

Research into childhood obstructive sleep-disordered breathing examined

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Although sleep apnea is typically considered a condition affecting adults, breathing problems during sleep in children are common and may affect their health and behavior. Disturbed sleep in children due to breathing problems is often caused by large tonsils and adenoids blocking the upper airways. This is called obstructive sleep-disordered breathing (oSDB) and has been the subject of increased research during the past decade. While milder forms of oSDB are most common, the more severe form requires tonsil or adenoid surgery. Through a comprehensive review of published research, investigators have identified important gaps in how and where children with this condition are best managed. Their findings are published in the journal *Chest*.

Breathing problems during sleep vary from simple snoring without impact on sleep or oxygen saturation in the blood, to obstructive [sleep apnea](#) (OSA), during which children have repeated episodes of restricted breathing and/or drops in [oxygen saturation levels](#). Although clinical guidelines for treatment were issued by the American Academy of Pediatrics (AAP) in 2012, there is still debate on the best pathway of care for children.

According to lead investigator Anne G. M. Schilder, PhD, evidENT, Ear institute, University College London, Royal National Throat Nose and Ear Hospital, "oSDB is a very common condition in children and reports suggest its incidence is on the rise. This may be in part related to the increase in childhood obesity. Parents and professionals have become more aware that this condition may have negative long-term health

consequences and, therefore, it is important that children suffering from this condition are well managed and available resources are allocated appropriately. This means timely treatment of children who need it and avoiding unnecessary surgery of those unlikely to benefit from it."

Based on the patient's symptoms and signs alone, it is difficult for doctors in primary care and hospitals to distinguish the more common milder forms of oSDB from the more severe. "A sleep study is the gold standard but expensive and not widely available," explained Prof Schilder. "There is no agreement regarding which patients need such a study and how best to interpret its results, that is who needs surgery or medical treatment. Rather than focusing research on individual steps in the patient pathway, there is a need for a more holistic approach to research in this area, taking into account the views of all professionals caring for these [children](#), as well as their parents."

Therefore, investigators carried out a systematic review to map the research in childhood oSDB that has been conducted to date. Their goals were to support further guideline development, identify evidence gaps, and guide future research. Evaluating more than 5,700 studies through November 2015 eligible for inclusion, they identified an increase in annual publications since 2000, with 46% published since 2011, when evidence-based data for the AAP guidelines were evaluated.

Most publications (61%) focused on individual treatment modalities, incidence, or prognosis. Few publications (2.7%) focused on health service delivery, outcomes, and health economics. Observational studies comprised 78.5% of publications, 2.4% were randomized controlled trials, and 0.4% used a qualitative approach as their main methodology.

Investigators found that the recent surge in research activity into childhood oSDB has improved the knowledge base for this condition; however, the lack of health services, health economics, and outcomes

research impacts the applicability of evidence informing current guidance and leaves important questions for future research.

"Mapping so many papers has been quite an undertaking for our team, but so rewarding, since it highlights clearly what future research should focus upon," concluded Prof Schilder.

More information: Roderick P. Venekamp et al, Research Into Childhood Obstructive Sleep-Disordered Breathing, *Chest* (2016). [DOI: 10.1016/j.chest.2016.12.001](https://doi.org/10.1016/j.chest.2016.12.001)

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