

**Abstract of the PhD thesis:  
Sleep disorders in children of school age**

Scientific Coordinator: Dr. Baghiu Maria Despina PhD

PhD student: Dr. Solyom Reka

The PhD thesis titled "Sleep disorders in children of school age" is composed of two major parts: the first part presents the general aspects (two chapters, 37 pages), and the second part contains the author's personal contribution, showing the result of four clinical studies, consisting of four chapters, 57 pages and 156 up to date reference titles.

Chapter 1 describes the general aspects of physiological sleep, sleep disorders.

Chapter 2 contains the classification of sleep disorders, epidemiology, frequent signs and symptoms associated with this pathology, different OSA screening methods and applicable therapies.

Chapter 3 presents the first results of a clinical study in Targu Mures among school-age children, namely, data on sleep habits, and the main signs and symptoms of sleep disorders. Children were evaluated with the use of my own designed questionnaires. The results demonstrate that these children have poor sleep hygiene followed by various possible side effects.

In Chapter 4 are described the results of another clinical study conducted on a group of school age children in Sfantu Gheorghe. The objective of the study was to detect the presence of symptoms that predict obstructive sleep apnea. We used the method of evaluation through questionnaires, the results being similar to those in Targu Mures.

Chapter 5 contains a comparison in terms of the sleeping time spent in school age children in Romania and Hungary. The evaluation was conducted using questionnaires. The differences observed between the two states in terms of the sleeping time may be due to differences in age. At the same time, can be considered as influencing factors and the socio-cultural, geographical location and the different time zone between the two countries.

Chapter 6 presents a clinical study, in which we correlated the data from the questionnaires, Epworth and Conners with polysomnographic examination. By this we tested the clinical applicability of the own conception questionnaire and its implementation in the clinical environment.

After completion of studies, the most important conclusions are included in a separate chapter (Chapter 7) entitled "Conclusions". These were the following:

- Assessments of sleep disorders can be made by various methods. The results depend, among others, on the definition of sleep disorder, the interrogated person (child or parent) and age. The sleep period, however, is a safe indicator for detecting complaints.
- Sleep disorders are a complex pathology that can have several causes both in children and in adults.
- These questionnaires coloborated with a polysomnography examination can give more valuable information that explicitly helps the pediatrician to detect the possible appearance of this pathology.
- Based on our surveys, we can say that the sleeping time spent in school-age children in Targu Mures is below the recommended values.
- Complaints about sleep are common in both groups. The nocturnal complaints dominate among small school children and the diurnal ones in adolescents.
- On understanding sleep disorders in childhood we can say that, both based on data from the international literature and based on our results, although it is quite a common pathology, currently is underdiagnosed.
- The presence of adverse effects on the long-term, high frequency of sleep-related complaints and the ability to prevent or treat these disorders suggest the importance of broadening the methods of investigation, diagnosis and therapy.
- For the children from Sfantu Gheorghe, the duration of sleep, both in school children and adolescents is below the recommended values in international literature. We found similar results to those in Targu Mures and in terms of negative factors influencing, such as excess use of TV and computer, food consumption and energy drinks before bedtime.

- The signs and symptoms described in children in the two cities may presignal the existence of a sleep disorder, but for an accurate diagnosis is necessary, in addition to questionnaires, polysomnographic investigation.
- The estimative scale estimates of symptoms gives us a broader picture regarding the presence or absence of sleep disorders in children.
- Conducting handled investigations in parallel with the questioning, we can provide more accurate data on the period of sleep.
- The patients examined in the polysomnography laboratory showed a significantly increased score unlike the surveyed children in the schools after processing the own conception questionnaires. At the same time, the estimated scale symptoms showed an eligible score eligible and consistent with the results of polysomnography.
- Following this study and correlating the results with previous studies, we can say that these questionnaires developed by the authors, have significant clinical utility in the diagnosis of OSA and can be used as a precursor of this diagnosis.

We believe that obtaining a mean score based on the questionnaires, indicate the need for polysomnography for diagnosis and efficient therapeutic plan.

However, we recommend the clinical application of these questionnaires in pediatric services, ENT that deal with the diagnosis and treatment of OSA.

The existence of a polysomnography laboratory at least in one university clinical center has its indication well supported by our complex study, which has a major importance for the diagnosis and treatment of obstructive or other etiology sleep disorders in children.

## **ABBREVIATIONS**

<b>OSA-</b>	Obstructive Sleep Apnoea
<b>MPS</b>	Mucopolysaccharidosis
<b>IR</b>	Respiratory insufficiency
<b>REM</b>	Rapid Eye Movement
<b>AD</b>	Autosomal Dominant
<b>TS</b>	Sleep disorders (Tulburări de Somn)
<b>AHI</b>	Apnea hypopnea index (Indexul de Apnee Hipopnee)
<b>EMG</b>	Electromiography
<b>EEG</b>	Electroencephalography
<b>RLS</b>	Restless Legg Sindrome (Sindromul Picioarelor Neliniștite)
<b>UARS</b>	Airway resistance syndrome
<b>RERA</b>	Respiratory Related Arousals
<b>CPAP</b>	Continuous Positive Airway Pressure
<b>EDS</b>	Excessive Daytime Sleepiness (Sindromul de somnolență diurnă)
<b>ORL</b>	Otorhinolaryngology