

COMMENTARY

Role of playing wind instruments and singing in snoring and obstructive sleep apnea

Commentary on van der Weijden FN, Lobbezoo F, Slot DE. The effect of playing a wind instrument or singing on risk of sleep apnea: a systematic review and meta-analysis. *J Clin Sleep Med*. 2020;16(9):1591–1601. doi:10.5664/jcsm.8628

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Obstructive sleep apnea (OSA) is common respiratory sleep disorder that, when defined as an apnea-hypopnea index greater than 5 events/h, is reported to affect 15–30% men and 10–15% women in the United States.^{1,2} Although it is well-recognized that OSA causes sleep fragmentation, and thereby poor daytime performance,^{3,4} and is associated with significant cardiometabolic morbidity and mortality,^{5–11} treatment options for OSA are still limited. Most commonly prescribed continuous positive airway pressure therapy is limited by patient acceptance and adherence. Similarly, oral appliances such as mandibular advancement devices can be an adjunct in carefully selected patients but have limited efficacy and are often expensive. Upper airway surgical treatment and upper airway stimulation devices are an alternative secondary therapeutic option for patients who fail or do not tolerate these treatments, but complete elimination of OSA is often not achieved. There is an immediate need to explore alternative effective and better accepted treatment modalities for OSA.

In this issue of *Journal of Clinical Sleep Medicine*, the paper by van der Weijden et al¹² reports a systematic review and meta-analysis of present scientific literature illustrating the role of playing musical wind instruments or singing in alleviating the risk of OSA, snoring, and related symptoms of sleep disturbance and daytime sleepiness. The authors included observational and/or randomized controlled studies where active participants either played a wind instrument or sang, and outcomes evaluating sleep such as snoring, risk of OSA, physician diagnosis of OSA, apnea-hypopnea index, and daytime sleepiness were compared with the control group (nonplayers, nonsingers, or healthy volunteers). The meta-analysis showed no significant difference in high risk of OSA (by Berlin Questionnaire), physician diagnosis of OSA, and daytime sleepiness (by Epworth Sleepiness Scale) between players of wind instruments and those in the control group. Overall, effect size and GRADE¹³ of evidence were zero-to-small and low, respectively. Although the results of the meta-analysis are limited, interesting conclusions can be drawn from individual studies included in the systematic review. Players of double reed wind instruments or didgeridoo and singers were particularly noted to

have a positive impact on the risk of OSA,^{14,15} reduced apnea-hypopnea index,¹⁶ snoring,¹⁷ sleep disturbance,¹⁶ and daytime sleepiness,¹⁶ suggesting a potential role of a selective pattern of muscle activation (embouchure) and oropharyngeal air pressure achieved in playing certain orchestral wind instruments and singing in alleviating snoring and OSA. This further supports the recent hypothesis that certain exercises that improve oral and oropharyngeal muscle tone will reduce airway collapsibility during sleep and decrease tongue fat deposition potentially playing a role as a treatment alternative for OSA.¹⁸ The study has important limitations that the authors have acknowledged, including the lack of polysomnography data, lack of large population-based cohorts and randomized study design, limited quality of included evidence, small sample size and selection bias that limits generalizability, recall bias in reported questionnaires, and confounding by variables such as male sex and obesity that increase risk of OSA.

Overall, van der Weijden et al's study¹² supports favorable effects of playing certain wind instruments and singing in alleviating symptoms and risk of snoring and OSA. However, future research in the role of myofunctional therapy as a therapeutic adjunct will require large, population-based, randomized controlled studies with standardized exercises that are observed over a sufficient lead time to measure any positive effects on symptoms and severity of snoring and OSA.

CITATION

Baba RY. Role of playing wind instruments and singing in snoring and obstructive sleep apnea. *J Clin Sleep Med*. 2020; 16(9):1429–1430.

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DISCLOSURE STATEMENT

The author reports no conflicts of interest.