ENCYCLOPEDIA on Early Childhood Development

Synthesis

How important is it?

Undesirable sleeping behaviours are characterized by inadequate, poor-quality, and disrupted sleep-wake patterns. They range from bedtime resistance and frequent night waking to sleeping disorders (e.g., sleepwalking or bedwetting) that require behavioural interventions, surgical intervention, or pharmacological treatments. Undesirable sleeping behaviours are extremely common in early childhood and affect 20% to 30% of preschool children. In most cases, it is a benign and temporary phenomenon that requires no intervention. Yet, severe sleep disturbances can persist if not treated, which may potentially affect early parenting relationships and several areas of children's development.More specifically, sleep problems in children are a significant source of distress for families. Daytime fatigue in parents may lead to mood disturbances and to less effective parenting. Furthermore, poor sleep or insufficient sleep duration in children may negatively impair their cognitive (language and learning), behavioural (hyperactivity, irritability), emotional (negative emotion regulation and self-control), and physical (unhealthy weight) development. Accordingly, healthy sleep habits are crucial and early detection and interventions for sleep problems in children are warranted.

What do we know?

Infants' sleep development is highly related to the maturation of the central nervous system. During the first few months, active sleep (REM) occupies 50% of the sleep time of newborns. As babies mature, the duration of active sleep decreases and the duration of quiet sleep (non-REM) and waking state increases. Sleep problems in the first few months could be the result of a poor

organization between these two regulation processes. As infants reach adult proportions of active and quiet sleep (REM sleep occupies about 25% of the sleep time), sleep-wake state consolidationoccurs. At six months, they have the physiological maturity to sleep at least six consecutive hours per night. As for the amount of nocturnal sleep they require to be well rested and to develop in an optimal manner at different ages, 3 to 12 year-old children usually need to sleep at least 10 to 11 hours per night.

The majority of sleep problems are psychosocial in nature and tend to co-occur. Sleep-onset association disorder (SOAD) is a common sleep problem where children learn to fall asleep only under certain conditions or associations (e.g., being rocked or fed). As such, children with SOAD may have difficulty to quickly fall back asleep after night waking due to their inability to self-soothe. In contrast, children with limit setting sleep disorder (LSSD) do not experience as much night waking but have difficulty falling asleep. In addition to night waking and sleep onset problems, children may also experience a range of undesirable behaviours occurring during their sleep or sleep-wake transitions, including sleepwalking, sleep talking, bedwetting, bruxism (i.e., grinding or clenching the teeth during sleep), sleep terrors, and rhythmic movement disorders (rocking the entire body from one side to another, rolling the head against the pillow). While some sleep disturbances appear early in infancy (sleep terrors and rhythmic movement disorders), others appear at a later age (bruxism and sleepwalking).

Sleep problems are influenced by both biological and environmental factors. On the one hand, children may have a genetic predisposition to partial arousal, in turn affecting their sleep-wake consolidation. Similarly, infants with neurological problems tend to exhibit abnormal sleep patterns. On the other hand, child factors may impair sleep consolidation including, fatigue, difficulties in the perinatal period (e.g., long delivery), difficult temperament, fever, chronic illnesses and neurodevelopmental delay. Premature infantsdo not have a higher likelihood of experiencing sleep problems than full term infants. In fact, sleeping problems in the first six months are less common in preterm than in full-term infants. With regards to parental factors, anxious, over-protective or mothers with a history of insecure attachment are more prone to have children with sleep problems. Along the same line, some parenting practices influence the development of sleep problems. For instance, infants whose parents actively rock or hold them until asleep have more difficult to self-soothe following a nocturnal awakening. Similarly, co-sleeping has been associated with a greater prevalence of sleep problems and sudden unexpected infant death (SUID) in the Western culture. However, it is important to point out that

99% of bed sharing deaths can be explained by the presence of at least one and usually multiple risk factors for sudden infant death syndrome (SIDS),such as maternal smoking, sleeping position, use of alcohol and/or drugs by the bedsharing adults, and soft mattresses or heavy blankets.

What can be done?

In addition to traditional pharmacological methods, a variety of behavioural interventions involving the participation of the parents have been developed to reduce or eliminate undesirable sleeping behaviours. Before resorting to medication, parents are encouraged to first explore non-pharmacological methods. Not only are they highly effective, but their effects also tend to be more durable than that of medication. Yet, to increase their efficacy, behavioural methodsshould be implemented as quickly as possible to foster optimal child development. In addition, child and parent factors, as well as the environmental condition to which the child is exposed, should be taken into account.

Behavioural methods are selected based on the specific sleeping difficulties the child encounters. Here is a list of commonly used strategies:

- **Scheduled awakenings**: requires parents to awaken the child every night 15 to 30 minutes prior to the usual time of the episode of sleepwalking or sleep terror. The child is kept fully awake for five minutes before letting him go back to sleep.
- **Extinction or gradual extinction**: involves the immediate or progressive withdrawal of parental attention to help the child learn to fall asleep on his own.
- **Positive routines**: requires parents to implement regular, systematic, and predictable bedtime routines using quiet, pleasant activities, and praise for compliance.
- **Shaping and positive reinforcement**: requires parents to praise and provide tangible rewards for achieving appropriate sleep.
- **Transitional objet**: requiresparents to provide children with a transitional object (blanket, stuffed animal or pacifier) to help them self-soothe when trying to fall asleep without their mother’s presence.

In addition to interventions, adequate parenting practices are highly suggested. More specifically, parents are encouraged to gradually remove themselves from the bedside when children are falling asleep or to place them awake in their bed so they learn to fall asleep on their own. Furthermore, in order to prevent SIDS to occur, breastfeeding and room sharing (rather than bed sharing) are recommended. Finally, both parents and service providers should be educated on

infant and child sleep behaviours in order to become familiar with sleeping habits and effective sleep management strategies and to be conscious of the potentially serious consequences of poor or insufficient sleep.