

# **ORIGINAL ARTICLE**





# Children's Sleep Habits Questionnaire – Infant Version $^{\star}$



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Received 14 November 2016; accepted 6 March 2017 Available online 23 August 2017

#### **KEYWORDS** Abstract Objectives: This study proposed a version of the Children's Sleep Habits Questionnaire for Infant sleep: infants under 12 months (CSHQ-I). Sleep problems; Methods: The sample was comprised of 299 infants, aged between 2 weeks and 12 months. Sleep questionnaire; Results: Exploratory factor analysis revealed four subscales: Bedtime Resistance, Sleep Anxiety, Children's Sleep Positive Sleep Habits, and Daytime Sleepiness. The CSHQ-I total scale presented good test-Habits Questionnaire retest reliability and internal consistency. The CSHQ-I also showed good concurrent validity, with significant associations found between the CSHQ-I total scale and subscales and a measure of infant sleep-wake behaviors. Conclusions: The present study suggested the CSHQ-I as a reliable instrument to assess sleep problems in infants during the first year of life. © 2017 Sociedade Brasileira de Pediatria. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/ 4.0/). PALAVRAS-CHAVE Questionário de Hábitos de Sono das Crianças - Versão de Neonatos Sono infantil:

Problemas de sono; Questionário de sono; Ouestionário de Hábitos de Sono das Crianças

### Resumo

Objetivos: Este estudo propôs uma versão do Questionário de Hábitos de Sono das Crianças para bebés com menos de 12 meses (CSHQ-I).

Métodos: Amostra composta de 299 bebés, com idades entre duas semanas e 12 meses. Resultados: A análise fatorial exploratória revelou quatros subescalas: Resistência em ir para a Cama, Ansiedade do Sono, Hábitos de Sono Positivos e Sonolência Diurna. A escala completa do CSHQ-I apresentou boa confiabilidade teste-reteste e consistência interna. O CSHQ-I também mostrou boa validade concorrente, com associações significativas encontradas entre a

🌣 Please cite this article as: Dias CC, Figueiredo B, Pinto TM. Children's Sleep Habits Questionnaire – Infant Version. J Pediatr (Rio J). 2018;94:146-154.

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https://doi.org/10.1016/j.jped.2017.05.012

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escala completa e subescalas do CSHQ-I e uma medida de comportamentos de sono-vigília dos bebés.

Conclusões: O presente estudo sugeriu o CSHQ-I como um instrumento confiável para avaliar os problemas de sono em bebés durante o primeiro ano de vida.

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# Introduction

Infant sleep problems are one of the most prevalent concerns of parents and clinicians, and 15% to 35% of Western children present a sleep problem during the first years.<sup>1-3</sup> The most common problems include frequent night wakings and resistance to initiate sleep.<sup>4-6</sup> Co-sleeping/bed-sharing and lack of parental agreement regarding infant sleep management are also reported by parents as sleep problems.<sup>5</sup> Moreover, studies suggested that sleep problems in early childhood tend to persist throughout life.1,5,7

The Children's Sleep Habits Questionnaire (CSHQ) was designed to identify sleep problems based on the International Classification of Sleep Disorders (ICSD-1).8 The CSHQ psychometric characteristics were analyzed in preschooland school-aged children, showing acceptable/good psychometric characteristics in several countries,<sup>8-12</sup> including Portugal.<sup>13</sup> Eight subscales were proposed: Bedtime Resistance, Sleep-onset Delay, Sleep Duration, Sleep Anxiety, Night Wakings, Parasomnias, Sleep-Disordered Breathing, and Davtime Sleepiness.<sup>8</sup> The CSHO was also suggested as a useful tool to assess sleep problems in children aged from 2 to 5.5 years, with the same eight subscales.<sup>14</sup>

The CSHQ has been used in several studies to assess children's and infants' sleep problems.<sup>15-20</sup> In a study with 4-month-old infants (n = 184), a factor analysis of the CHSQ found two subscales.<sup>18</sup> The first subscale contained items related with resisting sleep, and was termed Sleep Resist; the second subscale, labeled as Sleep Anxiety, included items related with anxiety about being alone. Although this study analyzed the factor structure of this instrument, to the best of the authors' knowledge the CSHQ psychometric characteristics were not fully explored in infants under 1 year of age and there is no validated version of the CSHQ for infants.

Other measures have been used to assess infant sleep problems. The Infant Sleep Questionnaire (ISQ)<sup>21</sup> and the Brief Infant Sleep Questionnaire (BISQ)<sup>22</sup> are some of the validated instruments. However, these instruments do not base infant sleep problems in a standardized classification system of sleep disorders.

A version of the CSHQ for infants will allow clinicians to identify sleep problems at an early age, based in a standardized classification system of sleep disorders, and allow researchers to conduct longitudinal studies on infant sleep problems development. This study proposed a version of the CSHQ for infants (CSHQ-I), based on the CSHQ version for preschool- and school-aged children. The reliability of the items of the CSHQ-I was also analyzed in infants aged 0-3 months, 3-6 months, and 6-12 months.

## **Methods**

#### **Participants**

The sample was comprised of 299 infants aged between 2 weeks and 12 months whose mothers completed the CSHQ.<sup>8</sup> Participants took part in a larger longitudinal study. Sample characteristics are presented at Table 1.

From the 299 mothers that completed the CSHQ at least once when their child was aged between 2 weeks and 12 months, 217 completed the questionnaire when the infant was aged between 2 weeks and 3 months (2-12 weeks, M = 5.08, SD = 3.58), 204 when the infant was between 3 and 6 months (13-25 weeks, M=14.78, SD=2.49), and 177 when the infant was between 6 and 12 months (26-52 weeks, M = 28.82, SD = 4.86). The CSHQ was completed in two timepoints by 103 mothers (34.4%), and by 98 mothers (32.78%) in three time-points.

No associations were observed between the infants whose mothers completed the CSHQ in the three time-points and the infants whose mothers completed the CSHQ only at one or two time-points regarding socio-demographic characteristics, except for gestational age ( $\chi^2$ [1] = 5.15, p = 0.023). The group that completed the CSHQ in three time-points presented a higher rate of full-term infants (gestational age > 37 weeks).

#### **Procedures**

This study received previous approval from the Ethical Commissions of all the institutions involved. At the third trimester of pregnancy, 583 women were contacted at two public hospitals in the Northern Portugal, informed about the purposes and procedures of the study, and invited to participate. Women who were not able to read or write Portuguese, multiple births, and with gestational complications were excluded from the study (7.7%). Those who agreed to participate (90.5%) signed an informed consent form.

The CSHQ was sent by email or post to the mothers when their infants were aged 2 weeks, 3 months, 6 months, and 12 months. From the 487 mothers who agreed to participate and signed the informed consent, 299 (61.4%) completed the CSHQ.

The authors of the CSHQ were contacted and after to their permission, the scale was translated into Download English Version:

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