

THE USEFULNESS OF OSA-18 QUALITY OF LIFE QUESTIONNAIRE IN IDENTIFYING MODERATE-TO-SEVERE OBSTRUCTIVE SLEEP APNEA IN CHILDREN WHO HAVE NORMAL/INCONCLUSIVE MCGILL OXIMETRY SCORE

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Overnight oximetry has been widely used as a screening tool for pediatric obstructive sleep apnea (OSA). However, the test is limited by its low negative predictive value resulting in the need of confirmatory polysomnography (PSG) in snoring children who have normal/inconclusive study. Given the long waiting list of PSG, a screening tool for prioritizing children who need urgent PSG to confirm the diagnosis of OSA is crucial especially among those who are at risk for moderate-to-severe disease. OSA-18, a questionnaire used for assessing quality of life (QoL) and estimating OSA severity, is an attractive candidate for this role. Therefore, we did the study to determine the diagnostic accuracy of OSA-18 in identifying moderate-to-severe OSA in snoring children who had normal/ inconclusive overnight oximetry.

One-hundred and ninety-five children were enrolled (mean age 6.7 ± 2.7 yrs, 63% male). There were 138 children (71.3%) who had been currently treated with montelukast and/or intranasal steroid. Primary snoring, mild OSA and moderate-to-severe OSA were diagnosed by PSG in 4.5, 38.5, and 56.9 % of the study children, respectively. Mean total OSA-18 score was not different between primary snoring/mild OSA and moderate-to-severe OSA groups (64.9 ± 18.0 vs. 67.2 ± 17.6 ; $p = 0.37$). However, a subgroup analysis focusing on children who had never been treated with montelukast and/or intranasal steroid ($n = 56$) found a higher total OSA-18 score in moderate-to-severe OSA when compared to primary snoring/mild OSA groups (80.5 ± 10.6 vs. 72.8 ± 14.5 ; $p = 0.03$). An ROC curve analysis found that total OSA-18 score > 78 was the best cut-off score in identifying moderate-to-severe OSA in these children with 61.5% sensitivity, 76.6% specificity, 69.5% positive predictive value and 69.7% negative predictive value.

In conclusion, more than a half of children who demonstrated normal/inconclusive overnight oximetry had moderate-to-severe OSA confirmed by PSG. Total OSA-18 score > 78 had a fair diagnostic accuracy for identifying moderate-to-severe OSA in snoring children who had normal/ inconclusive overnight oximetry and never been treated with montelukast and/or intranasal steroid. OSA-18 may be a useful test for prioritizing the child who needs urgent diagnostic PSG in the situation of a long waiting list of PSG. However, the useful of the test is limited among those who have never been treated with montelukast and/or intranasal steroid.

Keywords: OSA-18, children, quality of life, obstructive sleep apnea