



## Stress, Coping, and Post-traumatic Stress Disorder of French Fathers of Premature Infants☆☆☆



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### ARTICLE INFO

#### Keywords:

Prematurity  
Fathers  
Stress  
PTSD  
Coping strategies

### ABSTRACT

The aim of this study is to explore and analyze the different patterns of paternal stress, post-traumatic stress symptoms, and coping strategies of a French sample of the NICU of Toulouse. Forty-eight fathers of premature infants (26–35 weeks gestational age) participated in this study. Three questionnaires were used: Parental Stress Scale: NICU, PPQ, and CHIP. Principal results show that fathers exhibit high levels of stress, in particular, sights and sounds, and role alteration; as well as a post-traumatic stress symptomatology. They use coping strategies such as family integration and communication with the medical staff in order to balance the stressful situation. Stress symptoms are going to induce PTSD symptoms in approximately half the cases. However, prematurity level or sociodemographic data do not have a particular effect on the variables.

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Even though the birth of an infant is a joyful event, a premature one may provoke a variety of mixed emotions in parents. In particular, the hospitalization of the infant is a source of stress and traumatizes the parents in their transition to parenthood.<sup>1–6</sup> The concept of stress has been largely taken into consideration and analyzed from different aspects. Some studies talk about emotional exhaustion,<sup>5</sup> and others about the acute stress disorder.<sup>4</sup> Other studies refer to symptoms of stress, specific stressors, and challenges for mothers and fathers including feelings of anxiety, loss of control, role alteration and separation from the infant, and fear for the future and the infant's well-being.<sup>7–9</sup>

The parents' stress levels are high in terms of parental role alteration and the child's appearance. Indeed, the fragile appearance of the baby, the fear of the unknown, and the loss of expected parental role can add to this stress.<sup>10</sup> Studies report that mothers of neonates experienced a high level of stress regarding parental role alteration and also sights and sounds.<sup>1,11</sup> Similar research reports that stress is significantly higher than that of the fathers of full-term babies.<sup>5,11</sup> Nevertheless,

Lindberg et al. (2008) concluded that a lot of similarities exist between being a father to a child born at full term and one born prematurely.<sup>7</sup>

As many studies submit, parents of premature infants display post-traumatic stress disorder (PTSD) symptoms such as intrusion, avoidance and hypervigilance, sleeping, and problems with concentration.<sup>11,13</sup> Fathers of premature infants exhibit more symptoms of PTSD than fathers of full-term infants,<sup>14</sup> as stress is being correlated with the post-traumatic stress symptoms.<sup>4</sup> Overall, fathers of high-risk premature infants display more intensive symptoms of avoidance than fathers of low-risk premature infants. As far as the intrusive symptoms are concerned, there is no significant difference between the two groups.<sup>14</sup>

Coping is the effort of managing stressful demands.<sup>1,5</sup> According to McCubbin (1979), coping behavior is an integral part of family resources and is incorporated in this theory of family stress.<sup>15</sup> He asserted that the family would have or develop and employ a range of coping strategies directed at strengthening its internal organization and functioning, at obtaining community and social supports, and in some cases, at diverting, reducing, or eliminating the source of stress. Rowe and Jones's (2010) longitudinal study demonstrates that there are no particular differences in coping strategies between fathers and mothers.<sup>18</sup> In general, fathers use communication with the medical staff as a coping strategy.<sup>5</sup> An unexpected finding was the difference in the pattern of response to trauma in fathers and mothers.<sup>4</sup> The fathers appear to be coping better with the stress of their infant's hospitalization, but when examined four months later, their self-report condition suggests that they are more symptomatic. The fathers' emotional responses, when they do occur, are no less severe than that of the mothers'.

☆ Conflicts of interest: none.

☆☆ This manuscript is not currently under review or under consideration for publication elsewhere.

★ Funding: this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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The aim of this study is to explore the feelings of stress, post-traumatic stress disorder, and the coping strategies of 48 French fathers of premature infants.

## Method

### Participants

The participants were 48 French-speaking fathers of preterm infants, with a gestational age of less than 35 weeks. Infants with congenital problems affecting development (such as Trisomy 21 or Down syndrome) were excluded.

### Research Design and Measures

#### Sociodemographic Data

The data were obtained via a self-report questionnaire; and elements such as the age of the participants, marital status, ethnic group, level of education, occupation, and severity of infants' prematurity are taken into consideration.

#### Paternal Stress

The paternal stress was measured by the Parental Stressor Scale: NICU (PSS:NICU).<sup>17</sup> This tool is a 35-item scale and has three subscales: sights and sounds (6 items), infant illness (17 items), and parental role alterations (11 items). Fathers rate the items on a 5-point scale ranging from "not at all stressful" to "extremely stressful". The last item corresponds to the general evaluation of the experience in the NICU, with fathers also rating this item on a 5-point scale.

#### PTSD

The Perinatal Post-Traumatic Stress Disorder (PTSD) Questionnaire (PPQ)<sup>18,19</sup> is a 14-item self-rating questionnaire especially designed for parents of high-risk infants and specific to the perinatal period. The fathers answer whether or how often they have experienced each of the 14 items that relate to the 3 components of PTSD: intrusive memories ("did you have any sudden feelings as though your baby's birth was happening again?"); avoidance (did you have to avoid thinking about childbirth or your baby's hospital stay?); and arousal symptoms ("did you feel more jumpy?"). The items are based on the DSM-IV diagnostic criteria for PTSD. According to the validation studies, a score above 6 can be considered as a good approximation of the DSM-IV definition of a PTSD.

#### Coping Strategies

Fathers also completed the Coping Health Inventory for Parents (CHIP).<sup>20</sup> The CHIP is a 45-item self-administered inventory, which has 3 subscales: family integration, cooperation, and optimism; maintenance, social support, self-esteem, and psychological stability; and medical communication and consultation. Fathers rate the items on a 5-point scale ranging from "not at all useful" to "extremely useful".

#### Procedure

The study took place at the Neonatal Intensive Care Unit of the University Hospital of Toulouse and lasted 15 months (January 2013 to March 2014). The procedures of the study were in accordance with the ethical standards of the responsible institutional or regional committee on human experimentation; or in accordance with the Helsinki Declaration of 1975 as revised in 1983. Written informed consent was obtained from each father before the procedures started. Fathers completed all three questionnaires and returned them sealed in an envelope.

#### Data Analysis

Statistical analysis was performed with SPSS Version 19.0 for Windows (SPSS Inc., Chicago, IL). All statistical analysis was performed

**Table 1**  
Participants' characteristics.

Demographics	%	N
Marital status		
Married	30	14
Living with partner	70	34
Divorced	0	0
Widowed	0	0
Single	0	0
Ethnic group		
French	91.5	44
Other (Maghreb)	8.5	4
Level of education		
None	0	0
Technician's diploma or diploma of vocational studies	33.3	16
High school	13.3	6
Bachelor's degree	22.2	12
Graduate degree (Master or PhD)	28.9	14
Occupation		
Farmer	4.3	2
Craftsman, storekeeper, or business manager of SME	9.3	4
Executive or technical staff or intellectual profession	37.2	18
Employee	14	7
Intermediate profession	11.6	6
Worker	18.6	9
Other	4.16	2
Prematurity (weeks of gestational age)		
29–35	47.5	23
26–28	52.5	25

on fathers separately; and results were compared in order to assess the influence of sociodemographic data on the development of stress or PTSD and the coping strategies in use. The level of significance for all statistical tests was 1-sided,  $p < 0.1$ ;  $p < 0.05$ ; and  $p < 0.001$ .

## Results

### Sample Characteristics on Main Demographic Details

The mean age of the fathers was 33.5 (SD = 3.5). Paternal age correlated with sights and sounds  $F(1; 47) = 3.949^{**}$ . Paternal age also correlated to these coping strategies: social support, psychological stability, and self-esteem  $F(1; 47) = 3.692^{**1}$  and consultation with medical staff and communication with other parents in the NICU  $F(1; 47) = 4.369^{***}$ . The older the father was, the more he used social support and communication with the medical staff.

Our sample was homogenous in terms of marital status and ethnic group, as presented in Table 1, so there are no significant differences when compared to our variables. As far as the level of education and occupation were concerned, there was no significant effect either.

As far as the level of education was concerned, 51.1% of fathers had obtained degrees equivalent to a bachelor's or master's degree. However, this was not correlated with the rest of our variables.

Of the fathers who participated, 37.2% had an intellectual profession. In fact, in France, this sector is quite large and includes self-employed people, executive managers, or even public service executives; and intellectual or artistic professions. Occupation had no effect on stress, PTSD symptoms, and coping strategies.

Prematurity level was also significantly associated with PTSD symptoms  $t(48) = -1.713^*$ , the more severe the premature level, the more likely it was for fathers to exhibit PTSD symptoms.

### Paternal Stress

Paternal stress during premature birth is high for the fathers of our sample. The total score in the PSS-NICU is 86.14; SD = 34.16. As far as

<sup>1</sup>  $p < 0.01^{***}$   $p < 0.05^{**}$   $p < 0.10^*$

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