

***The prevalence of bruxism and oral parafunction activities among Israeli juveniles with autism spectrum disorder: A preliminary study during the COVID 19 pandemic***



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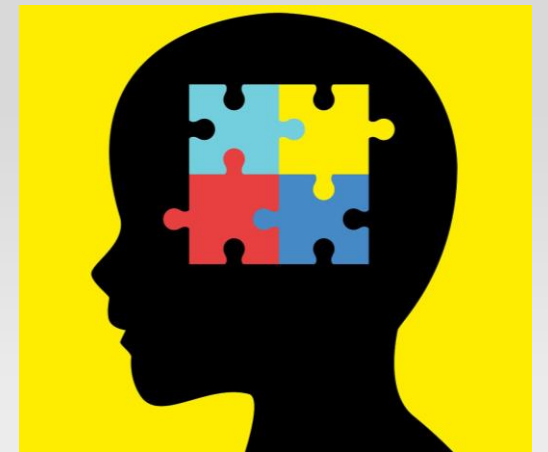
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# **Introduction:**

***Juveniles with autism spectrum disorder (ASD) reportedly have a greater prevalence of bruxism, oral habits and temporomandibular disorders (TMD)\*.***

***The influence of medication intake on their oral behaviors and bruxism has been suggested\*\*.***

***Aim: to evaluated the validity of these hypotheses, and the influence of stress, anxiety, and depression related to the coronavirus 2019 (COVID 19) pandemic on their oral behaviors and bruxism.***



\*Granja G.L; Lacerda-Santos J.T; Firmino R.T Jiao; R.; Martins C.C; Granville-Garcia A.F; Vargas-Ferreira F. Occurrence of bruxism in individuals with autism spectrum disorder: A systematic review and meta-analysis. Spec Care Dentist. 2022 Sep;42(5):476-485. doi:

\*\*de Baat C.; Verhoeff M.; Ahlberg J.; Manfredini D.; Winocur E.; Zweers P.; Rozema F.; Vissink A.; Lobbezoo F. Medications and addictive substances potentially inducing or attenuating sleep bruxism and/or awake bruxism. J Oral Rehabil. 2021 Mar; 48(3):343-354.

## Methods:

*The study population included 165 subjects aged 6-21 (mean age  $\pm$  standard deviation  $12.55 \pm 4$  years, 131 males and 34 females), who had been diagnosed with ASD severity levels 2 and 3 according to the DSM-5\*.*

*The study group was divided to 2 age groups: younger ( $n = 86$ , mean age  $9.28 \pm 1.58$  years) and older ( $n = 79$ , mean age  $16.1 \pm 2.43$ ).*

*Data were collected from questionnaires sent to each participant's parents/caregivers between February to June 2021.*

*The questionnaires included information on demographics, medical health, medications, sleep and awake bruxism, oral habits and painful and non-painful TMD.\*\* . In addition, the parents/caregivers were questioned about the influence of the COVID 19 pandemic on the participants' behavior and oral habits.*

\*American Psychiatric Association (2013). Diagnostic and statistical manual of mental

\*\* Winocur E.; Messer T.; Eli I.; Emodi Perlman A.; R. Kedem.; S Reiter.; Friedman Rubin P. Awake and sleep bruxism, among Israeli adolescents. Front Neurol. 2019 Apr 26; 10:443. doi: 10.3389/fneur.2019.00443. eCollection 2019

# Results 1:

*Oral parafunction activity was reported by 43% of the parents/caregivers, with similar rates in both age groups.*

*Possible Sleep bruxism (SB) was more prevalent in the younger group (26.7%) compared to the older group (5%).*

*Possible awake bruxism (AB) was reported by 20% of the parents/caregivers (22% for the younger group and 17.7% for the older group).*

Group	n	SB	Unknown SB	AB	Unknown AB	AB & SB
Younger	86	23(26.7%)	9(10.5%)	19(22%)	8(9.3%)	<b>13(15.1%)</b>
Older	79	4(5%)	21(26.6%)	14(17.7%)	10(12.6%)	<b>3(3.8%)</b>
Total	165	27(16.3%)	30(18.2%)	33(20%)	18(10.9%)	<b>16(9.7%)</b>

Group	n	No oral habits	At Least One Oral Habit	More Than One Oral habit
Younger	86	48(55.8%)	38(44.2%)	17(19.8%)
Older	79	46(58.2%)	33(41.8%)	14(17.7%)
Total	165	94(57%)	71(43%)	31(18.8%)

## **Results 2:**

***No significant difference in the prevalence of bruxism was recorded for the intake of medications associated with bruxism in all the evaluated parameters***

***Painful TMD prevalence was low and similar in both age groups (7% and 6.3%).***

***Covid-19 influence on oral parafunction was mild to moderate and more widespread in the younger group (17.4% versus 8.6%), bruxism was mildly affected in both age groups (5.8% and 2.5%).***

## Summary:

*The prevalence of Bruxism and oral parafunctions did not differ from the reported in the literature for the general population.*

*The assumption that the differences may be related either to the primary neurological diagnosis of ASD or they may be secondary to medication intake was rejected*

*The COVID 19 pandemic had a mild-to-moderate influence on the cohort's oral behavior.*

*Additional studies are warranted to evaluate the prevalence and risk factors associated with bruxism, oral parafunction, and TMD in young ASD populations.*

