The circadian rhythm changes when puberty is reached. This may be due to the demands of a growing body and, in some cases, hormonal imbalances. Unfortunately this change usually coincides with earlier school days, more homework assignments, part-time jobs, sports and other extracurricular activities. Trying to fit a social life into all these obligations is a challenge for adolescents, and substantial changes in physiological, cognitive and psychological functioning make teenagers more susceptible to sleep problems. Research indicates that 10.7 percent of adolescents in the general population suffer from insomnia. Studies have suggested that adolescent insomnia increases the risk for developing various mental health disorders in adulthood, including adult depression and substance abuse.

Insomnia is characterized by a repeated difficulty with sleep initiation, duration, consolidation or quality that occurs despite adequate time and opportunity for sleep. This often results in some form of daytime impairment, such as fatigue; attention, memory or concentration problems; social or vocational dysfunction; mood disturbances; and daytime sleepiness. Less frequently, insomnia complaints are characterized by the perception of poor quality or “nonrestorative sleep,” even when the length and consolidation of the typical sleep period is perceived to be “normal” or adequate.

Several studies have indicated that chronic insomnia is highly prevalent among adolescents. A 2000 study involved a representative European sample of 1,125 adolescents between 15 and 18 years of age. Approximately 25 percent reported insomnia symptoms, and about 4 percent met the criteria for insomnia disorder. Results of a French study conducted in 2004 indicated that 233 out of the 652 participating high school students exhibited persistent insomnia. About 40 percent of females and 31.6 percent of males were included in the “insomnia group.” Students were placed in the insomnia group if they answered “often” or “always” to one of the five questions about having trouble falling asleep, the occurrence of early awakenings, their need for daytime sleep, sleeping pill intake and poor sleep quality.

According to the National Sleep Foundation’s 2006 Sleep in America poll, only 20 percent of adolescents reported that they get an optimal nine hour of sleep on school nights, and more than half reported that they sleep less than eight hours on school nights. Some of the main factors attributed to an unhealthy sleep pattern among adolescents are napping, sleeping late on weekends, consuming caffeinated beverages, failing to exercise regularly and using technological devices late at night.

Many researchers have suggested that there is a strong link between insomnia and various psycho-social problems. For example, it has been shown that smoking affects total sleep time and time in bed in the development of chronic insomnia. People with the combined difficulty of initiating sleep and maintaining sleep are more likely to suffer from depression and anxiety. Insomnia also is a risk factor for a variety of psychological problems.

A 2008 study estimated the prevalence of insomnia and the impact of chronic insomnia on health and functioning of adolescents. Results show that more than one-fourth of 4,175 youths reported one or more symptoms of insomnia at baseline, and about five percent met diagnostic criteria for insomnia. Almost 46 percent of those who reported one or more symptoms of insomnia continued to have sleep problems at the one-year follow-up, and 24 percent met symptom criteria for chronic insomnia. Multivariate analyses found that chronic insomnia increased the subsequent risk for somatic health problems, interpersonal problems, psychological problems and impairments during daily activities. The authors concluded that chronic insomnia severely impacts the health and functioning of adolescents with an impact that is comparable to that of other psychiatric disorders such as mood, anxiety, disruptive, and substance use disorders. They suggested that primary care settings might provide a venue for screening and early intervention for adolescent insomnia.

Although insomnia is extremely common in the general population, it is often ignored by patients and by society. Insomnia is a serious disorder that creates a heavy economic burden for society. In 2007 a study estimated that the average direct and indirect costs of untreated insomnia for adults under the age of 65 years were about $1,253 greater than for patients without insomnia.

In adolescents, insomnia may develop secondary to circadian rhythm sleep disorder, delayed sleep phase type. Circadian rhythm sleep disorders are primarily caused by changes in the biological clock, and they also may be affected by external factors that influence the timing or duration of sleep. The suprachiasmatic nucleus (SCN) in the anterior hypothalamus of the brain is responsible for the circadian rhythm in animals and humans. Adolescents, specifically post-pubescent adolescents, are particularly prone to the development of delayed sleep phase disorder.

This disorder is characterized by sleep-onset and wake times that are usually delayed three to six hours later than a normal sleep-wake cycle. It is more common in adolescents and young adults and is reported to have a prevalence of seven percent. Attempting to fall asleep earlier may produce a prolonged sleep latency and promote insomnia symptoms. Delayed sleep phase disorder is commonly associated with impairment of social, academic or occupational functioning.

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CONCLUSION

It is important for parents to participate in helping their children develop healthy sleep patterns. Programs that combine parent education with adolescent sleep hygiene training could improve the sleep of teens and improve their quality of life. Sleep technologists also can help young patients understand how biological changes that occur during adolescence can affect the sleep-wake cycle.

REFERENCES


