



## Editorial

## Give children and adolescents the gift of a good night's sleep: A call to action

## 1. Introduction

Chronic sleep loss is endemic to children and adolescents throughout the world. Studies indicate that children and adolescents are not getting the sleep they need [1,2]. Additionally, research indicates that sleep disturbances are highly prevalent, with studies indicating that 10–75% of parents of young children report that their child has a sleep problem, 10% of adolescents experience insomnia, and 1–3% have diagnosable obstructive sleep apnea [2–5]. Sleep disturbances are also culturally-specific, with sleep practices and parenting definitions of sleep problems varying widely [3,6].

## 2. Impact of sleep loss

Sleep is the primary activity of the brain during early development. Short sleep and poor quality sleep impact every aspect of children's and adolescents' well-being and daytime functioning [7–10], ranging from decreased cognitive functioning (e.g., inattention, decreased concentration), to poor academic performance, decreased emotional regulation, and increased behavior problems and psychopathology. Sleep loss also directly impacts health, including increasing the risk of accidental and automobile crash injuries, as well as potentially resulting in long-term deleterious effects on the cardiovascular, immune, and various metabolic systems [11]. Short sleep duration has been shown to significantly increase the risk of obesity in children, especially in young children [12]. Children who are overweight and obese are at increased risk for metabolic disorders as well as sleep disorders, particularly obstructive sleep apnea. Given the current global epidemic of childhood obesity, these important contributions of insufficient sleep and sleep disorders are a major public health concern.

Insufficient sleep is particularly prevalent in children and adolescents living in poverty. These are frequently the same individuals who are also at increased risk for unhealthy sleep behaviors (e.g., insufficient sleep quantity, late and inconsistent bedtimes, television sets in the bedroom), which have been empirically linked to insufficient and poor quality sleep [2,13]. Finally, while sleep disorders such as obstructive sleep apnea are more prevalent in these same vulnerable populations, they are less likely to be diagnosed and treated. Thus, the potential impact of inadequate or poor quality sleep on a child's cognitive development and physical and mental health is especially powerful in this vulnerable group of children.

## 3. Call to action

***It is time for international leaders to take action by emphasizing education, public policy, and research on the importance of sleep in our youth.*** We strongly believe that there is a critical need

for (1) increased awareness of the importance of sleep and early identification of sleep problems for our world's youth, (2) broader public policies on pediatric sleep issues, and (3) increased research in this area.

## 3.1. Education

Increased awareness of the importance of sleep and identification of sleep problems relies on education. Thus, education about sleep and sleep problems is essential for children, their parents, health care providers, educators, economic leaders (who often prefer work to sleep), and public policy makers. Education at every level about the importance of sleep and the development of healthy sleep habits will not only help prevent lifelong problems, but it may also prevent long-term sequelae through early identification and treatment of sleep disorders.

Sleep should be a standard component of school curriculums, with an emphasis on the importance of the need for sleep, the impact of sleep loss, awareness of sleep problems, and the basics of sleep and sleep architecture. Parents should be educated about healthy sleep habits, prevention and development of sleep problems, and signs and symptoms of common sleep disorders (e.g., sleep apnea, insomnia). Parents are often not aware of the contribution of lifestyle factors that impact sleep and the development of sleep problems, as well as the resulting impairments of inadequate sleep.

Inclusion of sleep in post-graduate education of all health care professionals is critical. Sleep is currently barely covered in medical school and residency programs, clinical psychology programs, and other health care provider programs [14–16]. Every child's visit to the doctor should include questions about sleep and the importance of this vital activity needs to be stressed. Educators and child care providers must understand the importance of sleep not only to be able to educate children and families but also to structure school days and after-school activities in ways that support obtaining adequate sleep.

## 3.2. Public policy

Only in recent years has the awareness of the importance of sleep in children and adolescents led to the start of the implementation of public policies and programs to support and protect the sleep of this vulnerable population. On a grand scale, we believe that a good night's sleep is an invariable right of every child and adolescent and must be encouraged worldwide. Organizations such as *Sleeping Children Around the World* ([www.scaw.org](http://www.scaw.org)), providing bedkits to the neediest of children in underdeveloped and developing countries (e.g., Bangladesh, Zimbabwe, Nicaragua),

and *Sweet Dreamzzz* ([www.sweetdreamzzzdetroit.org](http://www.sweetdreamzzzdetroit.org)), supplying basic essentials such as a blanket and a pillow to at-risk children, are reaching out to fill a significant need, but these organizations are only a drop in the bucket compared to the needs of so many children around the globe.

Other public policies also have been developed to address sleep need. For example, several school districts in the United States have changed high school start times to enable adolescents to obtain more sleep, and some countries, such as Japan, have instituted public education programs to encourage healthy sleep habits in young children [17–19]. Given the global concern about increasing rates of childhood obesity and the connection between sleep and obesity, obesity prevention programs should also be targeted to incorporate sleep education, emphasizing the importance of sleep as a key component of a healthy lifestyle (combined with exercise and nutrition).

### 3.3. Research

There has been a dramatic increase in research on sleep and sleep medicine in general over the past 10–20 years, with a similar increase in research on sleep in children and pediatric sleep medicine. But we still have a long way to go. For example, little is known about the prevalence of sleep disturbances (e.g., sleeplessness) and sleep disorders (e.g., sleep disordered breathing, restless legs syndrome, narcolepsy, insomnia) throughout the world and across all age groups. The efficacy of interventions for many of these sleep disturbances in children and adolescents is also lacking. Furthermore, cross-cultural understanding of sleep context (e.g., sleep surface, sleep environment, parental behaviors and attitudes) is needed to develop culturally-sensitive interventions. Research investigating sleep at critical transition points for children, such as entry into primary school and high school, with implementation of population screening programs and parent education at these time points, is needed. Studies on the short-term and long-term impact of sleep loss are essential, especially in the areas of long-term academic outcomes, academic performance, mental health issues, and medical morbidity. Key areas we need to learn more about include the following: what is the sleep need for children at different ages, what is the individual variability at the different stages in development, and what is the cost of sleep problems in children and adolescents from a health service use perspective [16]?

### 4. A global need

As the percent of children who have chronically insufficient and poor quality sleep continues to rise worldwide, it is imperative that we make sleep a priority for our world's youth and help give the gift of a good night's sleep to all children and adolescents. Healthy sleep during infancy and childhood is essential to ensure a healthy life into adulthood, and promoting positive sleep practices should be considered preventive health care. Promotion of sleep health in children and adolescents must be on the public agenda worldwide.

### Conflicts of Interest

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: [doi:10.1016/j.sleep.2011.01.003](https://doi.org/10.1016/j.sleep.2011.01.003).

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