ABSTRACT

The aim of the study was to identify parenting practices and beliefs regarding in-home care of premature infants. It is an observational, cross-sectional research carried out with 31 parents of premature babies. Data collection tools were: family records; and the “parental beliefs and care practices scale (E-CPPC)”. Data analysis was based on descriptive and inferential statistics (Pearson correlation coefficient). An autonomous-relational parenting style, characterized by a combination of distal and proximal care was identified. The main relational patterns found were overprotection, the difficulties of performing the care routine and child stimulation. Important parenting styles in that context were identified. The study highlights the need for systematic interventions that promote positive parenting abilities. New studies in different contexts are needed to generate knowledge that supports public policies focusing on domiciliary follow-up of premature infants and their parents.

Keywords: Infant, Premature; Father-Child Relations; Mother-Child Relations; Maternal and Child Health.

RESUMO

Objetivo: identificar as práticas e crenças parentais adotadas no cuidado à criança prematura no domicílio. Métodos: estudo observacional, de corte transversal realizado com 31 pais de crianças nascidas prematuras. Para a coleta de dados utilizaram-se dois instrumentos: a ficha da família e a “escala de crenças parentais e práticas de cuidado (E-CPPC)”. A análise dos dados foi pautada na estatística descritiva e inferencial (coeficiente de correlação de Pearson). Resultados: identificou-se um modelo parental autônomo-relacional, caracterizado pela combinação do cuidado distal e proximal. Os principais padrões relacionais encontrados foram a superproteção, a dificuldade na realização do cuidado e na estimulação da criança. Conclusões: foram identificados estilos parentais importantes no contexto da prematuridade. Destacam-se a necessidade de acompanhamento sistematisado e intervenções promotoras da parentalidade positiva. Ressalta-se a necessidade de novos estudos em diferentes âmbitos para gerar conhecimentos que subsidiem políticas públicas com ênfase no seguimento domiciliar de prematuros e seus pais.

Palavras-chave: Prematuro; Relações Pai-Filho; Relações Mãe-Filho; Saúde Materno-Infantil.

RESUMEN

La propuesta de esta investigación es identificar las prácticas y creencias parentales adoptadas en el cuidado domiciliario de los niños prematuros. Se trata de un estudio observacional, de corte transversal realizado con 31 padres de niños prematuros. Para la recogida de datos fueron utilizados dos instrumentos: la ficha de la familia y la escala de creencias parentales y prácticas de cuidado (E-CPPC). El análisis de datos fue catalogado con estadística descriptiva e inferencial (coeficiente de correlación de Pearson). Fue identificado un modelo parental autónomo-relacional, caracterizado por la combinación del cuidado distal y proximal. Los principales patrones relacionales encontrados fueron sobreprotección, dificultad en ejercer los cuidados y estimulación del niño. Fueron identificados estilos de crianza importantes dentro del contexto de la prematuridad. Se destaca la necesidad de hacer un seguimiento sistematizado e intervenciones promotoras de la crianza positiva. Son necesarios nuevos estudios en diferentes contextos para generar conocimientos que fundamenten políticas públicas con énfasis en el seguimiento domiciliario de los niños prematuros y de sus padres.

Palabras clave: Prematuro; Relaciones Padre-Hijo; Relaciones Madre-Hijo; Salud Materno-Infantil.
INTRODUCTION

The number of preterm births (less than 37 weeks’ gestation) is a growing world-wide trend. A World Health Organization report estimates that 15 million premature births occur in the world each year, which corresponds to more than 10% of the total of births. Brazil is the 10th country with the highest absolute number of preterm births, with an estimated prevalence of 9.2%.1

The experience of prematurity disrupts the expectations of parents and their families built at the beginning and during pregnancy. Hospitalizations are generally permeated with suffering. The discharge of a premature baby is highly anticipated and generates a mix-up of different feelings, such as joy and fear.2,3 A premature infant is generally associated with a frail and tiny creature that brings more stress and anxiety than usual to its parents, who have a parenting experience without going through all pregnancy stages.4,5

Parenting is a process or a set of activities intended to ensure the survival and development of children in a safe environment. Ideally, it should promote the new-born socialization skills in order to make it progressively more autonomous.4 It is a mutual process in which parents and children help each other: the child begins a subjectivity process and parents reinforce their role as parents.6,7

A premature birth affects the construction of parenting abilities. Parenting styles that originate from the interaction of parents and infants can have a positive or negative effect on the latter’s development. Considering the particularities of such experience, the present study aimed at identifying parenting styles and practices adopted when caring for a premature baby at home.

METHODOLOGY

This is a quantitative cross-sectional study. Family records and the scale of parenting beliefs and care practices (E-SCLC)7 were the tools used for data collection.

It was carried out in the city of Brasilia at the Growth and Development Paediatric Clinic of the Brasilia University Hospital. This is a referral institute that makes the follow-up of premature babies after their discharge from the Neonatal Intensive Care Unit (NICU). Study participants were mothers of premature babies discharged from NICU, on outpatient follow-up programme and under the age of two. As for the mothers, the inclusion criteria were: to be older than 18 years at the time of the child’s birth; to reside in the same household as the child and participate in its daily care. The sampling criterion was intentional given the hospital’s lack of specific statistics concerning prematurity. The final sample was based on the 71 admissions at the Neonatal Unit in 2013. The study included 31 mothers of premature infants.

Ethical standards and procedures were observed.10 Study participants read and signed the term of free and informed consent. The study was approved by the Ethics Committee of the Health Sciences Faculty of the University of Brasilia, under protocol No 563 031.

The first stage of data collection aimed at describing the participating families through the completion of a family record card requesting the following information: a) characterization of premature baby (gestational age and birth weight, length of stay in the NICU); b) characterization of family (age, education level, occupation and health problems of family members). The second stage aimed at identifying parenting beliefs and behaviours adopted in the care of the premature child through the “parenting beliefs and care practices scale (CPPC)”, a theoretical instrument psychometrically validated for research that focus on child care in early childhood.

The scale consists of five items for each parental system represented by the mother’s answers. The CPPC scale lists 25 activities that parents perform exclusively with the baby and that are critical to its development.11 Each question is answered twice with different focuses: the first (Part A), targeted the frequency of certain behaviours; the second (Part B) sought to identify the significance of such behaviours to the infant’s development according to its parents.12 The scale categorizes parental behaviours into two types: proximal and distal. The distal focuses on autonomy and separation; the proximal provides the baby with close and warm interpersonal relationships.7 The scale allows also for the identification of a combination of the two styles: the autonomous-relational model centred in aspects of independence and interdependence.7

The CPPC scale consists of 25 items distributed into five parental systems, namely: a) basic care: “answering the call of infant cries”, “feeding”, “keeping baby clean”, “to ensure that the baby is getting enough rest”, and “to ensure baby is not too hot or too cold”; b) body contact: “hold baby in your arms”, “to be around at all times”, “to hug and kiss the baby”, “sleep together in hammock or bed”, and “avoid accidents (safety precautions)”; c) physical stimulation: “tickling”, “massages”, “the child is free to run, swim, climb”, “fighting games”, “body tangle games”, and “physical activities”; d) stimulation using objects: “giving toys”, “play games”, “hang crib toys”, “read together”, and “to show interesting things”; e) face to face contact: “talking”, “explain things”, “to listen to your child”, “to answer questions to your child”, and “talk face to face, eye to eye”. The scores were categorized through a Likert scale in which 1 is “never” and 5, “always.”

The scale was applied during the interviews carried out by the researchers. The instrument assessed the frequency of certain behaviours (Part A) through the question “How often do you perform such practice with your child?” Options were then read and researcher waited for the participant to choose one. This was
followed by the question: “In your opinion, how important is this practice to the development of your child?” The objective was to establish how important mothers believe the practices were for the development of their baby (Part B). The researcher read each option to the participants who had to choose one of them.

The authors used a descriptive and inferential statistical method and the Statistical Package for the Social Sciences (SPSS) version 21.0 in order to analyse data. Descriptive analysis, Pearson correlation and application of the t-test were used for paired data (level of significance was 5%).

RESULTS

A total of 31 mothers of 35 premature babies (five gave birth to twins) participated in the study. The average age of the mothers and fathers in the study was 28.03 and 30.19, respectively. As for the fathers’ level of education, 22.58% had completed primary school; 32.25% had completed secondary education; 9.67% had an academic degree. The mothers’ level of schooling was as follows: 12.90% had primary education; 54.83% had a secondary education; 12.90% had an academic degree.

Data for the premature infants provided information about preterm subcategories: 83.87% of the samples were a preterm birth (between 32 and 36 weeks); and 16.12% of the sample were an extremely preterm birth (gestational age between 22 and 31 weeks and six days). Birth weight was as follows: 57.14% were underweight (1,500 to 2,499 grams); 14.28% had very low birth weight (1,000 to 1,499 grams); 11.42% extremely low birth weight (lower than 1,000 g) and 20% weighed over 2499 grams. Of these, 29% were not admitted into the NICU, while 70.97% remained hospitalized for some time. The mean length of stay was 24.65 days.

PARENTAL BELIEFS

An overall average of parental beliefs (Part B) is represented in Figure 1. The highest average was in “basic care”, followed by “face to face contact” and “physical contact”. The lowest average was in “physical stimulation”.

In “basic care”, the answer “always” had the highest frequency amongst the aforementioned practices. The highest mean obtained was 4,968 in “to ensure that the baby is getting enough rest” and in “to ensure baby is not too hot or too cold”. The lowest was 4,774 in “answering the call of infant cries”.

In “physical contact”, the practice which obtained the highest average was “to avoid accidents (safety precautions)” with 5,161. The lowest average was 2,935 in “to sleep together in hammock or bed”.

In the system “physical stimulation”, the highest average was 4,387 (“to massage” and “child is free to run, swim, climb”) and the lowest was 3,323 (“fighting games, body tangle games”).
In “body contact”, items that obtained the highest average were: “to avoid accidents” with 4.97 and 96.8% of answers with “always”. “Sleeping together in bed or hammock” presented the lowest average (3.000). The highest was “child is free to run, swim, climb” (4.129).

In “stimulation using objects”, “play games” had the lowest average (3.000); “give toys” had the highest (4.548).

In “face to face contact”, the item “talking” achieved the highest average (4.935). The lowest (4.290) was obtained by “answer questions”.

**PARENTAL BELIEFS AND PRACTICES**

Table 1 displays summary measures of parental systems divided into Part A and Part B. “Basic care” was the most highly rated.

<table>
<thead>
<tr>
<th>Parenting systems</th>
<th>Average</th>
<th>Mode</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base care A</td>
<td>4.78</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Base care B</td>
<td>4.91</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical contact A</td>
<td>4.20</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical contact B</td>
<td>4.21</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical stimulation A</td>
<td>3.42</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Physical stimulation B</td>
<td>3.90</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Stimulation with objects A</td>
<td>3.63</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Stimulation with objects B</td>
<td>4.14</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Face to face contact A</td>
<td>4.61</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Face to face contact B</td>
<td>4.80</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

The analysis of the means of parental beliefs (Part B) and care practices (Part A) revealed that Part B averages are higher than those of Part A. In this way, parental belief on the importance of such actions is always higher than the frequency of those actions. The parental “basic care” system presented the highest rating, followed by “face to face contact” and “physical contact”. “Physical stimulation” obtained the lowest average. The highest difference between the means of Parts A and B of the systems was obtained by system “stimulation using objects” whose difference was 0.51.

Paired t-test revealed there was a significant difference (5% significance level) between parental beliefs and care practices in the following systems: basic care A – basic care B, physical stimulation A – physical stimulation B, and stimulation using objects A – stimulation using objects B.

Pearson’s correlation coefficient (Table 2) showed a statistically significant relationship between beliefs and parental practices in “basic care”, “physical contact” and “physical stimulation”. The highest correlation was found in physical stimulation (0.645). Systems with lowest correlations between practices and parental beliefs were “stimulation using objects” and “face to face contact”, although positive and not statistically significant (p-values> 0.05).

**Table 2 - Pearson’s correlation coefficient (r) between parental practices (A) and beliefs (B) for each parental system**

<table>
<thead>
<tr>
<th>Parental systems</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic care A – basic care B</td>
<td>0.422</td>
<td>0.018080</td>
</tr>
<tr>
<td>Physical contact A – physical contact B</td>
<td>0.635</td>
<td>0.000124</td>
</tr>
<tr>
<td>Physical stimulation A – physical stimulation B</td>
<td>0.645</td>
<td>0.000090</td>
</tr>
<tr>
<td>Stimulation using objects A – stimulation using objects B</td>
<td>0.276</td>
<td>0.133480</td>
</tr>
<tr>
<td>Face to face contact A – face to face contact B</td>
<td>0.052</td>
<td>0.780249</td>
</tr>
</tbody>
</table>

In the “basic care” system, item “ensure baby is getting enough rest” is significantly different (22.6%) in Part A and B: 74.2% of the mothers perform this practice, whereas 96.8% believe it is important for their children. The item “to be around at all times” part of “physical contact” showed a 16.1% difference in option “Always” amongst parental beliefs and practices. It is significant also that 19.4% of the respondents adhere to co-sleeping, whereas only 6.5% believe that this practice is important for their children.

**DISCUSSION**

Prematurity is a risk factor for child development. Premature infants risk developmental disabilities, such as language, motor skills and learning disorders. The family dynamics, the home environment and, especially, parental care practices can contribute or hinder the development of a premature infant. Regarding parental beliefs, the highest average obtained in “basic care” confirms general trends found in similar studies carried out with full term older infants. This system is the oldest and aims at providing for the child’s needs. The second and third systems with the highest average values of beliefs were, respectively, “face to face contact” and “physical contact”. The former characterises a distal type of care that introduces the child to concepts of autonomy and separation; the latter privileges a proximal care style, which provides the child with close and warm interpersonal relationships.

Distal care was detected mainly amongst mothers living in highly urbanized places, such as state capitals, and amongst those with high levels of education. Such pattern is similar to the present study, except regarding level of education. A dis-
The type of care in the context of prematurity may be due to the parents' belief in the baby's vulnerability and a possible estrangement of parents in relation to baby. Although distal care is present, it was possible to observe a combination of both distal and proximal styles, known as a relational autonomy model. The aim of such model is socialization focussed simultaneously on autonomy and the establishment of relationships.

Parental practices, in general, were consistent with beliefs that support a relational autonomy model. This model has been identified amongst highly educated, middle-class families living in urban settings of traditionally interdependent societies. Such a pattern is highlighted in the study sample given the dissimilarity in the level of education of the participants. This situation exemplifies the notion that beliefs vary according to different contexts, that is prematurity may have influenced the advent of this specific cultural model. The complexity of family relationships and the many variables that influence parental practices (such as the unique characteristics of the child, parents and the social and cultural context in which they live) should be highlighted.

“Physical stimulation” and “stimulation with objects” which obtained, in general, the lowest average, are related to behavioural, sensory motor and cognitive development. A premature baby presents a multifaceted development in which a dynamic interaction between biomedical factors, the child and the environment come into play. Monitoring in order to assess the infant’s development allied to comprehensive and multi-disciplinary interventions are of paramount importance.

Difference between values of beliefs and practices relating to item “ensure baby is getting enough rest” reveals that the premature baby sleep patterns does not conform to what its mother believes to be necessary. There are differences between the standard sleep/wake cycle of premature babies and full-term new-borns; premature infants have a lower amount of active sleep. Sleep and wakefulness are directly related to brain development and learning ability. Changes in the sleep cycle may affect these babies negatively.

The practice of co-sleeping may be related to the arrival of a new-born baby at home; the parents live the dichotomy of desire and fear and mothers are usually overprotective. Responsibility and fear that something bad might happen make for a tense and intense mother’s care fraught with insecurity. Overprotection may prevent children from managing life's stimuli on their own, hinder independence and favour behavioural problems. Family support and follow-up of the premature baby post-hospital discharge can be carried out by primary care unit and it is very important for the early detection for potential growth and developmental problems and a timely intervention. Educational activities focussed on improving parenting practices that favour the development of the premature baby are advisable. The ideal type of care is an association between family, hospital and social support networks.

Even if “to be around at all times” is considered an important belief, its frequency does not coincide with its value. Differences between beliefs and practices may be due to the fact that this is a major change in the parents’ routine. They stay longer at home in order to care for the baby, although, culturally, the mother is the main caregiver. Such results may be explained also by the mother placing the baby at the centre of her life, distancing herself from other social activities.

**CONCLUSION**

This study identified significant patterns regarding domiciliary care of premature babies: radical change in the parents' daily routines in order to be able to care for the baby; maternal (mainly) overprotection which is potentially harmful; disorders in sleep-wake cycle; and a constant and varied stimulation programme. The study demonstrated the need for systematic monitoring and specialized care that take into account the characteristics and needs of premature babies and their parents/family. Possible interventions should promote positive parenting, i.e. one that privileges autonomy and generates a mutually satisfactory relationship between parents and children.

One of the limitations of the study was the absence of researches on parental beliefs and practices in the context of prematurity in Brazil which did not allow data comparison with similar samples in the same context.

The study was further limited by the characteristics of the sample (number of participants and context) that may not be symptomatic of the complexity of parenting styles involved in the care of a premature baby. Further studies using different methodological approaches amongst different cultural spheres and sample groups are needed in order to further knowledge on the subject. The results of such studies could be then translated into practical actions in the context of public health policies focusing on in-home follow-up of premature babies and their parents. Such policies should promote positive parenting attitudes and aim at the child’s full development.

**REFERENCES**


Parenting beliefs and practices regarding domiciliary care of premature infants


