

Assessment of Sleep Disorders Among School Children

Vidhya Shankari N 

Assistant Professor, Department of Pediatrics, PK Das Institute of Medical Sciences, Vaniamkulam, Ottapalam, Kerala, India.

Abstract

Background: The aim is to assess sleep disorders among school children. **Subjects and Methods:** One hundred eighty school going children in age ranged 5-16 years of either gender who were found to have any kind of sleep disorders were included. Various sleep disorders such as insomnias, parasomnias, organic sleep disorders and day time symptoms etc. was recorded. **Results:** Age group 5-8 years had 25 boys and 30 girls, 9-12 years had 30 boys and 26 girls, 13- 16 years had 25 boys and 44 girls. A significant difference was observed ($P < 0.05$). Environmental and stress factors comprised of regular waking time in 17% sometimes and 83% often, regular bed time seen in 25% sometimes and 75% often, watching TV late night in 35% sometimes and 65% often, TV set in room in 32% sometimes and 68% often, noise in 14% sometimes and 86% often, light in 18% sometimes and 40% often, household smoking in 30% sometimes and 50% often, allergy in 50% sometimes and 20% often, infection in 45% sometimes and 35% often and family disturbances in 24% sometimes and 26% often and chronic illness in 2% sometimes and 7% often. A significant difference was observed ($P < 0.05$). **Conclusion :** Most common sleep disorder observed was insomnias, parasomnias, organic sleep disorders and day time symptoms. Environmental and stress factors such as watching TV late night, TV set in room, noise, light, household smoking, allergy, infection, family disturbances and chronic illness play an important role.

Keywords: Sleep Disorder, TV, School Children.

Corresponding Author: Vidhya Shankari N, Assistant Professor, Department of Pediatrics, PK Das Institute of Medical Sciences, Vaniamkulam, Ottapalam, Kerala, India.
E-mail: drvidhyashankari@gmail.com

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Introduction

Sleep disorders among children are quite common. They find it difficult to get up in the morning. It affects children, their siblings as well as their parents. Restlessness, daytime tiredness and irritability are common complaints. It is mainly seen in elementary school children. Various studies have found prevalence of 25%- 43%.^[1,2] Sleep inhabits a major portion of the childhood years, childhood sleep complications create a major parental fear. Behaviour change, mood problems are other concern for which parents bring their wards to physicians.^[3]

Many sleep problems in children are transient and self-limiting. It has been observed that few intrinsic and extrinsic risk factors such as chronic illness, difficult temperament and maternal depression may predispose some children to develop more chronic sleep disturbances.^[4] The long watching of television near sleep time induces difficulty falling asleep, sleeping few hours and bedtime resistance. All these factors contribute to great impact on child mental health as well as ability to learn. Poor grades and non-seriousness in studies are outcome of sleep disorders among children. Behavioral,

emotional, and cognitive dysfunction are also results of sleep disorders.^[5]

Preschool and school children with habitual snoring were more possible to have sleep-related daytime and night-time symptoms. Much attention has not been paid towards this problem, hence the impact is likely to be seen in children.^[6] Considering this, we attempted present study with the aim to assess sleep disorders among school children.

Subjects and Methods

A total of one hundred eighty school going children in age ranged 5-16 years of either gender who were found to have any kind of sleep disorders. The approval for this prospective study was obtained from review and ethical committee of the institute. Parental consent was obtained and from local guardians in case of unavailability of child's parent.

A questionnaire was prepared which focussed on sleep behavior, sleep environmental factors, sleep hygiene and daytime activities. Various sleep disorders such as insomnias, parasomnias, organic sleep disorders and day time symptoms

etc. was recorded. Results of the study was compiled and spread along MS excel sheet. Mann Whitney U test was employed for statistical analysis. p value less than 0.05 value was set as significant.

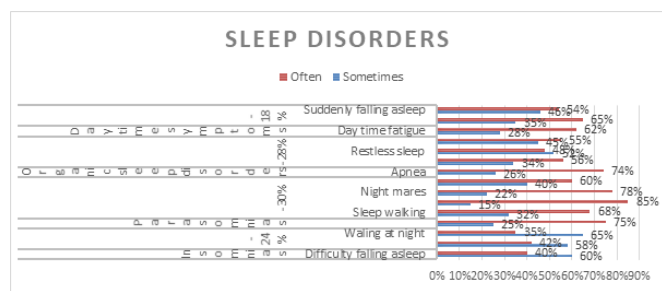
Results

Table 1: Distribution of patients

Age group (years)	Boys	Girls
5-8	25	30
9-12	30	26
13-16	25	44
Total	80	100

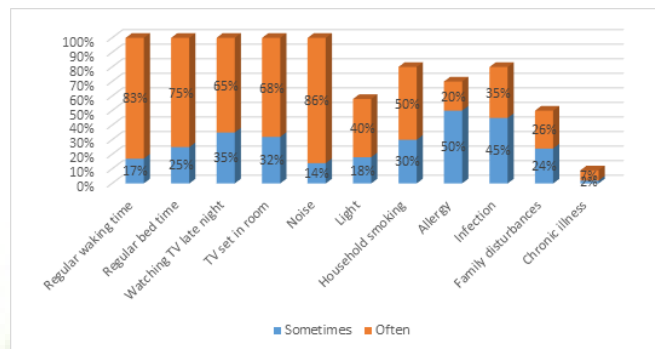
Age group 5-8 years had 25 boys and 30 girls, 9-12 years had 30 boys and 26 girls, 13- 16 years had 25 boys and 44 girls [Table 1].

There were 24% cases of insomnias, 30% parasomnias, 28% organic sleep disorders and 18% day time symptoms. 60% experienced difficulty falling asleep sometimes and 40% often. 58% had difficulty staying asleep sometimes and 42% often, walking at night was seen in 65% sometimes and 35% often. Night terror was experienced among 25% and 75%, sleep walking in 32% and 68%, enuresis in 15% and 85%, night mares in 22% and 78%, bruxism in 40% and 60% sometimes and often respectively. Apnea was experienced among 26% and 74%, snoring in 34% and 56%, restless sleep in 52% and 48% and perspiration in 45% and 55% sometimes and often respectively. Day time fatigue sometimes in 28% and often in 62%, mid- day nap in 35% and 65% and suddenly falling asleep in 46% and 54% sometimes and often respectively. A significant difference was observed (P <0.05) [Table 2, Figure 1].



Environmental and stress factors comprised of regular waking time in 17% sometimes and 83% often, regular bed time seen in 25% sometimes and 75% often, watching TV late night in 35% sometimes and 65% often, TV set in room in 32% sometimes and 68% often, noise in 14% sometimes and 86%

often, light in 18% sometimes and 40% often, household smoking in 30% sometimes and 50% often, allergy in 50% sometimes and 20% often, infection in 45% sometimes and 35% often and family disturbances in 24% sometimes and 26% often and chronic illness in 2% sometimes and 7% often. A significant difference was observed (P <0.05) [Table 3, Figure 2].



Discussion

Sleep is as essential to the human body as food and water. Insufficient sleep can also affect a child’s school performance and grades. It is one of the main reasons for increased risk of emotional problems such as depression.[7] Adequate sleep is important for optimum human health, and is needed for memory stabilization and consolidation. Children aged 5 – 12 years demand 10-11 hours of sleep. At the same time, there is an increasing demand on their time from school, sports and other extra-curricular and social activities.[8] In the same time school-aged children become more interested in TV, computers, the social media and internet as well as caffeine products – all of which can lead to difficulty falling asleep, nightmares and disruptions to their sleep.[9] Considering the impact of these activities on children sleep, we selected present study to assess sleep disorders among school children aged 5-16 years.

Our study showed that age group 5-8 years had 25 boys and 30 girls, 9-12 years had 30 boys and 26 girls, 13-16 years had 25 boys and 44 girls. Lehmkuhl et al,[10] included 1400 children who were subjected to special sleep questionnaire such as the SDQ, Strengths and Difficulties Questionnaire. 5% of the children were found to have difficulty falling asleep, difficulty staying asleep, or nocturnal awakening. Less frequent problems included parasomnias such as pavor nocturnus (0.5%), sleepwalking (0.1%), and frequent nightmares (1.7%). They found from the results of the study that sleep disorders increase the risk of daytime fatigue and of psychological problems in general, including both hyperactivity and excessive emotional stress.

Table 2: Various sleep disorders

Parameters	Variables	Sometimes	Often	P value
Insomnias (24%)	Difficulty falling asleep	60%	40%	>0.05
	Difficulty staying asleep	58%	42%	
	Waking at night	65%	35%	
Parasomnias (30%)	Night terror	25%	75%	<0.05
	Sleep walking	32%	68%	
	Enuresis	15%	85%	
	Night mares	22%	78%	
Organic sleep disorders	Bruxism	40%	60%	<0.05
	Apnea	26%	74%	
	Snoring	34%	56%	
	Restless sleep	52%	48%	
Day time symptoms	Perspiration	45%	55%	<0.05
	Day time fatigue	28%	62%	
	Mid- day nap	35%	65%	
	Suddenly falling asleep	46%	54%	

Table 3: Assessment of environmental and stress factors

Sleep hygiene parameter	Sometimes	Often	P value
Regular waking time	17%	83%	<0.05
Regular bed time	25%	75%	
Watching TV late night	35%	65%	
TV set in room	32%	68%	
Noise	14%	86%	
Light	18%	40%	
Household smoking	30%	50%	
Allergy	50%	20%	
Infection	45%	35%	
Family disturbances	24%	26%	
Chronic illness	2%	7%	

We observed that there were 24% cases of insomnias, 30% parasomnias, 28% organic sleep disorders and 18% day time symptoms. 60% experienced difficulty falling asleep sometimes and 40% often. 58% had difficulty staying asleep sometimes and 42% often, walking at night was seen in 65% sometimes and 35% often. Night terror was experienced among 25% and 75%, sleep walking in 32% and 68%, enuresis in 15% and 85%, night mares in 22% and 78%, bruxism in 40% and 60% sometimes and often respectively. Amintehran et al,^[11] included BEARS questionnaire used on 746 children (2-12 years old); 325 in pre-school age group (2-6 years old) (142 females [43.7%] and 183 males [56.3%]) and 421 in primary school-age group (7-12 years old) with the average age of 3.93 (±0.16) years and 9.63 (±0.16) years respectively. Excessive

daytime sleepiness was seen in 64.9% boys and 62.9% girls. Bedtime problems and also regularity and duration of sleep were significantly more prevalent in pre-school-age group (P<0.0001).

We observed that apnea was experienced among 26% and 74%, snoring in 34% and 56%, restless sleep in 52% and 48% and perspiration in 45% and 55% sometimes and often respectively. Day time fatigue sometimes in 28% and often in 62%, mid- day nap in 35% and 65% and suddenly falling asleep in 46% and 54% sometimes and often respectively. Aldeen et al,^[12] comprised of 600 subjects, 310 male and 290 female in age ranged 6 to 12 years. Children who rated as high risk for having sleep disorder displayed more sleep behaviour and waking during the night. It was found that

(25%) of children were at high risk for having at least one type of sleep disorder. High rates of sleep disorder symptoms were observed across all disorder categories, particularly in Excessive daytime sleepiness and Obstructive Sleep Apnea Syndrome.

We observed that environmental and stress factors comprised of regular waking time in 17% sometimes and 83% often, regular bed time seen in 25% sometimes and 75% often, watching TV late night in 35% sometimes and 65% often, TV set in room in 32% sometimes and 68% often, noise in 14% sometimes and 86% often. Gau et al,^[13] reported that girls sleep fewer hours than boys and do not show an increase in daytime sleepiness.

We observed that risk factors were light seen in 18% sometimes and 40% often, household smoking in 30% sometimes and 50% often, allergy in 50% sometimes and 20% often, infection in 45% sometimes and 35% often and family disturbances in 24% sometimes and 26% often and chronic illness in 2% sometimes and 7% often. Sleep disorders are on rise day by day. Factors such as night time TV, internet and social media play an important role.^[14]

The limitation present study is small sample size.

Conclusion

Most common sleep disorder observed was insomnias, parasomnias, organic sleep disorders and day time symptoms. Environmental and stress factors such as watching TV late night, TV set in room, noise, light, household smoking, allergy, infection, family disturbances and chronic illness play an important role.

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