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ORIGINAL ARTICLE

PARENTS' KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING SLEEP IN BABIES DISCHARGED FROM THE NEONATAL UNIT

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ABSTRACT

Objective: to compare parents' knowledge, attitudes, and practices regarding the sleep of babies discharged from the Neonatal Unit, before and after the application of an educational booklet with variables related to hospitalization and the child's sleep. **Method:** quasi-experimental, single group, before and after study, conducted in a specialized pediatric outpatient clinic with 50 parents of children discharged from the neonatal unit in 2020. Data collection took place at two moments: application of the instrument with sociodemographic, perinatal, and neonatal variables; application of the pre-test: Knowledge, Attitude, and Practice (KAP) survey: individual reading of the educational booklet by participants. 2) Application of the post-test via telephone call: KAP survey. **Results:** Most were mothers of preterm children (82%). The intervention increased parents' knowledge, attitude, and practice scores on all instrument items, highlighting changes in sleep timing and location. The length of hospital stay and time spent in the unit showed higher averages in terms of parents' knowledge. Knowledge and practice, before and after the CAP survey, showed statistically significant values ($p<0.05$). **Conclusion:** The use of the educational booklet promoted the acquisition of knowledge, attitudes, and practices among parents, as evidenced by the increase in scores after its implementation.

Keywords: Knowledge. Sleep. Parents. Child. Neonatal Nursing.

INTRODUCTION

Sleep in children plays a significant role in regulating emotions and in cognitive and physical maturation [1]. It is during the deep stages of sleep, for example, that essential hormones are released, such as somatotropin, which stimulates the development of muscle mass and bones, leptin, which regulates hunger, and proteins that activate the immune system[2].

Severe full-term and preterm babies require hospitalization in a neonatal unit and assessment of their sleep behavior, as this may be affected by the characteristics of the unit itself. Upon discharge from the hospital, these babies will experience new routines in the home environment, including sleep. Parents will need guidance and advice on promoting and maintaining healthy sleep habits. In this context, the shared responsibility of healthcare professionals and families is essential to minimize problems and increase protective factors for infant sleep[1]. Caregivers of newborns should always be attentive to improvements in these children's sleep patterns[3].

Therefore, for parents to make decisions that promote quality sleep, they need support and guidance on the amount of sleep their child needs, how to recognize signs of good or poor sleep quality, and how to implement hygiene practices that support healthy sleep for their child [4].

In addition to the influence of external factors, such as the environment, lighting, and sleeping location, parents' knowledge, attitudes, and practices regarding sleep are also associated with children's sleep. Thus, parents' work schedules

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influence their own sleep routines, especially when caring for children with special health needs [5].

Extrinsic factors related to sleep disorders in children can be identified in those with special health needs, such as those with cerebral palsy, who are discharged from the neonatal unit. Added to this are the parents' employment/occupation status, bed sharing, and the parents' own sleep problems[6]. Other factors that stand out include educational level, income, parents' sleep habits, and ethnic culture[7], among others, which require further study to determine their relationship with children's sleep practices.

It is important to note that cultural issues and social expectations, which may or may not be considered appropriate, strongly influence parents' sleep behavior, particularly the amount of sleep needed and the decision to bed-share with the baby. Therefore, it is essential to evaluate parents' cultural practices when guiding children's sleep, since even practices that are no longer recommended for safe sleep, such as sharing a bed with a child at bedtime, may persist depending on the region where the family lives[8].

An educational booklet on infant sleep was used to assess parents' knowledge, attitudes, and practice before and after the application of this educational tool. The study aimed to compare parents' knowledge, attitudes, and practices regarding babies' sleep before and after the application of the educational booklet, with variables related to hospitalization and the child's sleep.

METHOD

This is a quasi-experimental study with a single before-and-after group, conducted at a specialized pediatric outpatient clinic at a leading public institution in northeastern Brazil. The quasi-experimental approach is used when the researcher is unable to implement a control group or randomize study groups[9].

Sampling was conducted for convenience and included 50 parents of children discharged from the neonatal unit of a public maternity hospital in Fortaleza, Ceará, who were treated from November 2019 to March 2020 at the study's outpatient clinic.

The inclusion criteria established were: being the father or mother of a child discharged from the neonatal unit; being present on the day of the consultation/appointment at the outpatient clinic; being considered the child's primary caregiver; sleeping with the child at night; having a landline or mobile phone that could be contacted; being literate, in other words, having at least four years of schooling[10]; residing in the city of Fortaleza-Ceará (Greater Fortaleza region).

Parents of children with biological or pathological disorders (cerebral palsy, autism, epilepsy, or children of drug users) were excluded, as these pathological conditions influence sleep and rest periods; parents with hearing impairments were also excluded. The discontinuity criteria included: 1) withdrawal of the father or mother from participating in the late post-test; 2) failure to answer the phone after three attempts on consecutive days to respond to the late post-test; 3) death of the parents or child.

Data collection took place in two stages. The first stage took place in a private room at the specialized pediatric clinic and consisted of: a) administering the instrument/form with sociodemographic variables, perinatal and neonatal data; b) administering the pre-test: KAP survey; c) participants reading the educational booklet "Caring for Your Child's Sleep" individually. The second stage was the administration of the late post-test KAP survey by telephone.

The data collection form was divided into two parts: one for pre-testing and the other for post-testing.

The first part concerns the characterization of participants (sociodemographic data: name, age, gender, marital status, education, income, occupation, housing type, number of rooms, number of people living in the house, and where the child sleeps). Information on the child's characteristics (chronological age, corrected age, length of stay in neonatal units, feeding, sleeping habits), whether they had received any guidance on sleep in the maternity/neonatal unit, by which professional, telephone contact, and WhatsApp were also requested from the parents.

The second part of the form refers to the pre-test and post-test, with questions on the KAP survey topic. The KAP survey-type form consists of seven questions related to the domain of knowledge: four on attitudes and one on practice, regarding the actions parents take to promote the quality of their child's sleep. A total of 18 points is awarded for correctly answering the questions.

Each criterion in each domain was assigned a value of 1 point. Thus, the score in the knowledge domain can range from 0 to 7 points (adequate knowledge: 7 to 4 points; inadequate knowledge: ≤3 points): attitude can range from 0 to 4 points (adequate attitude: score between 2 and 4 points; inadequate attitude: ≤1 point); while practice can range from 0 to 7 points (adequate practice: 7 to 4 points; inadequate practice: ≤3 points), as shown in Chart 1.

The KAP (Knowledge, Attitude, and Practice) survey, in turn, allows us to measure the population's knowledge, attitudes, and practices regarding a given subject. Identifying the study topic and selecting the group(s) participating in the research are the starting points for a KAP study—in the specific case of this study, children's sleep. The concepts related to the definitions of knowledge, attitude, and practice (KAP) were taken from a manual that deals with the collection of quantitative data using the KAP survey[11].

To address children's sleep, the material used was an educational booklet entitled "Caring for children's sleep," developed through a literature review by some of the authors of this study, who wrote a scientific initiation report for a PIBIC/CNPq scholarship and an undergraduate thesis in Nursing.

Chart 1. Classification criteria for knowledge, attitude, and practice regarding children's sleep.

Knowledge	Attitude	Practice
Parents know the importance of sleep for children. Parents know the recommended bedtime for children. Parents know what the environment should be like for children to sleep. Parents know what the ideal clothing for children is to sleep in. Parents know the recommended sleeping position for children. Parents know what actions to avoid preventing sudden infant death syndrome (death by suffocation). Parents know the appropriate amount of sleep (daytime and nighttime) according to age group.	Parents say that it is necessary to establish a sleep routine for the child. Parents say that it is necessary to prevent the risk of suffocation (sudden infant death syndrome) when the child is sleeping Parents report that placing the child to sleep in the supine position preclude the risk of suffocation.	What actions do parents take to improve their children's sleep quality? 1- Put the child to bed before 9 p.m. 2- Parents put their children to sleep in an environment with low light and noise levels. 3- Parents avoid putting a very agitated child to bed. 4- Parents have an established sleep routine for their child. 5- Parents put their child to sleep in the supine position. 6- Parents avoid placing objects in the crib that could increase the risk of suffocation. 7- Parents stimulate their child during the day with objects and games. 8 - Parents have a sleep routine for their child.
Adequate knowledge-4 to 7 points. **Inadequate knowledge**-≤3 points.	**Appropriate attitude-** score equal to 2 points. **Inappropriate attitude-** ≤1 point.	**Proper practice-** 4 out of 7 points. **Inappropriate practice-** ≤3 points.

Data collection was performed by two of the authors, who received prior training in the application of the instrument and the Standard Operating Protocol (SOP). The SOP contains 11 items covering the pilot testing of the KAP survey instrument. It also provides instructions on how the researcher should conduct data collection, including administering the questionnaire to children's parents/caregivers and assessing the inclusion and exclusion criteria. The study's relevance was explained to the parents, and they were invited to participate in the sample, with the emphasis that they would be contacted again by telephone after 15 days.

If they agreed to participate in the study, parents were taken to a private room, where they were given two copies of the ICF (informed consent form) to read and sign. After this procedure, one copy was kept by the researcher and the other by the parents/caregivers. Next, the pre-test was administered, and the printed booklet was made available to parents for information

about the research topic.

On the day before the late post-test, i.e., on the 14th day, the researcher contacted the parents/caregivers by phone to arrange the best time for the late post-test, which would take place on the 15th day. After completing the steps mentioned above, the researcher stored the information in an Excel spreadsheet for inclusion in the research data.

The educational booklet used in this study, included in the third part of the data collection after the pre-test, was available in printed form, double-sided, in colored ink, size A5 (148 x 210 mm), containing 20 pages in total. The texts were written in dialogue form, featuring fictional characters (a nurse and the parents of a child who was discharged from the neonatal unit), in Times New Roman, size 16 for subtitles and 14 for the body of the text.

On the cover, a 34-point font was used for the booklet title. The text was printed in black. The educational material was not made available to the parents participating in the study at the beginning of data collection to protect the post-test phase, when no participant could consult the material to answer the questions, thus avoiding biased responses that could influence the study's results.

The final version of the booklet contains, among other content and illustrations; discharge from the maternity ward; the importance of sleep; stimulating your child; bedtime; sleeping environment and clothing; position in the crib; prevention of sudden infant death syndrome; use of music; use of the booklet, a table with the total sleep time according to each age group, as well as a sleep diary for parents to complete and monitor their child's sleep.

Educational materials are tools that facilitate teamwork and promote nursing guidance practices, given that the nursing work process has been reformulated over the years, requiring the creation of new knowledge and the readjustment of technological educational resources [12].

It should be noted that the booklet was evaluated by seven expert judges for content validation, obtaining an overall CVI of 0.82, in which a value equal to or greater than 0.78 was considered adequate; Its appearance was validated by 25 parents of children discharged from the neonatal unit, with 94.3% evaluating the educational material positively, and 75% being the agreement index stipulated to consider the appearance validation consistent.

The data were organized in Excel software and then processed in SPSS 20.0, license number 10101131007. The means and standard deviations of the quantitative variables were calculated. The comparison of the means of the variables between the pre- and post-tests was performed using Student's t-test for paired data, considering the variables of the child's admission to the neonatal unit, length of stay, guidance on sleep during hospitalization, and variables on infant sleep, such as place and time of sleep. Inferential analyses with $p<0.05$ (95% confidence interval) were considered statistically significant. An adaptation of the guidelines that comprise the CONSORT 2010 checklist was used, as there was no randomization in this study[13].

The study was conducted in accordance with national and international ethical guidelines and approved by the Research Ethics Committee of the Federal University of Ceará (CAAE: 17946619.7.30015045, opinion 3.625.493. Written informed consent was obtained from all individuals involved in the study.

RESULTS

Fifty parents of children aged 0-2 years who were admitted to neonatal units at birth participated in the study. Most of the parents were female (94%), predominantly aged between 25 and 34 years (44%), in consensual unions (46%), with a high school education (76%), and a monthly income equal to the minimum wage (equivalent to 998 reais, at the time of the study) (38%). As for housing, 36% lived in places with more than six rooms and residences with more than four residents.

Table 1. Characterization of parents according to sociodemographic variables. Fortaleza, Ceará, 2020.

Maternal variables	N	%
Gender		
Female	47	94
Male	3	6
Age group (years)		

17-24	13	26
25-34	22	44
35-48	15	30
Marital status		
Married	20	40
Single	7	14
Common-law marriage	23	46
Education		
Elementary School	9	18
High School	38	76
Higher Education	2	4
Other	1	2
Income (minimum wage)		
<1	14	28
1	19	38
1,5-4	17	34
Number of rooms		
2 - 3	8	16
4	12	24
5	12	24
6 - 9	18	36
Number of residents		
2 - 3	15	30
4	18	36
5 - 6	17	34

Concerning neonatal and maternal variables, most children were born preterm (82%) and their chronological age at the time of the study was 0 to 6 months (62%), female (56%), birth weight of 1500-2499g (60%), born by cesarean section (68%), admitted to the NICU (42%), and admitted to the NICU (40%). The most common length of hospital stay was one to ten days, with prematurity being the most common cause (48%). After discharge, most of these children (46%) slept in a crib in their parents' room and in their parents' own bed (36%), with nighttime sleep lasting 18-21 hours.

Table 2. Characterization of children according to neonatal and sleep variables. Fortaleza, Ceará, 2020.

Child variables	N	%
Gestational age		
Premature (<37)	41	82
Full term (37- 41weeks and 6 days)	9	18
Chronological age (months)		
Up to 6	31	62
7-12	12	24
> 12	7	14
Gender		
Female	28	56
Male	22	44
Birth weight		
750-1499	8	16
1500-2499	30	60
2500-4000	12	24
Delivery type		
Cesarean	34	68
Forceps	1	2
Normal	15	30
Neonatal Unit		
NICUCo*	21	42
NICU†	20	40
NICUCa‡	8	16

Don't remember	1	2
Length of stay (days)		
1 to 10	25	50
11 to 30	16	32
Over 30	9	18
Reason for admission		
Prematurity	24	48
Low Weight	13	26
Respiratory Distress	5	10
Jaundice	4	8
Others	5	10
Sleeping area		
Crib in a single room	1	2
Crib in parents' room	23	46
Parents' bed	18	36
Hammock in a single room	3	6
Hammock in parents' room	5	10
Bedtime		
18 to 21h	31	62
22 to 00h	19	38

Source: survey data
*Conventional Neonatal Intermediate Care Unit (NICUCo); †Neonatal Intensive Care Unit (NICU); ‡Kangaroo Neonatal Intermediate Care Unit (UCINCa).

Regarding the KAP survey scores in the pre-test, 76%, 98%, and 82% of parents demonstrated adequate knowledge, attitude, and practice, respectively, relative to the instrument's established cut-off score (Table 1). In the post-test, 100% of parents showed adequate knowledge, attitude, and practice. Knowledge and practice showed a statistically significant relationship before and after the KAP survey, with p-values of 0.001 and 0.003, respectively, as shown in Table 3.

Table 3. Distribution of the number of parents according to the survey classification of knowledge, attitude, and practice. Fortaleza, Ceará, Brazil, 2020.

Category	Pre-test		Post-test		p-value*
	Appropriate N (%)	Inappropriate N (%)	Appropriate N (%)	Inappropriate N (%)	
Knowledge	38 (76)	12 (24)	50 (100)	-	0,001
Attitude	49 (98)	1 (2)	50 (100)	-	1,000
Practice	41 (82)	9 (18)	50 (100)	-	0,003

*Testing t de Student

In addition, it should be noted that the comparison of KAP averages showed that the pre-test average values were lower than the post-test values for all items on the instrument, with knowledge showing the most significant change in averages from pre-test to post-test (4.32 ± 1.1 to 6.32 ± 0.7; p = 0.009), followed by attitude (3.42 ± 0.7 to 3.90 ± 0.1; p = 0.567) and practice (5.00 ± 1.3 to 6.24 ± 0.8; p = <0.0001).

Table 4 presents a comparison of the means for knowledge, attitude, and practice with variables related to children's sleep.

Table 4. Comparison of mean scores for knowledge, attitude, and practice according to categories of variables related to infant sleep, Fortaleza, Ceará, Brazil, 2020.

Variables	Knowledge			Attitude			Practice		
	Pre-test	Post-test	p*	Pre-test	Post-test	p	Pre-test	Post-test	p
	Average ± SD†	Average ± SD		Average ± SD	Average ± SD		Average ± SD	Average ± SD	
Sleeping area									

Crib	4.3±1.0	6.2±0.9	<0.0001	3.5±0.6	3.9±0.2	0.005	5.0±1.2	6.2±0.8	<0.0001
Bed	4.2±1.2	6.3±0.6	<0.0001	3.2±0.6	4.0±0.0	<0.0001	4.7±1.5	6.1±0.8	<0.0001
Hammock	4.3±1.3	6.2±0.4	<0.0001	3.3±1.1	4.0±0.0	0.140	5.3±1.3	6.5±0.7	0.038
Bedtime									
18-21	4.4±1.0	6.3±0.8	<0.0001	3.3±0.8	3.9±0.1	<0.0001	5.3±1.2	6.6±0.5	<0.0001
22-00	4.1±1.1	6.3±0.6	<0.0001	3.5±0.5	4.0±0.0	<0.0001	4.5±1.3	5.6±0.8	0.001

*Student's t-test for paired data; †SD: Standard deviation

Regarding parents' knowledge, attitudes, and practices regarding bedtime and sleeping arrangements, bedtime showed the most remarkable pre-to-post-test change in mean scores across the three KAP survey categories. Bedtimes between 6:00 p.m. and 9:00 p.m. showed the greatest mean differences in attitude and practice, and those between 10:00 p.m. and midnight showed the most remarkable mean differences in parents' knowledge.

After analyzing the pre- and post-test average scores, it was observed that the educational booklet technology promoted the acquisition of knowledge, attitudes, and practices among parents regarding children's sleep, as all averages increased from the initial to the final phases.

Table 5 presents a comparison of the averages of knowledge, attitude, and practice with variables related to the child's hospitalization.

Table 5. Comparison of mean knowledge, attitude, and practice scores according to categories of variables related to child hospitalization, Fortaleza, Ceará, Brazil, 2020.

Variables	Knowledge		Attitude		Practice	
	Pre- and Post-Test Average ± DP†	p*	Pre- and Post-test Average ± DP	p	Pre- and Post-test Average ± DP	p
Neonatal Unit						
NICUCo‡	4.4±1.0/6.2±0.7	<0.0001	3.4±0.8/3.4±0.8	0.008	5.2±1.3/6.4±0.7	<0.0001
NICU§	4.2±1.0/6.4±0.8	<0.0001	3.4±0.6/3.4±0.6	0.004	5.2±0.9/6.1±0.9	0.001
UCINCa‖	4.2±1.3/6.2±0.7	0.003	3.4±0.5/3.4±0.5	0.011	4.0±1.1/6.0±0.7	0.003
Length of stay (days)						
1-10	4.2 ± 1.1/6.1± 0.8	<0.0001	3.4±0.7/3.9±0.1	0.001	4.8±1.3/6.2±0.8	<0.0001
11-30	4.3 ± 1.0/6.5± 0.6	<0.0001	3.4±0.6/4.0±0.0	0.003	5.2±1.3/6.2±0.8	0.002
>31	4.6 ± 1.3/6.3± 0.5	0.009	3.7±1.0/4.0 ±0.0	0.140	5.1±1.2/6.2±0.8	0.038
Reason for admission						
Prematurity or low birth weight	4.3 ± 1.0/6.3±0.6	<0.0001	3.3±0.1/3.9±0.1	<0.0001	5.1±1.3/6.3±0.7	<0.0001
Other	4.3 ± 1.2/6.2±0.8	<0.0001	3.5±0.6/4.0±0.0	0.001	4.7±1.3/6.0±1.0	0.001
Guidance on sleep during hospitalization						
Yes	5.5±0.5/6.5±0.5	0.012	3.5±0.5/4.0± 0.0	0.076	5.6±0.5/6.5±1.0	<0.0001
No	4.1±1.0/6.2±0.7	<0.0001	3.4±0.7/3.9±0.1	<0.0001	4.9±1.3/6.2±0.8	<0.0001

*Student's t-test for paired data; †SD: Standard deviation; ‡NICUCo: Conventional Neonatal Intermediate Care Unit; §NICU: Neonatal Intensive Care Unit; ‖UCINCa: Kangaroo Neonatal Intermediate Care Unit.

Regarding parents' knowledge of child hospitalization variables, stays of 11 to 30 days in a NICU due to prematurity or low birth weight, in addition to not receiving sleep guidance upon discharge, showed higher mean scores from pre- to post-test. In terms of attitude, parents of children hospitalized for 11 to 30 days at the UCINCa due to prematurity or low birth weight showed higher mean post-test scores than the pre-test. In the analysis of practice data, it was noted that the pre- to post-test averages were higher in children hospitalized for 1 to 10 days at UCINCa for other reasons, such as jaundice or respiratory distress.

DISCUSSION

The hospitalization of newborns in neonatal units has been increasing, especially in the last decade, when 10 to 15% of all live births required

care in a specialized unit[14]. For most parents, this period is characterized by great emotional tension and fear of the unknown, sometimes intensified by gaps in communication between neonatal unit professionals and parents.

Thus, communication within a neonatal unit ranges from information on daily progress to guidance on hospital discharge, covering a wide range of topics and nurses' knowledge of various issues[15]. However, in most studies dealing with these guidelines, few address infant sleep. In a study of parents' questions during their child's hospitalization and discharge from the NICU, breastfeeding, treatments, and basic care were the most common categories[16].

Furthermore, healthcare professionals, especially nurses, play a key role in supporting parents during their babies' stay and discharge from the neonatal intensive care unit.

However, a study conducted in Denmark that assessed parents' perceptions of NICU staff support found that they felt they received less support from nurses during the hospitalization period than during admission and discharge[17]. In the pre-test of this study, the average scores of parents' knowledge, attitude, and practice (K-A-P) were 4.1, 3.4, and 4.9, respectively, indicating that 88% (44) of parents had not received guidance on sleep. After the application of the booklet, all K - A - P averages increased in the post-test to 6.2, 3.9, and 6.2

In a study evaluating parents' knowledge and support for children admitted to the NICU, using the Readiness for Discharge Questionnaire Scale (RDQS) Parents Form, a lower index was observed in the knowledge domain, as reflected in parents' perceptions of their aptitude. In addition, parents characterized the quality of teaching in preparing for discharge as moderate for the content provided and high for the necessary content[18]. Thus, it is understood that improving discharge instructions is essential to help parents of premature babies prepare for the transition to home care.

Evaluating parents' knowledge and confidence at an early stage and continuing to do so throughout their hospital stay can serve as an additional way for nurses to identify gaps in parents' knowledge and provide personalized interventions at the most opportune moments, before discharge from the hospital[19].

Among the most relevant issues to address at discharge from the neonatal unit, the sleep of hospitalized newborns stands out. A scoping review on the care of premature babies after discharge highlighted, among its results, the practice of safe sleep and the prevention of sudden infant death syndrome[20]. A study in Brazil highlights that preterm infants spent more time sleeping in the prone position than full-term infants. The practice of this positioning reinforces the importance of educational approaches for the prevention of sudden infant death syndrome[21].

In the present study, parents received guidance on aspects of sleep routine such as bedtime, sleeping environment, and clothing, the most appropriate sleeping position, and also the prevention of sudden infant death syndrome.

In a study conducted in a level III neonatal ICU, to implement a package of safe sleep practices within the neonatal unit to improve caregivers' adherence to these practices, the position of the child in the crib at bedtime and the items in the child's crib were evaluated, implying that safe sleep behaviors implemented within the neonatal ICU reduce the risk of sleep-related infant death after the child's discharge[22]. This demonstrated the relevance of addressing infant sleep in newborns with a history of hospitalization.

Regarding the local sleeping variable, 46% (23) of the babies slept in the same room as their parents, and 36% (18) slept in their parents' bed. Similar results were found in a study conducted in the US, which showed that 45.4% of mothers shared a room with their child and 19.7% shared a bed with their child, either in their parents' room or in another room in the house[23].

In contrast, a study conducted in Israel showed that 92% of a sample of 335 parents of babies aged 0 to 12 months avoided sharing a bed with their child and were aware that this was not a safe practice for promoting sleep[24]. The reasons that led to bed sharing, according to the parents, range from promoting a stronger bond with the child and cultural values to building an emotionally safe environment for the child's future development[25].

Although bed sharing is a common practice adopted by many parents, it is not recommended by the American Academy of Pediatrics, as it represents one of the risk factors for sudden infant death syndrome. The institution recommends the following safe sleeping practices: placing the child on their back on a firm surface, avoiding

overheating, sleeping in the parents' room, avoiding exposure to secondhand smoke, and exclusive breastfeeding until six months of age[8]. Providing these guidelines to parents is essential to promote and increase awareness and knowledge of safe sleeping environments for babies, as well as to enable compliance with practice and recommendations[26].

This study found that the application of the booklet, with playful images and short, direct text, promoted the acquisition of knowledge, attitudes, and practices regarding safe sleep for children, as evidenced by post-test scores that were higher than pre-test scores across all three categories.

The use of tools such as images to aid understanding was also the subject of an American study involving 46 parents of babies (aged two to twelve months). The study discussed infant sleep routines, the role of parents in this process, and sources of information on promoting safe sleep in the United States. It also qualitatively assessed parents' knowledge of sleep, using images, regarding safe and unsafe sleep practices. It was found that 67% of parents had adequate understanding of this issue [27].

In the present study, there was an increase in the means from pre- to post-test, in knowledge about infant sleep in relation to sleep location and time of sleep onset, with $p<0.05$ in the comparison of averages.

Aware of the importance and relevance of infant sleep, this topic should be addressed by health professionals, especially nurses, with parents before babies are discharged from neonatal units. The positive results observed in this study regarding the acquisition of knowledge, attitudes, and healthy practices to promote safe sleep reinforce this need. Therefore, we highlight the importance of using educational technologies focused on sleep in early childhood, helping professionals elucidate the topic and promoting understanding among the target audience.

The study had limitations in terms of representativeness, as families' isolation during the COVID-19 pandemic contributed to changes in children's sleep[28]. The fact that the post-test was conducted by telephone made it impossible for those without access to this means of communication to participate, and it also made it difficult to obtain responses due to unanswered calls, even after the three consecutive attempts stipulated in the study design. In addition, the study was conducted at a single institution, although this is considered a reference institution in the municipality where the data collection took place.

Identifying gaps in parents' knowledge, attitudes, and practices regarding infant sleep is essential to guiding nurses' actions toward this population. These actions should become standard practice in healthcare, from prenatal care and discharge from maternity wards or neonatal units to consultations in child healthcare, including childcare and specialized outpatient clinics (follow-up).

CONCLUSION

The knowledge, attitude, and practice of the parents participating in the study improved after using educational technology, as indicated by higher mean scores on adequate classification between the pre-test and post-test. This allowed us to assess that the booklet was an easy-to-use tool that promoted parents' knowledge, attitudes, and practices regarding children's sleep.

Statistical significance was found in the variables length of stay in the neonatal unit, prematurity and low birth weight, lack of sleep guidance for parents at hospital discharge, bed sharing, and bedtime when compared between the pre- and post-test moments. Thus, it is necessary to reorient health and professional education actions to promote healthy sleep routines involving parents of newborns discharged from neonatal units.

CONHECIMENTO, ATITUDE E PRÁTICA DE PAIS SOBRE SONO DE BEBÊS EGRESSOS DA UNIDADE NEONATAL

RESUMO

Objetivo: comparar o conhecimento, a atitude e a prática dos pais sobre o sono de bebês egressos da Unidade Neonatal, antes e após a aplicação de cartilha educativa com variáveis de internamento e sono da criança. **Método:** estudo quase-experimental, grupo único, antes e depois, realizado num ambulatório especializado de pediatria com 50 pais de crianças egressas da unidade neonatal, em 2020. A coleta ocorreu em dois momentos: aplicação do instrumento com as variáveis sociodemográficas, perinatais e neonatais; aplicação do pré-teste: inquérito Conhecimento, Atitude e Prática – CAP: leitura da cartilha educativa pelos participantes de forma

individual. 2) aplicação do pós-teste via ligação telefônica: inquérito CAP. **Resultados:** A maioria era mães de crianças pré-termo (82%). A intervenção elevou os escores de conhecimento, atitude e prática dos pais em todos os itens do instrumento, destacando mudanças no local e horário de dormir. O tempo de internação e a permanência na unidade demonstraram maiores médias quanto ao conhecimento dos pais. O conhecimento e a prática, antes e após a aplicação do inquérito CAP, mostrou valores estatisticamente significantes (p<0,05). **Conclusão:** O uso da cartilha educativa promoveu a aquisição do conhecimento, das atitudes e da prática dos pais, considerando o aumento da pontuação após sua aplicação.

Keywords: Conhecimento. Sono. Pais. Criança. Enfermagem Neonatal.

CONOCIMIENTO, ACTITUD Y PRÁCTICA DE PADRES SOBRE EL SUEÑO DE BEBÉS DADOS DE ALTA DE LA UNIDAD NEONATAL

RESUMEN

Objetivo: comparar el conocimiento, la actitud y la práctica de los padres sobre el sueño de los bebés dados de alta de la Unidad Neonatal, antes y después de la aplicación de la cartilla educativa con variables de internación y sueño del niño. **Método**: estudio cuasiexperimental, grupo único, antes y después, realizado en un ambulatorio especializado de pediatría con 50 padres de niños dados de alta de la unidad neonatal, en 2020. La recolección se realizó en dos momentos: aplicación del instrumento con las variables sociodemográficas, perinatales y neonatales; aplicación del pre-test: encuesta Conocimiento, Actitud y Práctica - CAP: lectura de la cartilla educativa por los participantes de forma individual. 2) aplicación del post-test vía llamada telefónica: encuesta CAP. **Resultados**: la mayoría era madres de niños pretérmino (82%). La intervención elevó los puntajes de conocimiento, actitud y práctica de los padres en todos los ítems del instrumento, destacando cambios en el lugar y horario de dormir. El tiempo de internación y la permanencia en la unidad demostraron mayores promedios en cuanto al conocimiento de los padres. El conocimiento y la práctica, antes y después de la aplicación de la encuesta CAP, mostraron valores estadísticamente significativos (p<0,05). **Conclusión**: el uso de la cartilla educativa promovió la adquisición del conocimiento, las actitudes y la práctica de los padres, considerando el aumento de la puntuación después de su aplicación.

Palabras clave: Conocimiento. Sueño. Padres. Niño. Enfermería Neonatal.

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