

Editorial

This issue of the Belgian Journal of Pediatrics deals with sleep and sleep disorders in children. As Belgian, pediatric sleep clinicians and researchers, we have to acknowledge the pivotal role of Professor Kahn, a pioneer in the field. Approximately 40 years ago, motivated by his passion for research, professor Kahn set up the pediatric sleep laboratory at the HUDERF, with the primary aim to research SIDS. Since then, sleep research and sleep medicine in the pediatric field has changed focus, as SIDS research drastically helped reduce the SIDS rate. Pediatric sleep medicine expanded with the setup of more sleep centers to investigate sleep in children both healthy and with co-morbidities. Sleep in children is particular in that up to the age of 5 years, children spend more time asleep than awake. It could therefore be considered the child's most important activity. And an activity it is: sleep in children has been proven essential for consolidating memory and insuring proper cognitive development.

In the newborn child, sleep reflects brain maturation that is rapidly taking place from birth to 6 months. At first there is very little quiet or NREM sleep; Then over a period of a few months the amount of deep sleep increases, as the amount of active or REM sleep decreases. Typical markers of certain sleep stages, such as spindles for stage II, start appearing.

Heart and breathing rates, which both decrease as the child matures, reflect the developing autonomic nervous system. Sleep also becomes more consolidated, allowing most infants to be able to sleep through the night by the age of 6 months.

The study of sleep in the prematurely born infant allowed for the identification of markers of cardio-respiratory immaturity, which are discussed in one of the papers presented in this special edition.

The impact on sleep of typical affections of the newborn, such as laryngomalacia and Pierre Robin sequence is discussed in this issue. Sleep is a state that favors hypoventilation, as muscle tone is decreased, especially during REM sleep. Affections that further increase resistance to airflow will result in the appearance of obstructive apnea with all the repercussions associated with them. The study of sleep in these cases allow for the quantification of the problem, as severe cases can lead to respiratory insufficiency. A sleep study can therefore optimize the way the infants with laryngomalacia and Pierre Robin sequence are taken care of. Two articles in this edition will discuss these topics.

As the child grows, parasomnia can become evident. They are frequent, and mostly benign, but they have to be differentiated from epilepsy. These subjects are also discussed in this issue, as they are a frequent reason for consultation.

Daytime sleepiness is rare in children but needs proper investigation when present, as academic performances and social development will be impacted. A sleepy child is also an irritable child, with the obvious effect on family life.

Narcolepsy is a rare but treatable disease, which too often is not recognized early. A case report is presented here, in the hope that pediatricians will think of this possibly when faced with a sleepy child during the day.

Of course, there are many other possible causes for daytime sleepiness (DTS) in children, the main one being obstructive breathing during sleep linked to hypertrophy of tonsils and adenoids. This particular subject is not treated in this issue as it is well known and extensively described in the literature.

However, restless legs are a much less known affection in children, and can be the cause of DTS. This subject is treated in this issue, to familiarize the reader with this pathology.

Another cause of DTS, delayed sleep phase syndrome, is discussed in this issue as it is a typical affection often observed in adolescents.

The final paper in this issue gives the pediatrician a complete and practical overview for the indications of a polysomnography in children.

It is our hope that these various subjects, investigating sleep from birth to adolescence, will inspire you to consider the study of sleep in children as an integral part of pediatrics.

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