Anxiety and depression symptoms assessment in pre-term neonates’ mothers during and after hospitalization in neonatal intensive care unit

Avaliação de sintomas de ansiedade e depressão em mães de neonatos pré-termo durante e após hospitalização em UTI-Neonatal

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Abstract

Objective: To identify clinical level of anxiety, dysphoria and depression symptoms of pre-term infants’ mothers between two moments, during and after hospitalization in Neonatal Intensive Care Unit (NICU).

Methods: Previously, mothers with psychiatric background were excluded of the study. Forty-three pre-term and very low birthweight infants’ mothers were assessed through State-Trait Anxiety Inventory and Beck Depression Inventory. The assessments were done during and after hospitalization, respectively.

Results: In the first assessment, 44% mothers showed clinical level in one or more of the emotional symptoms, such as anxiety, dysphoria or depression. After infants’ discharge, the number of mothers with clinical level of emotional symptoms decreased significantly (26%) in comparison of the first assessment (p=0.008). The anxiety-state level decreased significantly from the first to the second assessment (from 35% to 12%; p=0.006). No difference in depression and dysphoria symptoms between two assessments were found.

Conclusion: The pre-term infants’ mothers presented situational anxiety and required emotional support to cope with the infants’ hospitalization.

Keywords: Anxiety; Depression; Mood disorders; Infant, premature; Neonatal intensive care units.

Resumo

Objetivo: Identificar sintomas em nível clínico de ansiedade, disforia e depressão em mães de neonatos pré-termo, comparando dois momentos, durante e após a hospitalização do bebê em Unidade de Terapia Intensiva Neonatal (UTIN).

Métodos: 43 mães de neonatos pré-termo de muito baixo peso, sem antecedentes psiquiátricos, foram avaliadas através dos Inventários de Ansiedade Traço-Estado e de Depressão de Beck. Foram realizadas duas avaliações, uma durante a hospitalização do bebê e outra após a alta hospitalar.

Resultados: Na primeira avaliação, 44% das mães apresentaram sintomas clínicos de ansiedade, disforia e/ou depressão. Após a alta hospitalar do bebê, houve redução significativa do número de mães (26%) com esses sintomas clínicos em relação à primeira avaliação (p=0.008). Os níveis de ansiedade-estado diminuíram significativamente da primeira para a segunda avaliação (de 35% para 12%; p=0.006). Não foi detectada diferença significativa entre as duas avaliações quanto aos demais sintomas clínicos.

Conclusão: As mães de bebês pré-termo apresentaram ansiedade situacional e necessitam de suporte psicológico para enfrentar a internação do bebê.

Descritores: Ansiedade; Depressão; Transtornos do humor; Recém-nascido prematuro; Unidades de terapia intensiva neonatal.

Introduction

The premature birth of an infant is a distressing event for the family, which has to face with an unpredictable and anxiogenic situation. Due to the conditions of organic instability of the infant and the need of specialized medical care provided in Neonatal Intensive Care Units (NICU), the family experiences the separation from the premature infant and the uncertainty about its clinical evolution and survival.1-2 Added to these difficulties, there is the distortion of the infant’s ‘ideal image’, created by the family, in contrast with the real image of the premature infant; the family has to reorganize its imaginary framework as to readapt it to the image of a very tiny and fragile infant.3

In this context, the levels of anxiety and the feelings of sadness and melancholy may be exacerbated upon this conflicting and distressing situation. In a study performed with parents of babies hospitalized at a NICU high levels of anxiety, depression and...
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Variables

Mothers’ variables
Age in years - median (variation range) 23 (14 – 43)
Schooling - frequency (percentage)
1st to 4th grades (Elementary School) 7 (16%)
5th to 8th grades (Elementary School) 15 (35%)
High school inconcluded 9 (21%)
High school concluded 11 (26%)
College inconcluded 1 (2%)
Occupation - frequency (percentage)
Student 5 (12%)
No worker 22 (51%)
Non-qualified* 7 (16%)
Low qualification* 6 (14%)
Medium qualification* 3 (7%)
Mother for the first time - frequency (percentage) 28 (65%)

Neonates’ variables
Gestational age in weeks - mean (standard deviation) 28 (± 2.86)
Apgar of the 5th minute - mean (standard deviation) 9 (± 1.36)
Time of hospitalization at the NICU in days - mean (standard deviation) 26 (± 24.14)

* Classification according to Soares and Fernades: Non-qualified: Not necessary a minimal schooling level and remuneration at the minimum wage level; Low qualification: Minimal schooling level (elementary school), manual work not required and some specific professional training; Medium qualification: Elementary school and some additional study, absence of manual work and higher status than the previous forms.
mothers were reassessed. The tests were alternately applied in the respective evaluations. Assessments were accomplished by the first author. The assessment of the sample's characteristics was performed through consultation to the medical charts.

The assessment instruments were corrected according to the tests' rules and it was performed the identification of scores related to clinical symptoms of anxiety, dysphoria and depression. With STAI, the criterion used was a cut-off score equal to or above the 75th percentile. Utilizing the BDI, in turn, we used the suggested criteria for non-diagnosed patients, i.e., dysphoria >15 and depression >20.12

Firstly, we verified the distribution of mothers according to the scores indicating clinical symptoms of anxiety, dysphoria and depression, and quantified the number of mothers who had scores indicating clinical symptoms in one or more assessment scales. Next, we verified the distribution of mothers regarding the scores indicating clinical symptoms particularly considering the infants' hospitalization (from 44% to 26%; p < 008).

In order to verify possible influences of confounding variables in the results, we performed correlations between the scores in the two subscales of the STAI and in the BDI and the maternal variables (age, schooling and number of children) and the infant's variables (gestational age, time of hospitalization at a NICU and Apgar of the 5th minute), respectively. There were no significant correlations between anxiety and depression scores and the different variables analyzed.

Discussion

During the hospitalization of the infant at the NICU, 44% of the mothers had scores indicating clinical symptoms of anxiety, dysphoria and/or depression, suggesting emotional problems which demand attention provided for these patients by the mental health area. These data are similar to that found in the literature.4-5 Scores indicating clinical symptoms occurred both alone (score indicating clinical symptoms in only one of the scales) in 23% of the mothers and combined (scores indicating clinical symptoms in more than one scale) in 21% of the mothers. The score indicating clinical state-anxiety was predominant on mothers among those assessed during the infant's hospitalization at the NICU.

After the babies' hospital discharge, there was a significant decrease in the number of mothers who showed scores indicating clinical symptoms of anxiety, dysphoria and/or depression. Considering the maternal scores indicating clinical symptoms in each of the specific scales, there was a significant decrease in state-anxiety from the first to the second assessment. In one study6 performed with parents of premature babies with bronchodyplasia it was observed that anxiety-state levels decreased significantly after the infant's hospital discharge, which corroborates the findings of the present study.

There were no significant correlations between the scores in the anxiety and depression scales and the maternal variables such as age, schooling and number of children and the infant's variables such as gestational age, time of hospitalization at the NICU and Apgar of the 5th minute. Therefore, the significant decrease in the number of mothers who showed scores indicating clinical levels of state-anxiety after hospital discharge seems to be more related to a decrease in the concern about the infant's survival than to the mother's and the infant's characteristics or to the hospitalization

### Table 2 – Clinical symptoms of Anxiety (State/Trait), maternal dysphoria or depression, assessed during the infant's hospitalization (1st assessment) and after hospital discharge (2nd assessment): frequency and percentage of mothers (n = 43)

<table>
<thead>
<tr>
<th>Maternal clinical symptoms</th>
<th>1º assessment</th>
<th>2º assessment</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>During hospitalization</td>
<td>After hospital discharge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(n = 43)</td>
<td>(n = 43)</td>
<td></td>
</tr>
<tr>
<td>Anxiety-State</td>
<td>15 (35%)</td>
<td>5 (12%)</td>
<td>0.006*</td>
</tr>
<tr>
<td>Anxiety-Trait</td>
<td>7 (16%)</td>
<td>8 (19%)</td>
<td>1.000</td>
</tr>
<tr>
<td>Dysphoria or Depression</td>
<td>11 (26%)</td>
<td>9 (21%)</td>
<td>0.625</td>
</tr>
</tbody>
</table>

* p < 0.05
context. State-anxiety experienced by mothers in the current study seems to be, therefore, linked to a transient emotional state marked by unpleasant feelings of tension and apprehension in reaction to the hospitalization of the infant at the NICU.

At the same time, we verified that there was no significant difference in the number of mothers who had scores indicating clinical trait-anxiety, from the first to the second assessment. Trait-anxiety symptoms are related to individual differences, to relatively stable personality traits, to the trend of reacting with increase in state-anxiety with regard to situations perceived by the subject as threatening. Considering thus the trait-anxiety construct, it was expected that trait-anxiety subscale scores would not have significant alterations along time. Nevertheless, it cannot be ruled out that those mothers are a risk group, as they have a higher trend to react anxiously in face of stressing situations, such as that represented by the infant's hospitalization.

There was no significant difference between the first and the second assessment regarding the number of mothers who had scores indicating clinical dysphoria or depression. The clinical improvement of the infant and the subsequent hospital discharge seemed to have not relieved these clinical symptoms in 21% of the mothers, a group who needs psychological support for the adaptive coping regarding the infant's hospitalization at the NICU, as well as to prevent future problems related to the interaction between mother and child, as highlighted by Feldman et al. 7

Conclusion

The findings of this study reinforce the importance of assessing and giving support to the maternal feelings, in the way between the birth of the preterm infant and hospital discharge. The clinical assessment allows the identification of mothers with higher difficulty in this process of adaptive confrontation with the situation of psychological distress, enabling thus the planning and execution of an appropriate preventive psychological intervention.

Future research may be oriented to find some study issues, such as: verifying the influence of the psychological support received by mothers at the NICU, comparing the findings of mothers of prematures with those of fullterm infants and assessing the effects of the clinical symptoms of anxiety, depression, in the medium-term, in the trajectory of the development of the premature infants.

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