. 0001).

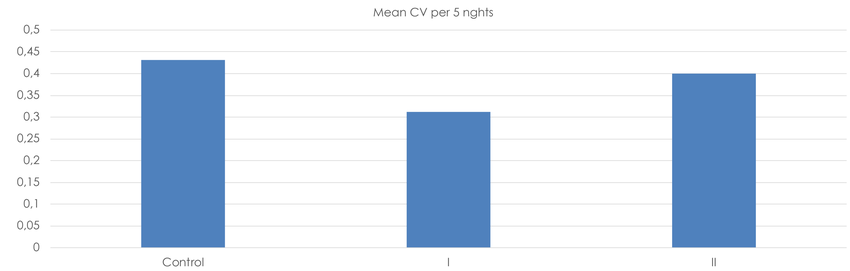


Figure 2- There was no significant difference in CV between Group I (31. 1 ± 11. 9%), Group II (39. 9 ± 14. 1%) and healthy control individuals (43. 1 ± 22. 6%, p =. 35).

CONCLUSION

Despite of the small number of individuals and short-term evaluation, according to the data of this study, the presence of TMD pain did not change the night-to-night variability of masticatory muscle activity in sleep bruxers.

References
1. Stuginski-Barbosa J, Porporatti AL, Costa YM, Svensson P, Conti PCDiagnostic validity of the use of a portable single-channel electromyography device for sleep bruxism. Sleep Breath. 2016 May;20(2):695-702.
2. Yachida W, Castrillon EE, Baad-Hansen L, Jensen R, Arima T, Tomonaga A, Ohata N, Svensson P. Craniofacial pain and jaw-muscle activity during sleep..J Dent Res. 2012 Jun;91(6):562-7
3. Van Der Zaag J, Lobbezoo F, Visscher CM, Hamburger HL, Naeije M (2008). Time-variant nature of sleep bruxism outcome variables using ambulatory polysomnography: implications for recognition and therapy evaluation. J Oral Rehabil 35:577-584.

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