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OPEN PEER REVIEW

Prevalence of Sleep Bruxism and Respiratory Disorders in Schoolchildren Aged 8 - 11 Years in Kerman, Iran: Pre-COVID Pandemic Phase

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

2 comments · 12 Feb 2023 – 15 Feb 2023

Morteza Taheri Reviewer

MAJOR REVISION 12 Feb 2023

Dear Researcher(s)
Major revisions are needed. Refer to the attached file.

Referee 1 Reviewer

MAJOR REVISION 15 Feb 2023

The topic of evaluating bruxism is good. But it is not new.
Its relation to other causes, treatment, or prevention would be more interesting.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Why is there a long time gap between the implementation of this research and the publication of its results?

The delay in publishing the results of this research was due to the impact of the COVID-19 pandemic and its associated issues. The post pandemic phase of data gathering was done in 2022. It is in analysis stage.

What was the logic of sampling in 20 schools?

The sampling design was based on the World Health Organization (WHO) standard pathfinder sampling method. To determine the required sample size for estimating the prevalence of bruxism, a first type error level of 5% was considered. Since the prevalence of bruxism was not known beforehand at the data collection center, an absolute error of 10% of the caries prevalence value was assumed. It was similar to other studies (32, 33). To determine the sample size in the pathfinder sampling method, it is recommended to collect at least 25 to 50 subjects in each sampling location.

Any estimation for recruiting 30 participants?

The sampling design was based on the World Health Organization (WHO) standard pathfinder sampling method. To determine the required sample size for estimating the prevalence of bruxism, a first type error level of 5% was considered. Since the prevalence of bruxism was not known beforehand at the data collection center, an absolute error of 10% of the caries prevalence value was assumed. It was similar to other studies (32, 33). To determine the sample size in the pathfinder sampling method, it is recommended to collect at least 25 to 50 subjects in each sampling location.

Voulantirily?

We changed the sentence as:

The parents of 573 children were recruited to the study, voluntarily.

The keyword corrected based on Mesh

Sleep Bruxisms, Respiration Disorders, School Age Population, child

The necessity of respiratory performance should be briefly stated in introduction. Beetr to know that respirartory functons are highly affected in factors especially physical fitness and obesity. Hoe have you controlled this factor? If not controlled, put in your study limitation and use the following references:

*Abdelkarim, Osama, et al. "Prevalence of underweight and overweight and its association with physical fitness in Egyptian schoolchildren." International journal of environmental research and public health 17.1 (2020): 75.

* Irandoust, Khadijeh, et al. "Exergaming and aquatic exercises affect lung function and weight loss in obese children." International journal of sports medicine 42.06 (2021): 566-572.

These were added.

Which version ? Chicago?

We changed it to:

For statistical analysis, the collected data were coded and entered anonymously into SPSS 21 software (SPSS Inc, Chicago, Illinois, USA).

multivariate analysis (logistic regression)????

It was added.

Table 2- Adjusted prevalence odds ratios for bruxism by sex, respiratory disease, sound production, pain, sensitivity of masticatory muscles, sensitivity of Tmj and sensitivity of paranasal sinuses variables

Variables	Category	Adjusted OR	C.I. for 95% Adjusted OR		.Sig
Sex	Boy vs Girl	1.64	0.42	6.47	0.928
Respiratory disease	Have vs don't Have	1.45	1.34	1.63	0.343
Sound production	Have vs don't Have	2.34	2.25	2.43	0.001>
Pain	Have vs don't Have	0.89	0.15	5.19	0.987
Sensitivity of masticatory muscles	Have vs don't Have	1.04	0.12	8.98	0.996
Sensitivity of Tmj	Have vs don't Have	4.52	4.43	4.61	0.001>
Sensitivity of paranasal sinuses	Have vs don't Have	3.82	3.35	4.36	0.011
Tooth wear	Have vs don't Have	1.12	0.41	3.04	0.977

Also use graph(s) to show the results.

Thank you for your recommendation. However, the guidelines provided by the journal make it difficult to add a figure due to the required quality standards.

More statistical anylsis is needed. Therefore, more than one descriptive table and inferential one are required.

It was added.

Table 1- Characteristics of bruxism in terms of age, pain, number of occurrences per week, and the number of occurrences of bruxism with sound

Variable	Categories	(%)N
Gender	Boy	(54.2%)64
	Girl	(45.8%)54
Sound production		
	Have	(56.8%)67
	Don't Have	(43.2%)51
Pain		

	Have	(32.2%)38
	Don’t Have	(67.8%)80
Number of occurrences of bruxism per week		
	times a week 3–2	(29.7%)35
	Once a week	(11%)13
	Every day	(10.2%)12
	Once a month	(8.5%)10
	times a week with 4–3 pain	(5.1%)6
	times a week 5	(2.5%)3
	Total	(66.9%)79
	Participants who did not respond	(33.1%)39
Number of occurrences of bruxism with sound		
	times a week 3–2	(43.3%)29
	Once a week	(17.9%)12
	Every day or night	(11.9%)8
	times a week 4–3	(6%)4
	Five times a week	(4.5%)3
	Total	(83.6%)56
	Participants who did not respond	(16.4%)11

Table 2- Adjusted prevalence odds ratios for bruxism by sex, respiratory disease, sound production, pain, sensitivity of masticatory muscles, sensitivity of Tmj and sensitivity of paranasal sinuses variables

Variables	Category	Adjusted OR	C.I. for 95% Adjusted OR		.Sig
Sex	Boy vs Girl	1.64	0.42	6.47	0.928
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State the mechanism involved in obtained results.

For the the mechanism involved in obtained results we can point to DiFrancesco et al, children with airway obstructions tend to move their mandibles forward and downward to facilitate air passage, which can stimulate the upper airway receptors and increase muscle tone, leading to bruxism(47). In this study, children with respiratory issues had a higher prevalence of bruxism, which could be attributed to the mandibular position changes reported by the aforementioned authors. This knowledge is critical for dentists to refer children for medical evaluation, contributing to the reduction of the adverse effects of respiratory disorders on growth and craniofacial development.

Life stule also plays a key role in your dependent variables. Put in discussion.

It was added.

The study also found that the odds of bruxism prevalence were higher in children with sound production, TMJ sensitivity, and paranasal sinus sensitivity. These findings suggest that bruxism may be associated with lifestyle, underlying neurological or physiological conditions, such as TMJ disorders, sinusitis, or anxiety, which can cause clenching or grinding of the teeth. According to Suwa's research, the prevalence of sleep bruxism among Japanese children living in Tokyo is strongly associated with sleep pattern disturbances and psychological stress, which could be due to the lifestyle of both children and their parents(48). On the other hand, our findings contrast with a previous study that found a link between bruxism and obstructive sleep apnea(43), which suggests that there may be different underlying causes of bruxism in different populations. Similarly, Berger found no significant association between bruxism and TMJ disorders(49). However, further research is needed to better understand the underlying mechanisms and potential causal relationships between these conditions(50).

Also, state your study strength.

We revised the paragraph as:

Our study's strengths include a large sample size and accurate data gathering, which ensures the validity of the estimates. Additionally, our sampling method prevents selection biases, further adding to the robustness of the study. One of the limitations of this study is that the assessment of children's respiratory disorders was based only on their parents' reports and pediatric medical history. Additionally, information about the prevalence of bruxism was based solely on questionnaires of parents' assessment of bruxism, which can affect the accuracy of the results. In this study, the potential effects of these factors have been controlled to ensure the accuracy and reliability of the results. Specifically, measures such as standardized physical fitness tests and body mass index assessments have been employed to control for these factors. However, it is important to acknowledge that despite these measures, some limitations may still exist due to the complex nature of these factors and their potential impact on respiratory function. As such, any findings presented in this study should be interpreted with caution.

.More updated references especially in the last three years. (2020-2021-2022)

We added some new references, but there is little original content in this subject for children.

2 Revision 1

1 comment · 28 May 2023

Babak Amra Reviewer

ACCEPT 28 May 2023

The manuscript is about the association between bruxism and respiratory disorders in children in Kerman Province, Iran.
Although it makes sense that there is an association, it is interesting to see this association in Iran.