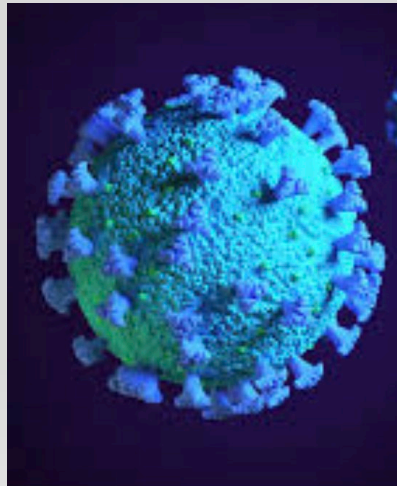


The impact of COVID-19 on Temporomandibular Disorders and Bruxism: Comparison of pre- during- and post-pandemic time periods



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Introduction:

The Covid-19 Pandemic caused severe health threats inducing stress, anxiety, and depression⁽¹⁾. Previous article showed an increased prevalence of oral parafunctions performance and bruxism activity during the pandemic, especially in women⁽²⁾, nevertheless the continuous effect of the Covid-19 pandemic on painful and non painful TMD was not evaluated.

Aim: To compare the effect of the pandemic on the prevalence of painful and non-painful TMD and on the prevalence of sleep and awake bruxism (SB, AB)



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. Winocur-Arias O, Winocur E, Shalev-Antsel T, Reiter S, Levartovsky S, Emodi-Perlman A, Friedman-Rubin P. Painful Temporomandibular Disorders, Bruxism and Oral Parafunctions before and during the COVID-19 Pandemic Era: A Sex Comparison among Dental Patients. *Journal of Clinical Medicine*. 2022 Jan 25;11(3):589.

Methods:

Cross sectional study: 587 dental patients underwent complete anamnesis and clinical examination according to the DC/TMD Criteria for TMD and the Oral behavior checklist⁽¹⁾.

Three study groups were defined according to time of admission:

- 1. Subjects evaluated between October 2018 and February 2020 – the pre-pandemic group (pre-COV, No= 108)***
- 2. Subjects evaluated between March 2020 and June 2021, during the social distancing period – the pandemic group (during-COV, No= 180)***
- 3. Subjects evaluated between July 2021 and January 2023, after all social restrictions were abolished - the post COVID restrictions' group (post-COVR, No= 251)***

1. Ohrbach R (Editor). Diagnostic Criteria for Temporomandibular Disorders: Assessment Instruments (HEBREW). Version 15 May 2016. Hebrew version by: Reiter S, Winocur E, Akrish S, Reiter A, Reiter M, Lahav M, Emodi-Perlman A.

Results1:

The final number of study population was 539 patients (Mean age 34.5 , SD 12.5), 52.1% males and 47.9% females.

females were diagnosed more often with both painful and non-painful TMD, as well as presented more possible SB and/or AB behavior, as compared to males.

Prevalence of TMD and bruxism according to time period

Gender* \ Variable	Female	Male	p**
Pain TMD	44.7%	24.9%	0.000
Non-pain TMD	24.4%	17.1%	0.04
SB	38.0%	28.9%	0.02
AB	49.4%	33.2%	0.000

*Percent of positive cases within gender **Fisher exact test (2 sided)

Distribution of positive cases according to gender

Time* \ Variable	pre-COV	during-COV	post-COVR
Pain TMD	24.1%	21.1%	48.4%
Non-pain TMD	14.8%	21.1%	22.8%
SB	14.8%	31.6%	42.4%
AB	15.7%	44.6%	49.2%

*Percent of positive cases (in the entire population, males and females)

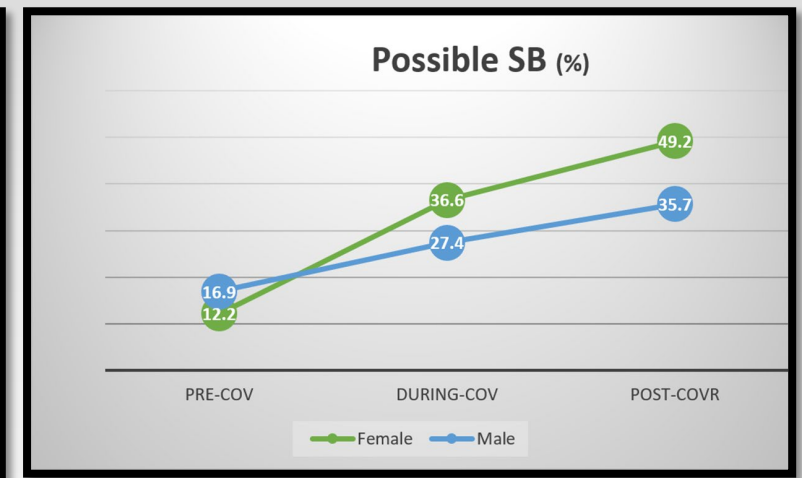
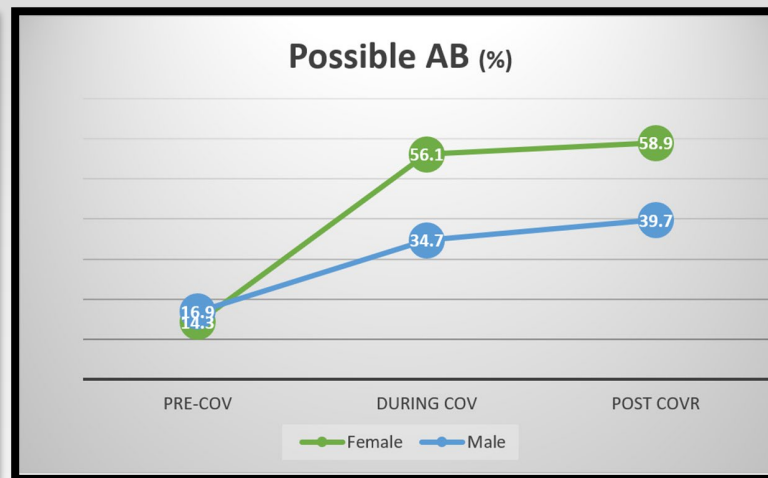
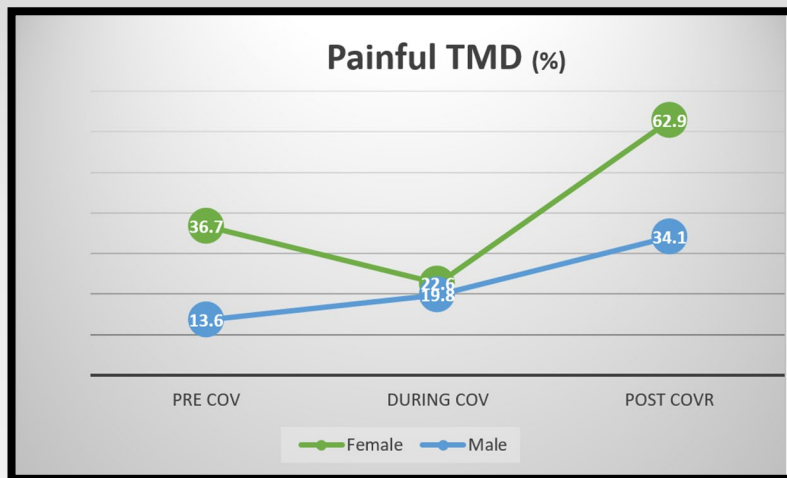
Results 2:

Logistic regression analyses: The impact of time and gender

The prospects of subjects to be diagnosed with painful TMD at the post-COVR era was 3.3 times higher than the pre-COV era (odds ratio=3.303, 95% C.I. 1.438-7.585).

The odds of subjects to present possible SB at post-COVR were 2.7 times higher than pre-COV (odds ratio=2.722, 95% C.I. 1.258-5.889, $p<0.05$).

The prospects of subjects to be diagnosed with AB at post-COVR were 3.2 higher than the pre-COV era(odds ratio=3.24, 95% C.I. 1.496-6.949).



Conclusions:

The adverse effects of the COVID-19 pandemic on TMD, SB and AB last longer and may be more profound than initially assumed.

Apparently, females were more seriously affected by the pandemic than males.

