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ORIGINAL ARTICLE

Sleep disorders in children with moderate to severe persistent allergic rhinitis[☆]

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KEYWORDS

Sleep disorders;
Allergic rhinitis;
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Written questionnaire

Abstract

Introduction: Allergic rhinitis is associated with several complications, including sleep disorders. The Children's Sleep Habits Questionnaire has been recently translated and validated in Portuguese for the evaluation of sleep disorders in children.

Objective: To assess sleep disorders in children with moderate to severe persistent allergic rhinitis and to correlate the findings with disease severity markers.

Methods: We evaluated 167 children (4–10 years), 112 with allergic rhinitis and 55 controls. Parents/guardians of the children answered the Children's Sleep Habits Questionnaire, consisting of 33 questions divided into eight subscales, which refers to the previous week. Patients with rhinitis were also evaluated regarding the score of nasal and extra-nasal symptoms related to the previous week and the peak nasal inspiratory flow.

Results: There were no significant differences between groups of different age. All patients with rhinitis were being treated with nasal topical corticosteroids. The total Children's Sleep Habits Questionnaire score was significantly higher among children with rhinitis than in controls (median 48 vs. 43, $p < 0.001$). Significantly higher values were also observed for the parasomnia (9 vs. 8), respiratory disorders (4 vs. 3) and daytime sleepiness (14 vs. 12) subscales. Among the patients with rhinitis, no significant correlation was observed between the total Children's Sleep Habits Questionnaire score and disease activity variables, but moderate correlations were observed for the respiratory distress subscale vs. nasal symptom score ($r = 0.32$) and vs. extra-nasal symptom score ($r = 0.32$).

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PALAVRAS-CHAVE

Distúrbios de sono;
Rinite alérgica;
Crianças;
Questionário escrito

Conclusion: Children with moderate to severe persistent allergic rhinitis, even when submitted to regular treatment, have a higher frequency of sleep disorders than controls, particularly concerning nocturnal breathing disorders, daytime sleepiness, and parasomnias. The intensity of sleep disorders found in some subscales was correlated with objective markers of allergic rhinitis severity.

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Distúrbios do sono em crianças com rinite alérgica persistente moderada-grave**Resumo**

Introdução: A rinite alérgica está associada a diversas complicações, como por exemplo os distúrbios do sono. O *Children's Sleep Habits Questionnaire* (CSHQ) é um questionário para avaliação dos distúrbios do sono em crianças, recentemente traduzido e validado para o português.

Objetivos: Avaliar distúrbios do sono em crianças com rinite alérgica persistente moderada/grave e correlacionar os achados com marcadores de gravidade da doença.

Método: Foram avaliadas 167 crianças (4–10 anos), 112 com rinite alérgica e 55 controles. Todos os responsáveis pelas crianças responderam o (CSHQ) composto por 33 questões divididas em oito subescalas e referentes à última semana. Os pacientes com rinite foram avaliados também pelo escore de sintomas nasais e extra-nasais referentes à última semana e pelo pico de fluxo inspiratório nasal.

Resultados: Não houve diferenças significantes entre os grupos com relação à idade. Todos os pacientes com rinite vinham sendo tratados com corticosteroide tópico nasal. O escore total CSHQ foi significativamente maior entre os com rinite que os controles (mediana 48 vs. 43; $p < 0,001$). Valores significativamente maiores também foram observados para as subescalas de parassonias (9 vs. 8), distúrbios respiratórios (4 vs. 3) e sonolência diurna (14 vs. 12). Entre os pacientes com rinite não foi observada correlação significativa entre o escore total CSHQ e as variáveis de atividade da doença, porém correlações moderadas foram observadas para a subescala de distúrbios respiratórios vs. escore de sintomas nasais ($r = 0,32$) e vs. escore de sintomas extra-nasais ($r = 0,32$).

Conclusões: Crianças com rinite alérgica persistente moderada-grave, mesmo em tratamento regular, apresentam maior frequência de distúrbios do sono do que controles, particularmente em relação aos distúrbios respiratórios noturnos, sonolência diurna e parassonias. A intensidade das alterações do sono encontradas em algumas subescalas se correlacionou com marcadores objetivos de gravidade da rinite alérgica.

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Introduction

Data obtained by the International Study of Asthma and Allergies in Childhood (ISAAC) indicate that the prevalence of rhinitis symptoms in Brazilian schoolchildren and adolescents is 25.7% and 29.6%, respectively, and that of allergic rhinoconjunctivitis is 12.6% for children and 14.6% for adolescents.¹

Although allergic rhinitis is often viewed as a disease of lesser severity than asthma, it is capable of dramatically altering the patients' quality of life, as well as their performance, learning and productivity.^{2–7} In addition to symptoms themselves, the treatment regimen may be blamed for the discomfort reported by patients with allergic rhinitis, especially those with more severe forms.⁸

Sleep disorders, difficulty concentrating, decreased performance (school/work) and daytime sleepiness have often been reported by patients with allergic rhinitis, especially in the persistent forms.^{2–8}

The evaluation of the interference of allergic rhinitis on sleep has been the object of study by researchers; however, the use of objective methods, such as polysomnography, is very limited in population studies due to technical and practical difficulties. Thus, the development of questionnaires and assessment scales to be utilized in pediatric populations has been developed for use in larger studies.^{9–16} Among these, the use of the Children's Sleep Habits Questionnaire (CSHQ) is emphasized,¹⁷ the purpose of which is to assess sleep behavior in school-age children including the most common symptoms of sleep disorders in children, according

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