

The Importance of Sleep for Children

Jalaludin MY

Department of Paediatrics, Faculty of Medicine, University Malaya 59100 Kuala Lumpur

ABSTRACT

Circadian rhythms, or the sleep-wake cycle, are regulated by light and dark. There are two alternating types or states of sleep; **Non-Rapid Eye Movement (NREM)** or "quiet" sleep and **Rapid Eye Movement (REM)** or "active" sleep. During the deep states of NREM sleep, blood supply to the muscles is increased, energy is restored, tissue growth and repair occur, and important hormones are released for growth and development. During REM sleep, the brain is active and dreaming occurs, bodies become immobile, breathing and heart rates are irregular. Sleep is especially important for children as it directly impacts mental and physical development. Children and teens who are sleep deficient may have problems getting along with others. They may feel angry and impulsive, have mood swings, feel sad or depressed, or lack motivation. They also may have problems paying attention, and they may get lower grades and feel stressed. Sleep deficiency also increases the risk of obesity. Sleep helps maintain a healthy balance of the hormones that make one feel hungry (ghrelin) or full (leptin). When a child does not get enough sleep, the level of ghrelin goes up and level of leptin goes down. This makes the child feel hungrier, craves higher-fat or higher-carb foods when they're tired. Sleep also affects how the body reacts to insulin, the hormone that controls blood glucose (sugar) level. Sleep deficiency results in a higher than normal blood sugar level, which may increase the risk for diabetes. Sleep also promotes healthy growth and development. Deep sleep triggers the body to release the hormone that promotes normal growth in children and teens. This hormone also boosts muscle mass and helps repair cells and tissues in children, teens, and adults. Sleep also plays a role in puberty and fertility. During sleep, children also produce proteins known as cytokines, which the body relies on to fight infection, illness, and stress. Too little sleep appears to impact the number of cytokines on hand. Studies of teens have found that reported bouts of illness declined with longer nightly sleep. Making sure families get enough sleep isn't easy, especially with parents working longer hours, more elaborate after-school activities, bedrooms full of cool electronics, and the pressure to pack more into every day. And unless we make an effort to get that sleep time back, their health will suffer.