

ORIGINAL RESEARCH

Knowledge, Attitude, Practices, and Training of Pediatricians in India Regarding Sleep Disorders in Children: A Need to Wake Up!

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ABSTRACT

Introduction: Sleep disorders are prevalent in children. Pediatricians being the first point of contact for parents need adequate knowledge in the management of sleep disorders. This study was undertaken to understand the knowledge, attitude, practices, and training of pediatricians in India regarding sleep in children.

Methodology: About 510 pediatricians across India completed a 24-item web-based survey. The domains assessed included sleep physiology, infant sleep, obstructive sleep apnea (OSA), and parasomnias. The respondents consisted of general pediatricians (85.42%), pediatric pulmonologists (4.40%), and pediatric neurologists (1.39%).

Results: The mean knowledge score of the respondents was 54% ($\pm 17\%$). Pediatric pulmonologists scored above 90% in all questions compared with others. Only 203 (39.8%) respondents routinely asked questions regarding sleep patterns and sleep-related problems. About 22 (4.3%) respondents used a screening tool or sleep questionnaire in clinical practice, and 51 (10%) respondents were confident about managing sleep problems. About 19 (3.7%) respondents had referred a child for polysomnography (PSG). About 474 (93%) respondents said they did not receive any formal training in pediatric sleep medicine.

Conclusion: The knowledge and practices among pediatricians in India on pediatric sleep disorders were found to be poor, similar to studies in other countries. This study hence highlights the increased need for awareness and education among pediatricians in India in pediatric sleep medicine.

Keywords: Education, Healthcare, Pediatric, Sleep, Sleep lab.

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INTRODUCTION

Sleep is essential for both the physiological and behavioral processes in a child.¹ Inadequate sleep in children can impact memory, attention, cognition, behavioral patterns, and long-term growth and development.² The prevalence of sleep disorders in children is found to range from 12 to 15% in primary schoolchildren in a community survey and around 45.3% in a hospital-based study in India.^{3,4} Despite the evidence, it is seen that sleep disorders are given less importance by healthcare professionals across the world.⁵ Early recognition and treatment of sleep disorders in children are shown to have promising and proven efficacy.⁶ Pediatricians are often the first point of contact for parents, and hence their understanding and management of sleep disorders would make a significant difference in outcomes. This study was undertaken to understand the knowledge, attitude, practices, and training of pediatricians in India regarding sleep in children.

METHODOLOGY

About 720 pediatricians across India were contacted via email and telephone to fill out a web-based survey. The web-based survey consisted of a 24-item questionnaire to collect information regarding the participant's knowledge, attitude, and practice of managing sleep disorders in children. The knowledge domains assessed included sleep physiology, infant sleep, obstructive sleep apnea (OSA), and parasomnias. Open-ended questions were used

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to collect information regarding respondents' perceptions of the status of pediatric sleep practices in India and how they can be further improved. A total of 510 respondents completed the entire questionnaire and were included in the analysis. The respondents consisted of pediatricians (85.42%), pediatric pulmonologists (4.40%), pediatric neurologists (1.39%), and others (8.80%) with an equal gender distribution from across India. About 75.9% practiced in private hospitals, and 24.1% were either in a government hospital or teaching in medical colleges. Data were analyzed using SPSS Statistics, Version 22.0. Continuous variables are expressed as mean and standard deviation (SD), whereas percentages were used to summarize categorical variables.

RESULTS

Sleep Knowledge

The mean knowledge score of the respondents based on 10 knowledge-based questions was 54% ($\pm 17\%$). Pediatric pulmonologists scored above 90% in all questions compared to below 50% among most pediatricians. Questions on infant sleep were answered with more accuracy compared with other categories of sleep questions, as shown in Table 1. There was no difference in the score based on whether the respondent practiced in a medical college, private, or government hospital.

Attitudes

Only 203 (39.8%) respondents routinely asked questions regarding sleep patterns and sleep-related problems in a well-baby clinic or routine pediatric visit. The reasons stated for not taking a sleep history by others are shown in Table 2. Only 22 (4.3%) respondents used a screening tool or sleep questionnaire in clinical practice. On a confidence measure, only 55 (10.8%) respondents felt confident about screening for sleep disorders in children.

Practices

About 408 (80%) of respondents reported that less than 10% of the patients they saw on a daily basis had sleep issues. Among all respondents, only 51 (10%) respondents were confident about managing sleep problems and 31 (6%) of respondents regularly used melatonin for treating sleep issues in children. Only 19 (3.7%) respondents had referred a child for polysomnography (PSG). The reasons stated for not referring a child for PSG included respondents not being aware of when to refer (47.8%), not having access to PSG in their city (30.1%), never feeling the need (21%), or have never seen a child with significant sleep issues (14%).

Training

About 474 (93%) respondents said they did not receive any formal training in pediatric sleep medicine either through continued medical education, conferences, or in medical school. In the open-ended suggestions, a majority of the respondents suggested that formal training about sleep must be included during pediatric residency. It was also opined that knowledge and importance of pediatric sleep disorders should be emphasized through workshops and continued medical education for practicing pediatricians. Some respondents felt that awareness must be created among parents as well through discussions in a well-baby clinics and questionnaires.

DISCUSSION

The knowledge among pediatricians in India on pediatric sleep disorders was found to be poor, similar to studies in other countries. A Canadian study on pediatric healthcare workers showed that only 24% responded correctly on 50% or fewer of the items regarding pediatric sleep.⁷ In a US study, the mean total knowledge score in pediatricians was 18.1 (± 3.5) out of 30 items, with only 23.5% of them responding correctly to 50% of the items.⁸

Indian pediatricians, in our study, reported seeing fewer patients with sleep disorders (<10%) when compared with their Canadian colleagues (25–50%).⁷ This could be attributed to a lesser number of pediatricians (39.8%) asking questions on sleep or using a sleep questionnaire (4.3%) during routine visits, with only 10% of respondents confident to screen or manage sleep disorders in children when compared with their western colleagues (34%).

Table 1: Average score of correct responses for each of the knowledge-based questions in pediatric sleep

Sl. no.	Question	Average score of correct responses
1	What percentage of children suffer from sleep-related problems?	17%
2	Chances of recurrence of OSA after adenotonsillectomy are less than 3%	40%
3	The severity of OSA is graded based on the following index	42%
4	What is the total sleep requirement (for 24 hours) for a child aged 1–2 years?	48%
5	Which of the following statements is incorrect in the diagnosis of obstructive sleep apnea (OSA)?	50%
6	An infant should be put in the crib or bed when he/she is fast asleep and not when drowsy	64%
7	Restless leg syndrome can occur due to iron deficiency	64%
8	Which of the following is a sleep prop or sleep association that can prevent a baby from developing self-soothing skills?	69%
9	Hyperactivity is a common presenting complaint in children with OSA	72%
10	It is normal for young children to awaken briefly at the end of a sleep cycle (60–90 minutes).	73%

Table 2: Reasons for not taking a routine sleep history on well-baby or routine pediatric visits as stated by respondents (multiple answers allowed)

Sl. no.	Reason for not taking a sleep history	Percentage
1	Sleep problems not as important	3.1%
2	Takes too much time	14.4%
3	Not necessary due to low incidence of problems	17.5%
4	Do not feel comfortable asking about sleep	3.1%
5	Do not feel knowledgeable about sleep problems	35.5%
6	Sleep problems are not generally treatable	3.9%
7	If parents have a sleep problem, they will tell even without screening	52.9%

The reason for these attitudes and practices could be related to the lack of training and exposure in pediatric sleep among pediatricians. About 93% of respondents in our study agreed to have received no formal training in pediatric sleep, similar to their western counterparts.⁷

A significant number of pediatricians in our study did not refer patients for evaluation of sleep disorders or PSG. Although the unavailability of PSG facilities in the city was cited to be one of the reasons, the primary reason was, however, due to the lack of awareness on the diagnosis of sleep disorders or indications for further evaluation. Similar practices were seen in the United States

as well, where despite the availability of facilities, one-third of them never referred patients to a sleep clinic and over half never ordered an overnight sleep study.⁸ O Bruni et al.⁹ have further shown that there was no significant difference between pediatricians and child neuropsychiatrists in their attitudes and practices in pediatric sleep.

Physician education in sleep in general is dismal across the world with less than 2 hours of total teaching time in medical schools allocated to sleep and sleep disorders.¹⁰ This study hence further highlights the increased need for awareness and education among pediatricians in India on various aspects of pediatric sleep.

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