ENCYCLOPEDIA on Early Childhood Development

SLEEPING BEHAVIOUR

Tips for Parents: Prevention and Management of Sleep Problems

Shelly K. Weiss, MD, FRCPC

University of Toronto, Canada

May 2010

Introduction

In the chapter on sleeping behaviour in the Encyclopedia on Early Childhood Development, the range of sleep problems and their consequences are thoroughly outlined. In this paper, tips for parents will be reviewed. The emphasis will be on the evidence that providing behavioural recommendations or “tips” is effective for the prevention and treatment of behaviourally-based childhood insomnia in young children. The paper will cover practical “tips” for those unfamiliar with this topic, as well as the evidence for the prevention and treatment of pediatric sleep disorders through parent education.

Subject

Pediatric sleep problems are very common. Approximately 25% of children experience some type of sleep problem.[1] These problems range from those that can be alleviated with behavioural strategies such as difficulty settling at bedtime or frequent night waking to sleep disorders based on structural pathology such as obstructive sleep apnea that require surgical or other

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intervention. The former problems, amenable to behaviourally-based strategies will be addressed.

Tips for parents on the prevention and management of sleep problems can be provided in many forms. Advice can be provided by primary health care providers either verbally or in writing (brochures, pamphlets, etc.). Parents can also find tips and strategies on their own through sources such as self-help books, magazines, other media or Internet sites. When information is provided in a healthcare setting, it can be either preventative (e.g., at well baby visits) or after evaluating and diagnosing pediatric sleep problems.

The resources available to healthcare providers and directly to parents may be based on personal opinion or research evidence. Advice available in print or on the Internet, may have a wide range (or lack) of scientific evidence. Examples of good Internet resources on pediatric sleep include:

- Canadian Sleep Society provides brochures on sleep in children and other topics (www.css.to)
- Canadian Pediatric Society has parent handouts on pediatric topics including sleep (www.caringforkids.cps.ca)
- American Academy of Pediatrics has a parenting corner including advice on sleep (www.aap.org)
- American Academy of Sleep Medicine has an educational website (www.sleepeducation.com)
- National Sleep Foundation has information for the public (www.sleepfoundation.org)

For the reader who is not familiar with this topic, some examples of the type of “tips” and the method which this information can be written for parents to prevent and manage behaviourally-based insomnia in young children are outlined, followed by the problems, research and key research questions. The tips are based on a combination of both research findings from sleep hygiene studies in adult and pediatric populations, as well as published “pediatric expert opinion” from leaders in the area of pediatric sleep medicine.

Tip #1: How much sleep does a child need? Parents need to be educated about the developmental changes and individual variation in sleep needs. Children’s sleep requirements change with age. Their daytime sleep decreases until the age of 5 years when most children stop

daytime napping. Total sleep requirements in a 24 hour period also decreases with age. It is important to remember that children vary at every age in the amount of sleep they require to be well rested. The most important question for a family is not how much sleep their child is obtaining but if they are well rested during the day. Expected normal hours of sleep vary by age (this information is available in several references).[1,2]

Tip #2: A child's bedroom; providing a safe, secure, quiet sleep environment. Where a child sleeps can vary from one family to the next. A child may sleep in his own room or have a shared bedroom with a sibling. The important "tip" about the child's bedroom is that regardless of where he/she sleeps, each child should have a consistent, comfortable sleep space. The bedroom should be comfortable (not too hot and not too cold), quiet and dark. If the room is too dark for a child, a night light can be used but should be kept on throughout the night. If there is light coming into the room from street lights or sunlight in the morning, an easy "tip" is to use heavy curtains. "Exposure to morning bright light, as well as avoidance of light in the evening, can help set the circadian clock for the day and increase sleepiness at bedtime." [1] Parents should also consider other noises in the house at night which may be disrupting sleep. Noises may be from other siblings or from televisions, computers, videogames or music and should be minimized.

Tip #3: Establishing a bedtime routine. It is important to provide a child with a short, consistent bedtime routine that changes with the developmental needs of a child over time. A good routine will help a child to relax and transition to sleep. The routine should include activities which are calming and ideally carried out in the child's bedroom. The routine should be started 15-30 minutes before the set bedtime. A younger child would have a shorter routine. It is important that parents/partners and caregivers follow the same routine. The more regular, consistent and predictable the routine is, the easier it will become for a child to settle to sleep at bedtime. One of the basic principles of sleep hygiene for children is to "Have a set bedtime and bedtime routine."[3]

Tip #4: Keeping a regular schedule. As much as possible parents should try to have their child's bedtime and wake time consistent 7 days per week. Bedtime will become later with age but it should always be set to allow enough sleep each night. Even if a child goes to sleep late at times, keep the same wake time and not more than one hour later than the normal wake time. Although it may seem better to let a child "sleep in" and catch up on sleep, the more regular the wake time, the better sleep will be.

For a younger child who has a daytime nap, keep the nap times on a regular schedule. When possible, the nap should be in the child's bedroom. Once a child is napping once per day, the nap will generally start as soon as lunchtime is finished. Irrespective of the start time, wake the child no later than 4 pm from afternoon naps so that it will be easier to fall asleep at bedtime.

Additional key points for setting a routine for children are the time meals are served and exposure to sunlight and darkness. Children should eat breakfast each morning at around the same time, both on weekdays and weekend days. You should not give a child heavy meals or large snacks late at night. However, a light snack with carbohydrates (for example, cheese and crackers, or fruit) may help a child fall asleep more easily. The impact of meals on sleep in children has not been studied, and this tip is extrapolated from adult studies.[4]

Tip #5: Teaching a child to fall asleep alone. A young infant should be placed in bed drowsy but awake.[3] Instead of nursing or feeding the infant until he is asleep, after the first few months of life, parents should stop feeding their baby when he is drowsy but not hungry. When a baby is older (over 6 months) he can be placed in bed awake and parents can gradually remove themselves from the bedside, allowing the infant to learn to fall asleep alone. When an infant wakes at night, parents can help her learn the difference between day and nighttime by decreasing the stimulation and ambient light in the evening and increasing it in the morning. A healthy thriving 6–month-old infant can be weaned off of nighttime feedings. In a study of the associations between sleep hygiene and sleep patterns in children ages newborn to 10 years, using a national USA poll, across all ages, "a late bedtime and having a parent present when the child falls asleep had the strongest negative association with reported sleep patterns".[5]

Tip #6: Encouraging daytime activities that help a child sleep at night. Children's sleep can be positively or adversely affected by daytime activities. For example, exercise can be positive or negative depending on the timing in relation to bedtime. Exercise during the day helps your child sleep better at night. Adults who exercise report that it is easier to fall asleep at night and have been shown to have deeper, more consolidated sleep. If a child does not get regular exercise at school, it should be scheduled outside of school hours. The ideal time for exercise is early in the day, as stimulating exercise, close to bedtime may cause sleep onset insomnia. It is best if very stimulating exercise or other activities ends two to three hours prior to bedtime. One study in adults with insomnia delivered an Internet-based behavioral intervention which included amongst other recommendations, a recommendation to increase daily exercise. The participants,

as compared to the control group who received the intervention, significantly improved their sleep.[6]

Caffeine is a stimulant which can cause an “alerting effect” and keep a child (and adult) awake at night. If a child has caffeinated foods or beverages (e.g. chocolate, coffee, tea, coca-cola products) in the afternoon or evening, the effect of caffeine stays in the body for 3 to 5 hours and up to 12 hours. Some children sleep best by taking these products completely out of their diet. Other children can have caffeine in their diet but will sleep better if it is avoided for several hours before bedtime. Caffeine intake has been shown to interfere negatively with sleep in adults.[7] In one study of caffeine use in children in Grades 7 to 9, it was also shown to negatively impact sleep.[8]

Problems

It is important for healthcare providers to teach parents to encourage good sleep habits in their children from an early stage to avoid the development of poor sleep habits later on.[9] However, the timing of the delivery of this information must be considered. Parents must be educated about the development of the circadian rhythm in newborns which precludes any rigorous preventative sleep training until the infant is at least 4-6 months of age. Caregivers should be made aware, not just of “tips” to prevent and manage sleep problems but also “tips” for safe sleeping in the newborn period. These tips will not be covered in this section but are available on the websites of the American Pediatric Society[a] and the Canadian Pediatric Society.[b]

Healthcare providers must also be aware of the evaluation and diagnosis of sleep problems in children in order to provide behavioural strategies or “tips” only where appropriate. In some sleep disorders of childhood, (e.g., obstructive sleep apnea), although parents may also benefit from learning about behaviourally-based sleep strategies, this will only be one part of the treatment with the more significant part being evaluation and management of the upper airway obstruction.

One of the problems identified in the literature is the lack of knowledge of some healthcare providers about pediatric sleep disorders. Although this knowledge gap is not limited to pediatricians, there has been a previous publication regarding the ability of pediatricians in the US to provide sleep information to parents. In this study performed in 2001, a survey of over 600 pediatricians in the US demonstrated that there were significant gaps between “the basic

knowledge about pediatric sleep and sleep disorders among pediatricians and in the translation of that knowledge into clinical practice."[10] In a recent review of pediatric sleep disorders, Stores G. also comments that "health education for parents and prospective parents often pays little regard to sleep."[11] Education about children's sleep should be part of the educational curriculum of healthcare providers during medical, nursing, psychology, social work, teaching and other relevant programs.

Research Context

The examples of "tips for parents" as provided in this paper are examples of information that can be provided to parents and caregivers to prevent and treat behaviourally-based insomnia. As described by Mindell and colleagues in the evidence-based review *Behavioral treatment of bedtime problems and night wakings in infants and young children* , previous studies have demonstrated that behaviourally-based sleep management strategies when compared to pharmacologic treatment are "often more effective, and may be more acceptable to both parents and practicioners."[12] However, there are many questions which remain unanswered about providing these "tips" or behaviourally-based interventions to parents and caregivers.

Key Research Questions

There are multiple sources of "sleep information for parents" in books, pamphlets, brochures, on the Internet, media presentations, parenting magazines etc. Research evidence documents that appropriate, timely parent education about sleep is important and effective. In the review previously mentioned by Mindell and colleagues, [12] 52 research studies were analyzed, which included five studies of more than 1,000 parents on Parent Education/Prevention Strategies. In these five studies, the aim was to evaluate whether parents benefited from receiving sleep education and prevention strategies during the prenatal period or the first 6 months of infancy. These studies are directly related to the first part of the theme of this paper; whether providing "tips" to parents can prevent sleep problems. The evidence provided by these five studies documents strong support for parent education/prevention as a strategy to prevent sleep problems in infants.[12]

Although there is evidence that providing education to parents about pediatric sleep is beneficial, there are many unanswered questions including but not limited to the following.

- What is the best method to deliver this information? Are individual sessions with parents better than delivering this information in a group?
- Who should deliver the information? Is it equally effective for a child psychologist, family practitioner, pediatrician, nurse, or other health care provider to provide information about sleep?
- What is the best format to deliver information to families about sleep? Is written information (a pamphlet, brochure or self-help book) more efficacious than delivering the information in person? What is the role of online learning modules?
- What is the role of providing this behavioural advice in addition to other treatment methods in a child with more than one sleep problem? Wiggs, in a review of the behavioural aspects of children's sleep, points out that multiple sleep disorders may coexist in one child and it may be necessary to use multiple forms of treatment to address individual sleep disorders.[10]
- What is the role of providing "tips" to parents of children with special needs? There are many unanswered research questions about the delivery of this type of education to parents of children with special needs who may have behaviourally-based insomnia as well as other sleep disorders.

Recent Research Results

It is increasingly recognized from research studies that "behavioural intervention can be used successfully to manage childhood sleepiness."[9] The previously cited recent review by members of a taskforce of the American Academy of Sleep Medicine (2006) outlined the evidence for the behavioural treatment of bedtime problems and night waking in infants and young children.[11] Strategies can be provided to parents both in a preventative manner, to encourage good sleep habits as well as for the treatment of behaviourally-based insomnia.[13-18]

There is also evidence that healthcare providers can help parents to improve sleep in children with autism and other developmental disabilities. In a recent publication by Reed and colleagues, education was provided to groups of parents of children with autism in a workshop format which lead to improvements in both subjective and objective measures of sleep.[19]

Conclusions

It is important and well recognized that healthcare providers should be aware of the resources available to educate families about sleep and sleep disorders in children. Health care providers

who are aware of the significance of sleep problems in children will be able to provide these “tips” to prevent sleep problems as well as to evaluate when sleep problems occur and recognize when behaviourally-based “tips” will improve children’s sleep. Recognizing behaviourally-based insomnia in children and providing non-pharmacologic behaviour strategies are important skills. Further research as to how to provide this information to health care providers will add to the knowledge of these treatment strategies.

Implications for Policies and Services

The frequency of children’s sleep problems and the impact these problems have on daytime quality of life of both the child and the family is well recognized. The provision of simple “tips” such as the examples provided in this chapter to both prevent problems in sleep from occurring as well as to treat behaviourally-based insomnia in children can be provided directly to parents or through their healthcare provider. Further research will be helpful to enhance the educational opportunities and curriculum of healthcare providers and determine the optimum method of delivering this information to families.

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Notes

[a] See also the American Pediatric Society / Society for Pediatric Research Website. Available at: http://www.aps-spr.org. Accessed February 27, 2013.

[b] See also the Canadian Pediatric Society Website. Available at: http://www.cps.ca/en/. Accessed February 27, 2013.