

Let Children Sleep More Fight Obesity

Key Messages

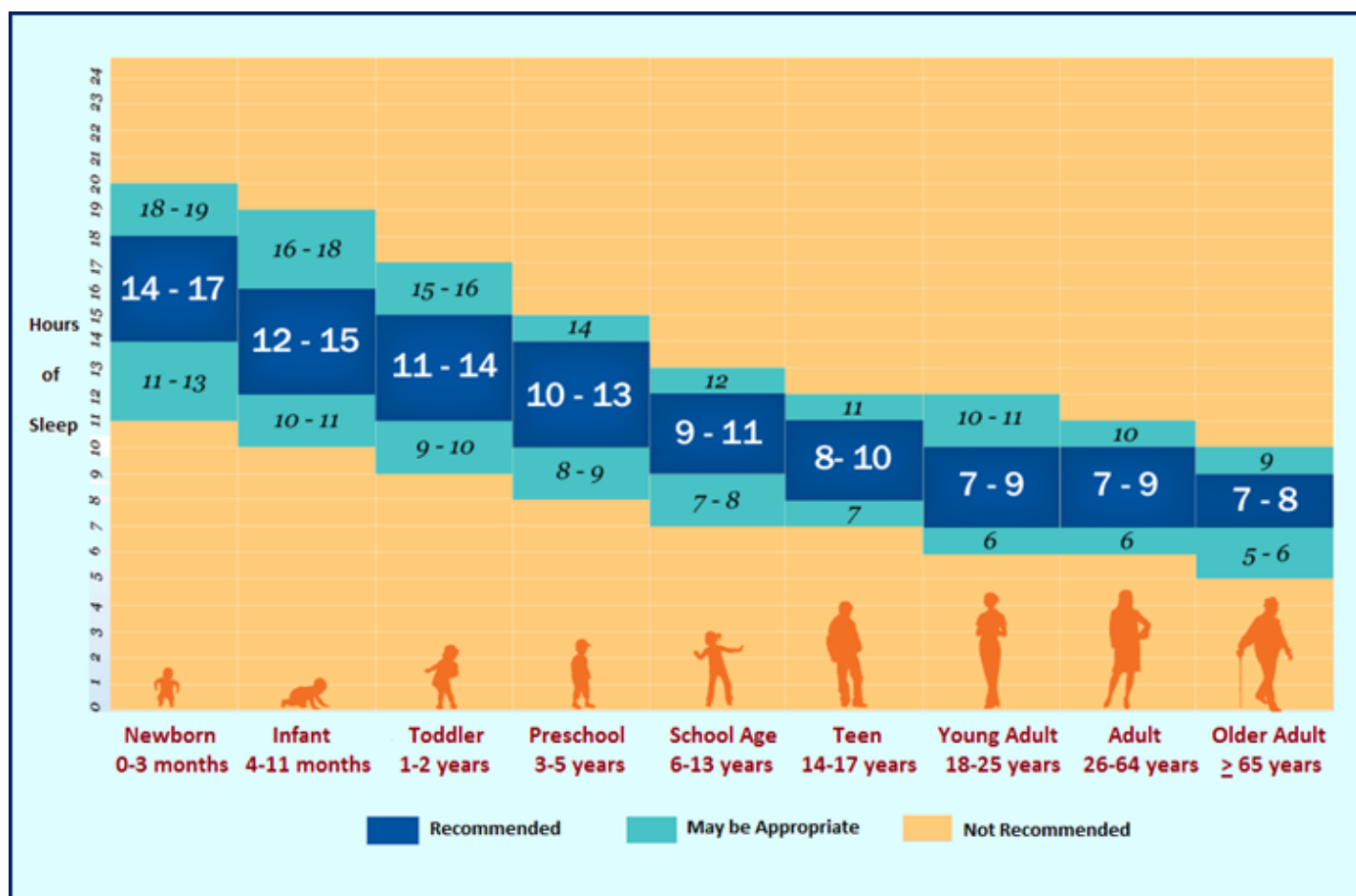
- ※ In children, sleep is essential for optimal growth, better emotion regulation, better academic performance, and better quality of life/well-being. However, the importance of sleep is often overlooked and many children do not have enough sleep.
- ※ Among children in Hong Kong, insufficient sleep is a common phenomenon. Local studies observed an association between sleep pattern and risk of childhood obesity.
- ※ Parents may not recognise that sleep deprivation is associated with an increased risk of being overweight or obese mainly through alterations in appetite regulation hormones and obesity-promoting behaviours. Compared with children who sleep for longer duration, those who sleep for shorter duration would have about twice the risk of being overweight or obese, especially in an obesogenic environment like ours.
- ※ Sleep is a basic health necessity. Parents and carers should acknowledge that skimping children's sleep to create more time for school work or other academic activities has a price. Cutting back by even one hour of sleep not only can affect their health and mood, but also their ability to concentrate resulting in poorer performance at school.
- ※ Parents and carers can help children have a good night's sleep, such as by making sleep a primary health priority in family, setting age-appropriate bedtime and wake-up time for children, and reducing screen behaviours and setting boundaries for use before bedtime.

Let Children Sleep More, Fight Obesity

Sleep is no less important than food, drink, or safety in the lives of everyone including children. A systematic review of the relationships between sleep duration and health indicators in school-aged children reported that longer sleep duration was generally associated with better physical growth, better mental health outcomes, better emotion regulation, better academic performance, and better quality of life/well-being.¹ While amount of sleep needed vary from person to person depending

on age, physical activity levels, general health and other individual factors, children generally need more sleep on a regular basis than adults (Figure 1).^{2, 3} In contemporary society, however, the importance of sleep is often overlooked and many children do not have enough sleep. Sleep duration is observed decreasing among school-aged children, especially on school-days owing largely to later bedtimes.⁴

Figure 1: Sleep time duration recommendations



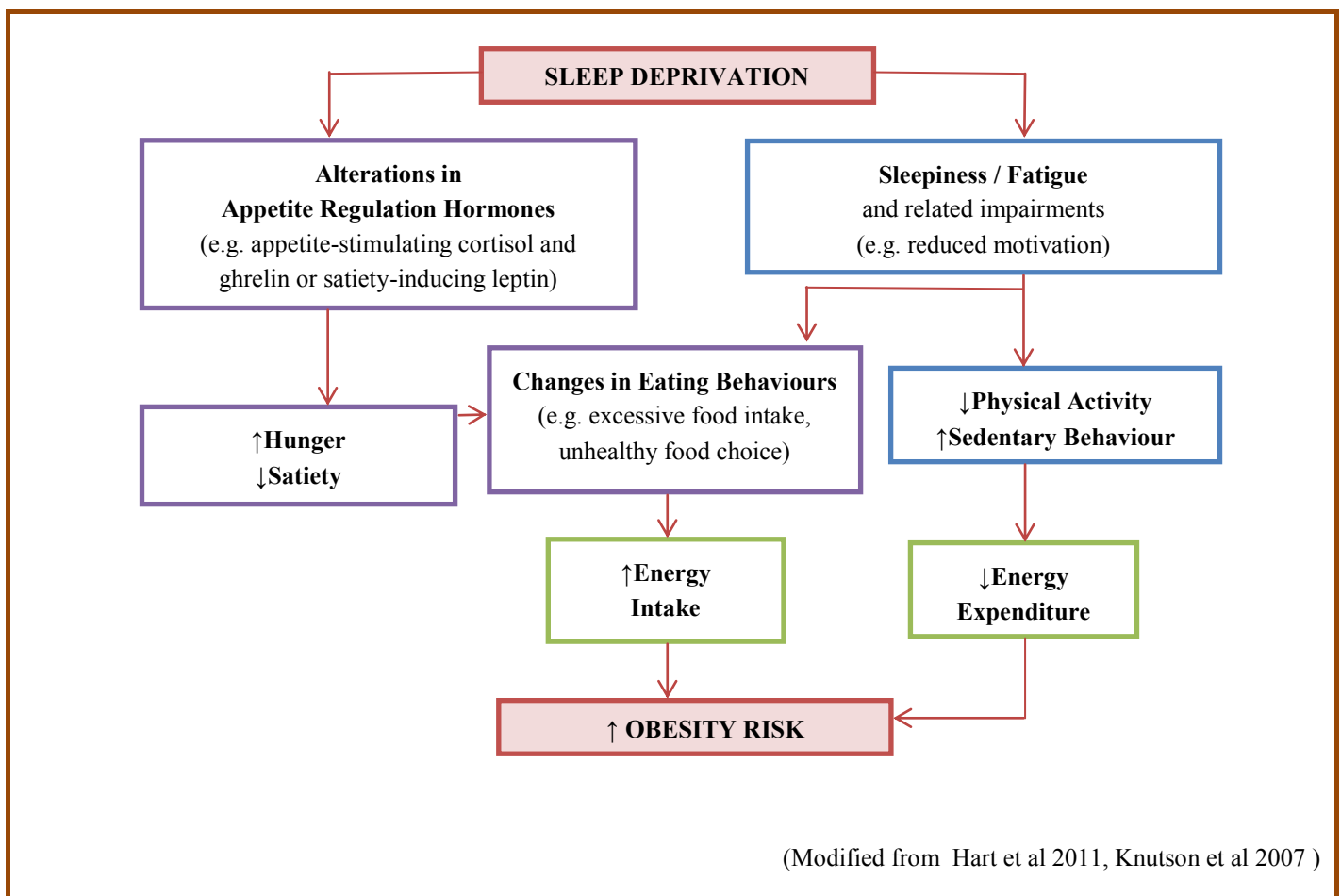
Source: U.S. National Sleep Foundation, 2015.

Insufficient Sleep and Childhood Obesity

In children, sleep is essential for optimal growth. It is because most of their growth hormones are produced when asleep during the night. Apart from growth hormones, sleep deprivation can also affect the production and action of insulin as well as certain appetite regulation hormones (Figure 2).⁵⁻⁷ Studies showed that people who were deprived of sleep had higher levels of the appetite-stimulating cortisol and ghrelin but lower levels of the satiety-inducing leptin, with a corresponding increase in hunger and appetite for foods high in carbohydrates and fats.^{5,8} Furthermore, insufficient sleep and associated

daytime sleepiness or fatigue can compromise voluntary physical activity during the day, and thus lead to a decrease in energy expenditure and promote weight gain.^{5, 7} There is convincing evidence that insufficient sleep is an important and independent risk factor for obesity in children. Compared with children who sleep for longer duration, those who sleep for shorter duration would have about twice the risk of being overweight or obese.⁹ Beyond sleep duration, sleep timing patterns (such as late bed-times, late wake-up times or shifting sleep schedules) may also increase obesity risk in childhood.¹⁰

Figure 2: Possible (biological and behavioural) pathways linking sleep deprivation and increased obesity risk



Local Situation

Among children in Hong Kong, insufficient sleep is a common phenomenon. A local study of 553 Chinese preschool children (mean age about 5.5 years) in 2011-2012 reported that only 11.0% of preschool children slept 11-12 hours per day and most (70.5%) slept 9-10 hours per day.¹¹ Among adolescents, a study of over 3 700 secondary students aged between 12 and 18 years during late December 2011 to early February 2012 observed that 64.5% of students slept less than 8 hours during weekdays; more than half (58.4%) rated themselves as having inadequate sleep.¹²

Local studies also observed an association between sleep pattern and risk of childhood obesity. A study of over 5 100 primary school children (mean age 9.25 years) found that children with shorter sleep duration had higher body mass index.¹³ Another school-based study of 327 adolescents (mean age 14.5 years) also found that shorter mean time in bed and greater weekend delay in bedtime were associated with higher body mass index.¹⁴

Help Children Sleep Well

Akin to balanced diet and regular exercise, sufficient sleep is essential for maintaining a healthy metabolism and keeping the body in good shape. Good sleep habits have other benefits too, such as improving mood and enhancing overall quality of life. While many factors can affect children and adolescent's sleep (such as sleeping environment, food and drinks, illness and medications), bedtime use of screen-based electronic devices (such as mobile phone) are also known to disturb children and adolescents' sleep patterns, resulting in reduced sleep duration, poor sleep quality and excessive daytime sleepiness.^{15, 16}

Here are some tips that can help children have a good night sleep —

- **Talk to children about the importance of sleep for their growth and development.**
- **Set age-appropriate bedtime and wake-up time** for children to ensure they get enough sleep.
- **Reduce screen behaviours and set boundaries for use before bedtime.** Remove electronic devices such as computers and TVs from bedrooms.
- **Maintain regular daily mealtimes.** Avoid giving children big meals within two to three hours before bedtime as well as foods and beverages with stimulating effect, such as chocolate and caffeine containing sodas. These items promote weight gain and should be minimised in any case!
- **Provide a sleep conducive environment.** Arrange for a comfortable temperature and minimise light and noise. Keep the room well-ventilated.

Remember, sleep is a basic health necessity. Parents and carers should acknowledge that skimping children's sleep to create more time for school work or other academic activities has a price. Cutting back by even one hour of sleep not only can affect their health and mood, but also their ability to concentrate resulting in poorer performance at school. Longitudinal studies have reported poorer academic grades with short sleep duration.^{17, 18} Thus, it is of utmost importance for children to get sufficient sleep for proper body and mind development.

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World Sleep Day March 17, 2017

World Sleep Day is organised by the World Sleep Society. This annual event aims to raise awareness of the importance of sleep for overall health, calling health professionals and individuals work together to lessen the burden of sleep disorders on society through better prevention and management.

World Sleep Day 2017 will be held on 17 March.

The slogan is “**Sleep Soundly, Nurture Life**”.



To know more about the World Sleep Day 2017 and related activities, please visit <http://www.worldsleepday.org/>.

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