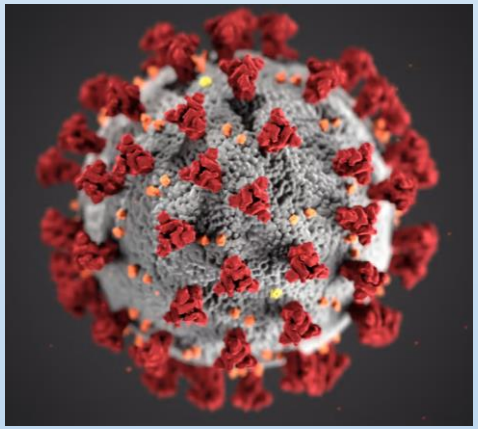
Painful Temporomandibular Disorders, Bruxism and Oral Parafunctions before and during the COVID-19 Pandemic Era: A Sex Comparison among Dental Patients



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Introduction:

Covid-19 Pandemic caused severe existential, economic, social, mental and emotional health threats inducing stress, anxiety, and depression(1).

Psychosocial stressors capable of causing bruxism activity (sleep and awake), oral parafunctions performance and painful Temporo-Mandibular Disorders (TMDs(1).

Aim: To evaluate the effect of the current coronavirus pandemic – COVID-19 on the prevalence of bruxism, oral parafunctions, TMDs, and whether a sex difference exists regarding this influence.

1. Wang, C.et al. psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. Int. J. Environ. Res. Public Health 2020, 17, 1729.

2. Emodi-Perlman Aet al. Temporomandibular Disorders and Bruxism Outbreak as a Possible Factor of Orofacial Pain Worsening during the COVID-19Pandemic-Concomitant Research in Two Countries. J Clin Med. 2020 Oct 12;9(10):3250.

Methods:

Retrospective study: 288 *dental patients underwent* ***complete anamnesis*** *and* ***clinical examination*** *according to the Diagnostic Criteria for TMD (DC/TMD)[1] and filed in the official Hebrew version of the Symptoms Questionnaire and the Oral behavior checklist[1].*

According to the date of examination *(from October 2018 to June 2021). two adult patient populations were evaluated According to the* ***date*** *of examination:*

(a) preCOVID-19 *pandemic era =108 patients, M/F=59/49*

(b) COVID 19 *pandemic era= 180 patients, M/F=96/84*

1. **Ohrbach R (Editor). Diagnostic Criteria for Temporomandibular Disorders: Assessment Instruments (HEBREW). Version15 May 2016. Hebrew version by: Reiter S, Winocur E, Akrish S, Reiter A ,Reiter M, Lahav M, Emodi-Perlman A.**

Results 1: bruxism&parafunction

Possible Sleep bruxism (SB) was more prevalent during the COVID-19 pandemic solely in women (SB-p = 0.014).

Possible awake bruxism (AB), after Bonferroni correction, remained significant only for women (p < 0.001).

Oral parafunction activity was significantly more prevalent during the COVID-19 pandemic era in both men and women.

	Men				Women			
	Pre-cov19	Cov19	Total	P^	Pre-cov19	Cov19	Total	P^
Awake bruxism	10 (16.9%)	33 (34.7%)	43 (27.9%)	NS	7 (14.3%)	46 (56.1%)	53 (40.5%)	<0.001
Sleep bruxism	10 (16.9%)	26 (27.4%)	36 (23.4%)	NS	6 (12.2%)	30(36.6%)	36 (27.5%)	0.014
Parafunction	17 (28.8%)	61 (63.5%)	78 (50.3%)	<0.001	12 (24.5%)	50 (59.5%)	62 (46.6%)	<0.001

NS= Nonsignificant; Pre-cov19= pre pandemic era group; Cov19= pandemic era group;
P^= level of significance after Bonferroni correction (Pearson Chi-Square & Fisher's Exact Test were performed).

results 2: Painful TMD diagnosis

Painful TMD prevalence was not significantly different between the two periods under study, however in total painful TMD was significantly more prevalent in women than in men (p = 0.046).

	Men				Women			
	Pre-cov19	Cov19	Total	P^	Pre-cov19	Cov19	Total	P^
Pain in jaw function	1 (1.7%)	14(14.7%)	15 (9.7%)	NS	8 (16.3%)	18 (21.4%)	26 (19.5%)	NS
Pain on awakening	3 (5.2%)	14 (14.7%)	17 (11.1%)	NS	3 (6.1%)	13 (15.5%)	16 (12%)	NS
Reported TMD pain	10 (16.9%)	17 (17.9%)	27 (17.5%)	NS	19(38.8%)	22 (26.2%)	41 (30.8%)	NS
Pain on Temporal area	7 (12.1%)	18 (18.9%)	25 (16.3%)	NS	11(22.4%)	21 (25%)	32 (24.1%)	NS

NS= Nonsignificant; Pre-cov19= pre pandemic era group; Cov19= pandemic era group;
P^= level of significance after Bonferroni correction (Pearson Chi-Square & Fisher's Exact Test were performed).

Conclusions:

- ***Men and women*** *were both affected by the ongoing stress due to the COVID-19 pandemic, yet women showed a higher influence as compared to men.*
- *The* ***long-term*** *exposure to elevated levels of anxiety and stress may aggravate or trigger stomatognathic detrimental conditions.*
- *Dentists should be aware and* ***regularly monitor*** *their patients regarding the possible existence and consequences of bruxism and TMD.*

Thank you