

Integrative literature review: sleep patterns in infants attending nurseries

Revisão integrativa da literatura: sono em lactentes que frequentam creche
Revisión integradora de la literatura: sueño en lactantes que frecuentan guarderías

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ABSTRACT

Objective: To identify evidence available in the literature about sleep patterns of infants attending nurseries. **Method:** An integrative review of studies published in Portuguese, English or Spanish available in full text on LILACS, CINAHL, and PubMed databases. The following descriptors *sono*, *lactente* and *creches* or *berçários* (in Portuguese) and *sleep*, *infant* and *childcare* or *nurseries* were used for LILACS, CINAHL and Pubmed, respectively. Nine studies were selected and analyzed. **Results:** The main component explored in the studies about sleep pattern is the sleep position of the infants, due to its association with sudden infant death syndrome. The results pointed to the need to promote and develop written guidelines regarding behavioral practices to reduce the risk of this phenomenon. **Conclusion:** Evidence has identified sleep issues, mainly regarding the sleep position of the infant and the environment where the infant sleeps, showing that it is critical to set routines and interventions to improve the quality of sleep care of infants attending nurseries.

Descriptors: Nursing; Sleep; Infant; Nurseries; Child Health.

RESUMO

Objetivo: Identificar evidências disponíveis na literatura sobre o sono do lactente que frequenta creche. **Método:** Revisão integrativa de artigos publicados em português, inglês ou espanhol, disponíveis na íntegra nas bases LILACS, CINAHL e PubMed. Foram utilizados os descritores “sono”, “lactente” e “creches” ou “berçários” e “sleep”, “infant” e “childcare” ou “nurseries” para LILACS e para CINAHL e Pubmed, respectivamente, sendo selecionados e analisados nove estudos. **Resultados:** O principal componente explorado nos artigos acerca do comportamento do sono é a posição em que a criança dorme, haja vista sua associação com a síndrome da morte súbita infantil. Os resultados ressaltaram a necessidade de promoção e desenvolvimento de normas escritas quanto às práticas comportamentais para redução de risco desse fenômeno. **Conclusão:** As evidências identificaram problemas relacionados ao sono, principalmente em relação ao posicionamento da criança e ao ambiente em que dorme, sendo fundamental o estabelecimento de rotinas e intervenções, visando melhorar a qualidade do cuidado com o sono dos lactentes que frequentam creches.

Descritores: Enfermagem; Sono; Lactente; Creches; Saúde da Criança.

RESUMEN

Objetivo: Identificar evidencias disponibles en la literatura sobre el sueño del lactante que frecuenta guarderías. **Método:** Revisión integradora de artículos publicados en portugués, inglés o español, disponibles en su totalidad en las bases LILACS, CINAHL y PubMed. Fueron utilizados los descriptores “sueño”, “lactante” y “guarderías” o “cuarto de niños” y “sleep”, “infant” y “childcare” o “nurseries” para LILACS y para CINAHL y Pubmed, respectivamente, siendo seleccionados y analizados nueve estudios. **Resultados:** El principal componente explorado en los artículos acerca del comportamiento del sueño es la posición en que el niño duerme, en vista a su asociación con el síndrome de la muerte súbita infantil. Los resultados resaltaron la necesidad de promoción y desarrollo de normas escritas cuanto a las prácticas comportamentales para reducción de riesgo

de ese fenómeno. **Conclusión:** Las evidencias identificaron problemas relacionados al sueño, principalmente con relación al posicionamiento del niño y al ambiente en que duerme, siendo fundamental el establecimiento de rutinas e intervenciones, visando mejorar la calidad del cuidado con el sueño de los lactantes que frecuentan guarderías.

Descriptores: Enfermería; Sueño; Lactante; Guarderías; Salud de los Niños.

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INTRODUCTION

Early childhood is considered a crucial period for parents to start a sleep routine for infants and/or children, as sleeping well contributes to proper growth and development and provides security and confidence to the environment where the child lives. For infants, it is a phase of adaptation and learning about the world around them. Therefore, routine ensures that the provision of child care, especially when the child starts to attend a nursery.

Sleep is important during all stages of the life of children, since it has a regulatory role in their bodies. It is a basic biological need, and it is considered a mechanism of body protection⁽¹⁾. Changes in the sleep pattern of a child have direct effects on the child development, especially in the early stages of childhood, whose chronological age is based on developmental milestones. In addition, sleep disorders during the first years of a child's life are more severe and intractable⁽²⁾.

In the nursery stage, children aged 0 to 3 years stay between 4 and 12 hours a day in nursery institutions, presenting 1.2 to 3.1 naps throughout the day and considerable maturation vulnerability; therefore, an environment that can ensure the biological and social conditions for a healthy survival of these children is required⁽³⁾, including sleep pattern, emphasized in all stages.

In child education, Nursing can contribute to child care in nurseries, providing guidance to family members and educators, and specific health control interventions to support the development of a framework that allows full-time child care⁽⁴⁾. In this perspective, nurses are constantly seeking new scientific knowledge to provide improved care to patients in different care scenarios.

Nursing is art and science, whose essence and specificity are focused on providing care to human beings, involving their families and communities⁽⁵⁾. Then, nursing professionals are constantly in contact with the health/disease process of the population, acting on the protection, promotion, rehabilitation of human beings and disease prevention in an autonomous, full, holistic, and interdisciplinary way.

Based on the discussions promoted by the authors on the sleep theme and the importance of an integrative review for the development of knowledge in the field of Nursing, they decided to investigate, in relevant and updated literature, sleep patterns of infants attending nurseries to develop a consistent and understandable scenario seeking to acquire knowledge that may be incorporated into the nursing practice.

Evidence-based practice is an important tool because it combines studies of different methodologies that show results without affecting the epistemological connection of empirical studies included⁽⁶⁾. The knowledge produced in the area favors the clinical practice of nurses and reflects the development of future studies. In addition, it optimizes resources and ensures

a safe, patient-focused care based on interpersonal relationships that involve nursing, patient, family and community.

In the context of child assisted in nurseries, especially in terms of the sociocultural influence that this institution has in the children's sleep routine, this study aimed to identify evidence available in the literature regarding the sleep patterns of infants attending nurseries.

METHOD

This is an integrative review, whose study design is an important tool, as it allows the analysis of facts in the literature in a broad and systematic way and reveals scientific data produced by other authors⁽⁷⁾. It requires the same standards of rigor, clarity and replication used in primary studies⁽⁸⁾, and it is the most comprehensive methodological approach for literature reviews.

An integrative review comprises the following steps: definition of study theme and question; definition of eligibility criteria; selection of studies from scientific databases; evaluation of selected studies and critical analysis; categorization of studies; evaluation and interpretation of results; and data presentation using the integrative review structure⁽⁹⁾. Therefore, the following study question was defined: What is the scientific evidence of sleep patterns in infants who attend nurseries?

This study started by searching Health Sciences Descriptors (DeCS) through the Virtual Health Library (VHL); and the Medical Subject Headings (MeSH) of the National Library, to learn about the universal descriptors. Then, the following controlled descriptors were used, in Portuguese and English: "sono/sleep," "lactente/infant," and "creches or berçários/childcare or nurseries."

The following inclusion criteria were defined: studies published in full text, electronically available in Portuguese, English and/or Spanish, whose results were related to aspects of sleep patterns of infants attending nurseries or other units with the same purpose, such as family homes for child care. Editorials, letters to the editor, dissertations, theses, reports of experience, and reflective studies were excluded. It should be noted that no limit was defined for years of publication to cover as many studies as possible.

In June-July 2014, the bibliographic review was orderly conducted on three databases: Latin *Literatura Latino-Americana em Ciências de Saúde* (LILACS), Cumulative Index to Nursing and Allied Health Literature (CINAHL), and PubMed portal.

The six studies selected from PubMed were excluded because they were repeated on the CINAHL database, leading to nine studies that comprised the sample.

Data were collected in two stages. The first consisted of an advanced search on the databases, with details of study quantities: LILACS, 4; CINAHL, 85; PubMed, 1,410; totaling 1,499 studies. After the study selection and identification process according to

the inclusion criteria, previous reading of all titles and abstracts, 15 studies were selected, as follows: LILACS, 2; CINAHL, 7; and PubMed, 6. In the second stage, full text reading was conducted, and six studies were excluded, as they were repeated on one of the databases. Therefore, duplicate studies were computed only once, resulting in a sample of nine studies.

After reading each study again, an instrument was filled out with the following information: title, authors, journal, country, language, year of publication, objectives, methodology, and study results, highlighting the methods of sleep evaluation, which are summarized in Chart 1 and 2.

RESULTS

Charts 1 and 2 show an overview of all nine studies selected, highlighting their characterization, methodologies and results.

Of the nine studies selected, eight were from foreign journals and one from a national journal. None of the articles were from nursing journals; however, one of the studies had a nurse as its author. Seven articles were available in English; one in Spanish; and one in Portuguese.

Although no temporal restriction had been defined to study search and inclusion, the topic in question is a recent discussion in the literature, from 1997 to 2011. In addition, the interest in this field of research is concentrated in the United States, as six studies were from this country, and the others were from Chile, Brazil, and Canada.

Regarding the study design, most of them (six studies) were cross-sectional studies; in addition, two were interventional and one was descriptive, and they were classified by levels of evidence according to the Oxford Centre for Evidence-based Medicine – Levels of Evidence⁽¹⁹⁾, as levels 2, 2 and 5, respectively.

Chart 1 – Distribution of references included in the integrative review, according to LILACS, CINAHL and PubMed databases, organized according to the publication year, 2016

Study/year journal	Study type/sample	Objective(s)
Study 1 ⁽¹⁰⁾ , 1997 <i>Pediatrics</i>	Cross-sectional 131 nurseries	<ul style="list-style-type: none"> • Identify the existence of written guidelines about sleep position of children in government-licensed nurseries; • Determine the prevalence of prone position during sleep of children in nurseries; • Identify reasons for choosing the sleep position of children in child care settings; • Evaluate the results based on the recommendations of AAP issued in 1992 regarding the sleep position of children.
Study 2 ⁽¹¹⁾ , 2000 <i>Pediatrics</i>	Cross-sectional 172 nurseries	<ul style="list-style-type: none"> • Determine the efficacy of a national public campaign launched in 1994: BTS, based on the knowledge of caregivers from nurseries regarding APA's recommendations for sleep position of children and inclusion of such recommendations in their practice.
Study 3 ⁽¹²⁾ , 2001 Revista Chilena de Pediatría	Descriptive 91 nurseries	<ul style="list-style-type: none"> • Learn about the conducts adopted by some nurseries regarding the sleep position of children.
Study 4 ⁽¹³⁾ , 2001 <i>Ambulatory Pediatrics</i>	Cross-sectional 400 nurseries and 400 family homes of child care	<ul style="list-style-type: none"> • Evaluate the knowledge and use of ECELS among caregivers of children in Pennsylvania; • Compare users and non-users of ECELS in terms of concern about health, preferences when seeking advice about sleep position of children; • Evaluate the ECELS user satisfaction.
Study 5 ⁽¹⁴⁾ , 2002 Revista Brasileira de Crescimento e Desenvolvimento Humano	Cross-sectional 1 nursery	<ul style="list-style-type: none"> • Describe the behavior of children aged 4 to 24 months during the nursery routine, such as: arrival, sunbathe, diaper change, bath, sleep, free activity, contact with other children, departure from nursery.
Study 6 ⁽¹⁵⁾ , 2003 <i>Pediatrics</i>	Descriptive and cross-sectional 110 nurseries	<ul style="list-style-type: none"> • Determine whether night nurseries: <ul style="list-style-type: none"> – follow the BTS recommendations; – are aware of what is required to ensure a safe sleep environment; – have written guidelines for sleep position to reduce the sudden infant death syndrome risk.
Study 7 ⁽¹⁶⁾ , 2003 <i>Pediatrics</i> .	Interventional 96 nurseries	<ul style="list-style-type: none"> • Determine whether an educational program for child caregivers on the sudden infant death syndrome and safe sleep environment is efficient in terms of: <ul style="list-style-type: none"> – providing basic information and proper understanding of how to reduce sudden infant death syndrome risk; – promote behavioral changes of child caregivers; – promote the development of written guidelines for sleep positions.
Study 8 ⁽¹⁷⁾ , 2008 <i>Pediatrics</i>	Interventional 190 nurseries and 74 family homes of child care	<ul style="list-style-type: none"> • Evaluate the efficacy of a training model and the curriculum of a demonstration project from the AAP to change knowledge, attitude and (informed and observed) practice of child caregivers in terms of safe practices of child sleep.

To be continued

Chart 1 (concluded)

Study/year journal	Study type/sample	Objective(s)
Study 9 ⁽¹⁸⁾ , 2011 <i>Child: care, health and development</i>	Cross-sectional 58 toddlers	<ul style="list-style-type: none"> • Understand the regulation of sleep and behavior in the perspective of parents and child caregivers. • Analyze the association between a nap in the nursery, bedtime and child behavior.

Note: Academia Americana de Pediatria (AAP); Back to Sleep (BTS); Early Childhood Education Linkage System (ECELS)

Chart 2 – Distribution of main results from selected studies, 2016

Study	Main results
Study 1 ⁽¹⁰⁾	<ul style="list-style-type: none"> • Only 57% (75) of the nurseries were aware of the recommendations for child sleep position; • Prevalence of infants placed in prone position at sleep time: always, 20%; sometimes, 29%; never, 51%; • 75% of the nurseries did not have written guidelines regarding sleep position; • Main reasons to place the child in ventral decubitus position at sleep time: child comfort, fear of asphyxia, request of child's parents; • Only 51% of the study nurseries fully observed the AAP's recommendations regarding sleep positions; • The nurseries that exclusively used the prone position had a mean number of children significantly lower when compared to those that used this position only sometimes or never.
Study 2 ⁽¹¹⁾	<ul style="list-style-type: none"> • 75% of the nurseries were aware of the recommendations for child sleep position; • The infants were placed in the prone position in 27.9% of the institutions, 2.9% of them were placed exclusively in this position; • The most common reasons to avoid the prone position were: reduced infant sudden death risk and existence of licensing; • 50% of nurseries had written guidelines regarding sleep position; • Twenty nurseries were aware of the risks of prone position at sleep time remained placing the children for a while in this position, especially due to a request of parents; • Only 56.9% of nurseries had heard of the BTS campaign, despite mass dissemination; • The campaign results led to changes in the guidelines of 14 nurseries.
Study 3 ⁽¹²⁾	<ul style="list-style-type: none"> • 69% (63) reported having guidelines regarding infant sleep position, but only 22% were written guidelines; • 62% (39) set non-prone position and 38% (24) admitted or recommended the prone position; • In 63% (57) of the nurseries, there were children who slept in the prone position, and in 19% (17), all children slept in the same position.
Study 4 ⁽¹³⁾	<ul style="list-style-type: none"> • 88% of 400 nurseries and 71% of 400 family homes of child care had heard of ECELS and, of these, 83% of nurseries and 86% family homes of child care had used some ECELS service in the last 12 months; • 365 of the units answered to questions about the usual child sleep position; • Prevalence of infants in supine position at sleep time: 45%; lateral decubitus: 9%; prone: 5%; 40% reported combined positions; • Among the ECELS users and non-users, no significant different was observed in habitual child sleep position; • The ECELS users who did not adopt the supine position for children were more prone ($p=0.02$) to have written guidelines for the proper sleep position when compared to the ECELS non-users who used the same position; • 46% of the ECELS users had guidelines for sleep position versus 28% of non-users ($p=0.02$); • None of the units that had written guidelines for child sleep position reported the habit of placing children in the prone position at sleep time; • Child care providers were satisfied with the ECELS model.
Study 5 ⁽¹⁴⁾	<ul style="list-style-type: none"> • During 4 to 6 months of age, changes were observed in the child sex and place to sleep: for male children, baby carriage/criadle predominated as the place to start sleeping; and for female children, the cradle/enclosure; • 100% of children aged 9 to 22 months, of both sexes, sleep in enclosures, and aged 23 and 24 months, on small mattress; • The sleep is calm (98%) and of normal duration; • When the children wake up, most show a behavior to entertainment (play).
Study 6 ⁽¹⁵⁾	<ul style="list-style-type: none"> • In 20% of the nurseries, the children slept in the prone position, but in one nursery, the children were placed exclusively in the prone position; • The children slept in cradles in 53.6% of the nurseries, but the sleep environment was organized and net in only 18.2% of the nurseries; • Smoking was prohibited in 86.4% of the nurseries; • The most frequent reason to avoid the prone position was the reduced risk of infant sudden death syndrome; • 10 nurseries still placed the children in the prone position, at least sometimes, due to a request of the child's parents or for the child comfort; • 59% of the nurseries had written guidelines for sleep position; however, such fact was not associated with the change from the prone position during child sleep; • In more than one third of the nurseries that had written guidelines for sleep position, the caregivers were not aware of the content of such guidelines.
Study 7 ⁽¹⁶⁾	<ul style="list-style-type: none"> • After an intervention, the adoption of exclusive supine position by the caregivers increased from 44.8% to 78.1%; • Six months after the intervention, 85% of the institutions kept the change to the supine position; • The recognition of the recommended supine position as an option to infants increased from 47.9% to 78.1%, and 67.7% of the nurseries kept recognizing the supine position as the recommended sleep position, six months after the intervention; • The existence of written guidelines for sleep position increased from 18.8% to 44.4%.

To be continued

Chart 2 (concluded)

Study	Main results
Study 8 ⁽¹⁷⁾	<ul style="list-style-type: none"> • The recommendation of the supine position increased from 59.7% (both groups) to 64.8% (control) and 80.5% (intervention); • The exclusive use of the supine position increased from 65.0% to 70.4% (control) and 87.8% (intervention); • The observed supine position increased from 51% to 57.1% (control) and 62.1% (intervention); • After the treatment, a statistically significant reduction was observed in the use of objects next to the child, such as pillows and baby rattles, in the control group; and pillows, baby rattles, toys and blankets in the intervention group; • The presence of written guidelines for sleep position increased from 32.1% to 54.4% in control sites and 54.9% in intervention sites; however, this change was not statistically significant.
Study 9 ⁽¹⁸⁾	<ul style="list-style-type: none"> • Sleep problems were reported by the parents while answering the questionnaire (indicated by score ≥ 12 in the ISQ for 38% of the children); • A significant association was observed between sleep problems (changed score in the ISQ) in children of maternal age in a report of somatic complaints of children, withdrawn and internalized behavior; • The active contact of parents with the children at bedtime was associated with difficulty sleeping alone and other problems related to night awakening, according to the ISQ scores.

Note: Academia Americana de Pediatria (AAP); Early Childhood Education Linkage System (ECELS); Infant Sleep Questionnaire (ISQ).

The nursery population ranged from one⁽¹⁴⁾ to 190⁽¹⁷⁾ children. Two studies included^(13,17), besides the nurseries, family homes for child care, which was considered an environment for child care provided at home. These, in turn, when compared to nurseries, typically involve lower costs, more personalized care and more flexible times, often including the option night and weekend care. However, night and weekend care is also offered by nurseries. In this review, one study was conducted in 110 night nurseries.

In relation to children, they aged 0 to 36 months, since one of the articles evaluated children aged 12 to 36 months. Of the studies, three analyzed children younger than 6 months only; and one study evaluated children aged 0 to 3 years. Regarding study n° 9⁽¹⁸⁾, it was not excluded because the infant, in the Brazilian context (0 to 2 years old), was included in the toddler age group (0-36 months of age).

The subjects interviewed in almost all studies (eight) were the nursery directors/caregivers. In only one study, the parents, directors, and caregivers were investigated.

Regarding the results of the studies, most (eight studies) of the institutions knew or adopted some written recommendations for infant sleep; however, the prone position was still used in nurseries or family care units. Another study focused on the prevalence of sleep problems in the children investigated (38%) and their association with parental interventions during child sleep.

DISCUSSION

The theme of child sleep in nurseries related to the issue of environment safety and the relationship with sudden infant death syndrome was frequently identified in the selected literature. This fact is justified by the high prevalence of the phenomenon in child care settings, as indicated in the study⁽²⁰⁾, which reports 20% of sudden infant death syndrome during sleep in child care settings. A study conducted in the United States, investigating 1,916 cases of sudden infant death syndrome, found that 20.4% of these deaths occurred in child care settings⁽²¹⁾. Therefore, the risk of sudden infant death syndrome is extremely high during sleep in daycare settings⁽²²⁾.

Consistently, the child position during sleep is considered the main variable in question, discussed by seven of the nine studies evaluated. Concerning the environment and the context of

infant sleep, the following practices were pointed out as unsafe: exposure to smoke; prone position during sleep; sleep on surfaces that are not firm; use of pillows, blankets and toys near the child. This is justified by sleep habits, and the ventral position is the main risk factor for sudden infant death syndrome⁽²³⁾.

For some authors, infant death related to sleep remains a serious public health problem; however, a number of interventions have been implemented to increase adherence to safe recommendations⁽²⁴⁾. The study recommends the dorsal decubitus position up to one year of age to reduce the risk of sudden infant death syndrome, and states that it does not increase the risk of asphyxia and aspiration in children, not even in those with gastroesophageal reflux, provided the child has no upper airway disorder that prevents the effective action of natural airway protection mechanisms⁽²⁵⁾.

In a study conducted in Portugal with 94 children under one year of age and their caregivers, 58.4% of the interviewed mothers preferred to place the child in the lateral decubitus position at sleep time, and the main reasons was that parents considered it safe or had been advised by a health professional. Only 38.2% of the interviewees place the child in the supine position after receiving professional guidance. In addition, the practice of sleeping in the same room, co-sleeping, and the presence of objects near the child at sleep time were also frequently mentioned (89.9%, 56.2%, and 67.4%, respectively)⁽²⁶⁾.

Seven studies evaluated the existence of written guidelines on the sleep position and showed low percentages of nurseries with those guidelines in place^(10-11,13,15-18). Regardless of the existence of such guidelines, it is important to explain about the sudden infant death syndrome and highlight the preventive measures that are considered important by the caregivers of children, favoring the dorsal decubitus as the ideal position during infant sleep. This premise is possible considering the evidence of two interventional studies that showed the positive effect of implementing educational programs for child care providers about improvements in the sleep environment⁽¹⁶⁻¹⁷⁾.

Nevertheless, three other studies^(10-11,15) highlight the fact that caregivers say they place the children in the prone position because their parents request that, which reinforces the need to invest in health education process and programs to parents, caregivers and family members about the risk factors

for sudden infant death and prevention measures, especially regarding the proper child sleep position.

Of the studies analyzed in this review, only one addressed the prevalence of changes in infant sleep pattern, using specific instruments, including the Infant Sleep Questionnaire (ISQ). The authors evaluated the child sleep problem according to the maternal perception and with a set of items that determine, by means of a score, possible changes in the sleep pattern of the evaluated children⁽¹⁸⁾.

Regarding sleep evaluation instruments, a study conducted in Portugal with 107 preschool children and 122 school children using the Portuguese Children's Sleep Habits Questionnaire identified a global prevalence of sleep problems in 75.7% of the evaluated children, and an average score for the instrument of 47.05 points. Comparatively, sleep problems identified among preschool children were higher than in school children; the main ones were: bedtime resistance, difficulty falling asleep alone, needing a parent in the room and starting sleep in their bed, and the presence of nocturnal awakenings and the frequency with which they occur⁽²⁷⁾.

Study limitations

The study limitations refer to the sample, as only freely available online studies were included.

Contributions to the field of Nursing, public health or policies

Considering sleep essential for child health, the interventions should be performed by institutional caregivers, family members and health professionals, particularly the nurses working in childcare, given this professional is one of the main links between the patient and the health institution, regarding health promotion actions to clarify and provide proper practices for the full development of child sleep and prevent future sleep disorders or even early deaths.

The evidence and information that have been identified in this review support the planning of public health policies that address sleep needs of infants in nurseries, which are crucial for reducing changes in child health.

FINAL CONSIDERATIONS

When discussing sleep issues of infants attending nurseries, the focus is on recommendations regarding measures and positions for a safe sleep environment aiming to reduce infant sudden death syndrome, and on the sleep position. Although child care institutions know about sleep recommendations, those that adopt these directions or have some type of written guideline for professionals are still very limited, leading to inadequate practices due to the requests of parents.

However, it is important to perform the evaluation of characteristics related to sleep patterns of children attending nurseries, since, in the first years of life, these factors can strongly influence sleep, that is: the family context in which the child is inserted; sleep habits adopted at home and at school by caregivers; the sleep duration required by each child, considering the diversity of the child needs; and the knowledge related to the rhythm of each child, considering the range of factors that can influence sleep in the infant and that are interconnected to the process of temporal and structural organization of sleep in two different environments: the home and the nursery.

In addition, other relevant aspects related to the sleep environment in which the child is inserted are: the quantity of objects placed next to the child at the moment of sleep; the place where the child sleeps; the presence of smokers; and the organization of the place where the child sleeps. All these, associated with intrinsic and other behavioral factors, such as sleep position, can directly influence the quality of infant sleep.

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