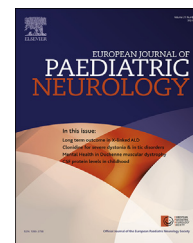




ELSEVIER

Official Journal of the European Paediatric Neurology Society



Original article

Characteristics of sleep in socially vulnerable adolescents



Lisie Polita Romanzini ^a, Aline Ávila dos Santos ^a,
Magda Lahorgue Nunes ^{b,*}

^a Graduate Program of Medicine and Health Sciences, Pontifícia Universidade Católica do Rio Grande do Sul, Brazil

^b School of Medicine and Brain Institute (BraIns), Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), Porto Alegre, RS, Brazil

ARTICLE INFO

Article history:

Received 23 June 2016

Received in revised form

20 December 2016

Accepted 29 December 2016

Keywords:

Sleep

Sleep disorders

Adolescence

Cognition

ADHD

Social inequity

ABSTRACT

Importance: This study may help understand the effects of an unfavorable environment in sleep quality of adolescents.

Objective: To investigate sleep quality in socially vulnerable adolescents, correlating the results with cognitive problems and attention deficit/hyperactivity disorder, and assessing the effectiveness of sleep hygiene and an educational intervention.

Design: Cross-sectional and interventional study.

Setting: an educational charitable center supported by a Catholic institution, in Porto Alegre, southern Brazil.

Participants: 125 male and female high school students.

Interventions: As first step the subjects were administered specific questionnaires, the Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS), followed by an educational activity that was combined with an unblinded, randomized interventional study. Next, a cross-sectional study was conducted to determine the influence of cognition and ADHD on the sleep. **Main outcome and measures:** Sleep was evaluated using PSQI and ESS. Cognitive assessment was based on the Wechsler Abbreviated Scale of Intelligence and ADHD by a clinical interview the Multimodal Treatment Study for ADHD (MTA-SNAP-IV).

Results: The average duration of sleep per night were 6 h 30 m. 80% of the sample presented sleep complains. Of these, 44% had excessive daytime sleepiness and 69.6% had poor sleep quality related to use of electronic media, environmental violence, and emotional issues. There were no significant associations between sleep problems and cognitive problems or ADHD. Sleep quality improved in 17% of the 53 students with previous sleep complains who participated in any of the two interventions.

Conclusions: A high prevalence of sleep deprivation and sleep complains was found in the study sample. The interventions showed some positive effects on the improvement of sleep quality.

© 2017 European Paediatric Neurology Society. Published by Elsevier Ltd. All rights reserved.

* Corresponding author. Av. Ipiranga 6690, Building 63-InsCer, Room103, 90610-000 Porto Alegre, RS, Brazil. Fax: +55 51 3384 7171.

E-mail addresses: lisiepolita@hotmail.com (L.P. Romanzini), dra.alinesantos@terra.com.br (A.Á. dos Santos), nunes@pucls.br (M.L. Nunes).

<http://dx.doi.org/10.1016/j.ejpn.2016.12.013>

1090-3798/© 2017 European Paediatric Neurology Society. Published by Elsevier Ltd. All rights reserved.

1. Introduction

According to the National Sleep Foundation, different sleep time duration ranges are recommended for each age group. A recent publication suggests 8–10 h of sleep daily for adolescents aged 14–17, and 7–9 h for young adults aged 18–25.¹

Children and adolescents have shown reduced amount of sleep and worse sleep quality in recent years.^{2,3} Key areas of development, such as cognition and behavior, are usually affected by chronic sleep deprivation.⁴

Sleep problems are often reported in adolescents. On one hand, their sleep pattern is more vulnerable to the influence of biological, environmental, and socio-cultural factors.⁵ On the other hand, adolescents are less affected by parental influence, whereas external influences, such as extracurricular and social activities, usually become stronger.³ Even though children and adolescents usually spend a lot of time in their bedrooms or lying in bed, they reduce the amount of sleep hours to engage in other activities of greater interest, such as use of electronic media (television, video games, and the Internet). These habits are related to increased sleep latency and shorter duration of sleep.^{6,7}

Sleep quality is also negatively affected by socioeconomic factors such as inappropriate living conditions.⁸ People living in areas with high levels of insecurity may have worse sleep quality.⁹ A study has demonstrated increased sleep quality after housing upgrading.¹⁰ In addition, adults with a disadvantaged socioeconomic status, particularly related to unemployment and low income, have been found to have insomnia-related symptoms.¹¹

Poor sleep quality has an impact on the regulation of key daily functions, such as behavior, emotion, cognition, and attention; thus negatively affecting academic performance.^{12–14} Previous studies have shown that sleep problems are often among the comorbidities most commonly associated with attention deficit and hyperactivity disorder (ADHD).^{15,16} According to other studies, 30% of children and 60–80% of adults with ADHD have symptoms of sleep problems, such as daytime sleepiness, insomnia, restless legs syndrome, and sleep-related breathing disorders.^{17,18}

Therefore, the objective of this study was to investigate sleep quality in socially vulnerable adolescents, correlating the results with cognitive problems and ADHD, and assessing the effectiveness of sleep hygiene and an educational intervention. The approach used in the present study may provide greater understanding of sleep problems among children and adolescents that lives in unfavorable environments and also may show the effects of social inequity in sleep quality.

2. Method

The study was divided into two phases with different designs: a cross-sectional study and an interventional study. The research was conducted in a city in southern Brazil during 2014. The participants were female and male high school students from an Educational Charitable Center supported by a Catholic institution. This school offers high quality education to socially vulnerable children and adolescents.¹⁹

The school is located in a very poor neighborhood, where there is a chronic lack of infrastructure, security, housing, and sanitation, in addition to one of the highest rates of social vulnerability in the city according to the 2007 Inclusion and Exclusion Map of the city. This area has a high unemployment rate, and its population has very low socioeconomic status and educational level. Students' families have the lowest per capita income per household in the city. Many people living in this community collect recyclable waste, and there is child labor. This district has high rates of violence because of the presence of heavy drug traffic in the area.²⁰

The inclusion criteria were: to be a high school student at the target institution, to be between 12 and 21 years old, to provide a signed consent form, and to complete the sleep scales administered in the beginning of the study. The subjects who refused to participate in the study activities, those diagnosed with clinical problems, and/or chronic diseases that interfere with the diagnosis of sleep problems were excluded from the study.

Sleep quality and excessive daytime sleepiness were assessed using the Pittsburgh Sleep Quality Index (PSQI)^{21,22} and the Epworth Sleepiness Scale (ESS),^{23,24} respectively. Patients with ESS score above 10 and/or PSQI score above 5 were considered as having sleep problems. The qualitative question (number 5J) from PSQI was used to analyze environmental aspects or other personal problems that had a negative effect on the subjective sleep quality. A clinical interview and The Multimodal Treatment Study for Attention-Deficit/Hyperactivity Disorder Swanson, Nolan, and Pelham, Version IV (MTA-SNAP-IV)^{25,26} was used to assess symptoms of ADHD, whereas the Wechsler Abbreviated Scale of Intelligence (WASI)^{27,28} was used to evaluate cognitive skills. All instruments have validated versions in Portuguese.

After receiving permission from the school board, the first approach was the application of ESS and PSQI to the students who provided signed informed consent forms. Next, an educational lecture on “Characteristics of sleep during adolescence” was given by a psychologist (LPR) to all students attending high school. This lecture provided information on the definition of sleep, its characteristics and importance, and sleep-related problems.

The study was then divided into two phases developed concomitantly. The first phase consisted of an educational activity combined with an unblinded, randomized interventional study to investigate the effectiveness of an educational approach to sleep hygiene. The second phase was a cross-sectional study to determine the influence of cognition and ADHD on the sleep of socially vulnerable adolescents. No control group was selected as all students lived in the same neighborhood.

2.1. Cross-sectional study

We conducted a cross-sectional study with students with and without sleep problems, according to results on the ESS and PSQI. During this phase, all adolescents were first evaluated by a pediatrician (AAS). Such evaluation consisted of clinical history and complete clinical examination including the Tanner scale to rule out other medical problems. Next, the subjects underwent cognitive assessment using the WASI,

Download English Version:

<https://daneshyari.com/en/article/5628800>

Download Persian Version:

<https://daneshyari.com/article/5628800>

[Daneshyari.com](https://daneshyari.com)