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REPLY

Reply to Rana's comment on sleep and sleep disordered breathing in children with Down syndrome

To the Editor,

We thank Dr Rana for her positive comments on our review [1]. As we highlighted there are limited studies of the negative effects of sleep-disordered breathing (SDB) on cognition and daytime functioning in children with Down Syndrome (DS). Resolution of SDB in typically developing (TD) children has been shown to be associated with improvements in various aspects of neurocognitive function and behaviour, albeit probably incomplete [2–5]. It would be expected that treatment and resolution of SDB would have similar effects in children with DS. As Dr Rana highlights in her Letter to the Editor, although adenotonsillectomy is the first line of treatment for SDB in both TD children and children with DS, residual SDB is still present after treatment in about half of children with DS and other treatments are often required. Other treatment options for SDB in children include continuous positive airway pressure (CPAP) therapy, topical corticosteroids, leukotriene receptor antagonists, and dental/orthodontic treatments (for review see [6]). Dr Rana highlights further additional surgical and dental interventions that may be considered including lingual tonsillectomy, turbinate reduction, uvulopalatopharyngoplasty (UPPP), and rapid maxillary expansion (RME) [7]. Other new treatments include hypoglossal nerve stimulation, which has been recently used in small numbers of adults with DS [8,9], demonstrating high compliance with device use and significant improvements in apnoea hypopnoea index (AHI). Further research on the long-term effectiveness of upper airway stimulation therapy and the impact on daytime functioning in patients with DS is needed.

We agree wholeheartedly with Dr Rana that the literature to date supports active management of SDB in children with DS. As we discover more about the threshold for treatment of SDB in TD children and the response to different treatments, it has become clear that traditional assessment of SDB severity using polysomnography criteria may not be the best way of determining which children are most likely to benefit from certain treatments [10]. While there is no doubt in our mind that children with DS stand to benefit from treatment of SDB, evidence for treatment threshold and individually tailored treatment approaches is crucial in this population to guide clinical management, particularly of residual SDB after adenotonsillectomy.

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