

Behavior, neurocognition and quality-of-life in children with sleep-disordered breathing.

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OBJECTIVES: To summarize current evidence that sleep-disordered breathing in children is associated with behavioral, neurocognitive and quality-of-life problems and to suggest new lines of investigation for future research on sleep-disordered breathing and behavior.

METHODS: A comprehensive review of the medical literature between January 1990 and December 2004 was performed using the National Library of Medicine's PUBMED database.

RESULTS: Analysis revealed 33 articles that satisfied the inclusion and exclusion criteria. The total study population in these articles was 22,255 children. Sample sizes per study ranged from 12 to 5728 children. The age range was 2-18 years (mean 6.8+/-2.8). The majority of studies examined behavior, neurocognition or quality-of-life as a single outcome measure. Behavioral problems included reduced attention, hyperactivity, increased aggression, irritability, emotional and peer problems, and somatic complaints. The following neurocognitive skills were affected: memory; immediate recall; visual-spatial functions; attention and vigilance; mental flexibility; and intelligence. The quality-of-life of children with sleep-disordered breathing was similar that of children with asthma or rheumatoid arthritis. Improvements in behavior, neurocognition and quality-of-life scores for children with sleep-disordered breathing were seen after adenotonsillectomy. **CONCLUSIONS:** There is compelling evidence that sleep-disordered breathing in children is associated with behavioral and neurocognitive problems and leads to reduced quality-of-life. In addition to improvements in sleep, adenotonsillectomy is associated with improvements in behavior, neurocognition and quality-of-life in these children. However, the lack of uniform criteria for the diagnosis of sleep-disordered breathing in children and variation in methods used to assess the outcome of surgical therapy limit our current knowledge and should be addressed by future research. The high prevalence of sleep-disordered breathing in children should make this research a public health priority.

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