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## Determinants of psycho-emotional postpartum changes: the effects of self-esteem

Manuela Ferreira<sup>a\*</sup>, Catarina Coelho<sup>b</sup>, Bruno Batista<sup>b</sup>, João Duarte<sup>a</sup>,  
Claudia Chaves<sup>a</sup>

\* Corresponding author: Manuela Ferreira, mmcferreira@gmail.com

<sup>a</sup> CI&DETS, Polytechnic Institute of Viseu, Portugal

<sup>b</sup> ACES, Dão Lafões, Viseu, Portugal

### Abstract

During the puerperium, women face a set of changes that occur at a biological, psychological and social level. They are also confronted with the necessity of living through constant adjustments that make them more vulnerable to psychological and emotional imbalance. Psycho-emotional changes during the puerperium come from what people call the postpartum blues, a cross-cultural, high prevalence phenomenon, of benign and transient nature, that occurs in healthy women affecting them physically and psychologically.

The assessment of the puerperal mother's self-esteem is fundamental to understand the risk of developing psycho-emotional changes during the postpartum period.

With this in mind, we conducted a quantitative, cross-sectional, correlational and explanatory study on 175 healthy puerperal women to identify the psycho-emotional changes that occur between the fourth and sixth week of postpartum and to determine the relationship between the different variables (socio-demographic, factors that are associated with the mother's labour, those which are associated with breastfeeding, self-esteem) and psycho-emotional changes.

Results revealed that recent mothers who are professionally active, who have a higher education level, with no history of preterm birth and having had breastfeeding problems exhibit higher levels of psycho-emotional changes. The key changes identified in this study were moderate/severe anxiety.

In this context we should point out: the feeling of exhaustion, mental and physical fatigue and insecurity in providing care for the baby; followed by moderate/severe depressive feelings, like: sadness, melancholy, weariness, crying and solitude; and finally, a moderate/severe feeling of concern, nervousness and unrest.

Self-esteem has proven to be a predictor of psycho-emotional changes, since the greater the self-esteem, the higher the levels of changes.

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**Keywords:** Puerperium, Psycho-emotional changes, Postpartum blues, self-esteem.



## 1. Introduction

Postpartum is a period of time in which psychopathological manifestations are more likely to occur than in any other period of the woman's life. It is therefore considered as a high risk period in which the woman's health can be affected. This fact is associated with a set of changes that take place in puerperium, both at a biological level (changes in their physical fitness and hormonal changes) and at a psychological level (new parental role and changes in their married and sexual life)

Mood disturbances are the most frequent mental pathology during the postpartum period and they usually take place within the first four postpartum weeks. According to Para Rosenberg (2007, p.114), "postpartum emotional problems are typically divided into: *maternity/postpartum blues* or maternal sadness or maternal dysphoria; *postpartum depression* and *postpartum Psychosis*".

These mood disorders are closely associated with the baby's birth, and Rosenberg (2007) draws attention to the need to ensure a precocious and precise identification of the psycho-emotional disorders that can occur during pregnancy and puerperium, always taking into account the promotion of the puerperal/pregnant woman, the baby and the family's bio-psychosocial integrity.

The *postpartum blues* is considered as a short-lived and mild mood disturbance which includes feelings of emotional lability, dysphoria, crying, irritability, anxiety, fatigue, insomnia, loss of appetite, tension, hostility, confusion and cognitive changes. Emotional lability and tearfulness are core symptoms. These disorder symptoms may last only for a few hours, however, in most cases they can last for about two days and never for more than three. About 50% to 85% of women experience this disturbance (Cantilino; Zambaldi ; Souget; Rennó, 2010). Postpartum blues usually begins between the 3<sup>rd</sup> and 4<sup>th</sup> days after delivery, peaks on the 5<sup>th</sup> day and disappears after the 10<sup>th</sup> day of puerperium (Leal & Maroco, 2010; Lowdermilk & Perry, 2006; Figueiredo, 2001). A woman may experience major mood shifts, she might feel happy and energetic one minute and tearful without any apparent reason, show anxiety and tension, and even show irritability and hostility towards the people that are surrounding her the next minute (Figueiredo, 2001, Lana, 2001, quoted by Leal & Maroco, 2010). *Postpartum blues* is more frequent in new mothers, in women who have experienced a difficult delivery or a caesarian section, who have little or no experience in providing care to a child and who depend on breast milk substitutes (Henshaw, 2003, quoted by Leal & Maroco, 2010)

*Postpartum blues* is a benign and adaptive phenomenon that represents an emotional adaptive response. It doesn't require medical treatment and isn't therefore considered as a psycho-pathological disorder. However, it shouldn't be underestimated by health workers.

Women who experience more intense or longer *postpartum blues* show a higher risk of developing postpartum depression (Figueiredo, 2001, Liabsuetrakul, Vittayanont & Pitanupong, 2007).

*Postpartum Psychosis* because of the sudden emergence of psychotic symptomatology in which the puerperal lose touch with reality itself and specifically with the infant, is considered as the most serious postpartum disorder. It is also the disorder, which has the lowest incidence, since it occurs in about 2% of the puerperal mothers. Despite being a transitory condition, the authors stress out the severe and adverse implications that this kind of psychosis may have on the mother and the baby's health (Cantilino, Zambaldi, Souget, Rennó, 2010). Its onset is usually sudden, although it can be preceded by one or two nights of insomnia and it is characterized by a severe confusion state. The most common

symptoms are: insomnias, confusion, disorientation, agitation, bizarre/erratic behaviours and delusional beliefs (Figueiredo, 2001). This psychosis starts after the child's birth between the 3<sup>rd</sup> day and the 4<sup>th</sup> week after delivery, although the majority of the cases start during the new mother's first week. This psychotic condition can usually last for five to twelve months. There is a high risk for the baby since the manic phase of the illness may dominate the new mother and instruct her to harm her child. In this disorder the risk for infanticide, as well as suicide is real and that is why women who suffer from this psychosis need to be hospitalized (Rosenberg, 2007).

Postpartum depression is seen as a mood disturbance associated with a major depressive episode but with no psychotic symptomatology and with a close relationship with the child's birth. Its onset takes generally place between the 2<sup>nd</sup> and the 3<sup>rd</sup> month of the postpartum period and with a higher incidence in the 10<sup>th</sup> week. Like all the other emotional disturbances, it can cause severe problems in the interaction between the mother and her baby (Cantilino, Zambaldi, Souget & Rennó, 2010). The new mother's complains are mainly physical: fatigue, loss of appetite and headaches, extreme anxiety, and she feels that she isn't able to fulfill her maternal role, this inadequacy of the parental role will lead to feelings of guilt (Figueiredo, 2001). Social adversities, marital dissatisfaction, the absence of social support and adverse events are factors that will worsen this disorder (Figueiredo, 2001, Liabsuetrakul, Vittayanont & Pitanupong, 2007).

Pregnancy and puerperium are special phases in the life of a woman who is eager to learn everything about how to take better care of her child and of her new family. It will be difficult for an emotionally disturbed woman to live harmoniously the new maternal role that people expect her to play.

We conducted a study in order to identify the relationships between the socio-demographic variables, the variables that are contextual to the child's delivery and to breastfeeding and the mother's self-esteem and the psycho-emotional changes that occur in puerperium.

## **2. Materials and methods**

### *2.1. Instrument*

A quantitative, correlational and explanatory study, in which 175 healthy puerperal from the province of Viseu, Portugal, have participated. The data collection instrument includes a questionnaire about the participants' socio-demographic profile and that allowed us to collect information that is contextual to the child's delivery and to breastfeeding and two scales: the Rosenberg's self-esteem scale (adapted by Santos & Maia, 1999) and the Assessment of Puerperium Psycho-emotional Changes Scale- APPCS (Sousa & Leal, 2010). The questionnaires were submitted between June and December 2013 during the mothers' consultation for puerperium revision (four to six weeks after the child's delivery). New mothers with a known history of mental illness diagnosed before their pregnancy were excluded from this study.

## 2.2. Data collection

The puerperal who participated in our study show an average age of 31,21 years old, ranging from 17 to 47. The majority of the sample lived in an urban area (54,9%), stated they had a partner (92,6%), a college degree (38,9%) and said they were professionally active (70,3%). The analysis of the preterm births (that had happened before the current pregnancy) suggested that the majority of the puerperal who were 34 or younger were primipara mothers (55.1%), while among those who were 35 or older there was a balance between primipara mothers, puerperal who had had a second child and puerperal who had already delivered three or more children (30.8%, 38.5% e 30.8%, respectively). When they referred to their current pregnancy, most of these puerperal mothers said they had a normal pregnancy (75.4%). 47.4% of them had a non-instrumental, normal birth.

When they talked about how long the labour lasted, 83,4% referred that it lasted at least for 18 hours and 16,6% confessed that it lasted more than 18 hours. We found out that 53.7% of the puerperal women who belonged to the 34 or younger age-group had to undergo an episiotomy, while 64,6% of the participants who were 35 or older didn't have to undergo such surgery. 64,6% of the participants said that their experience regarding labour had been very good/good, while 35,4% said it was bad.

## 2.3. Statistical analyses

As far as anxiety was concerned, we found a 2.48 ( $\pm 0.08$ ) mean value for the puerperal women who were 34 or younger and a 2.44 ( $\pm 0.13$ ) mean value for those who were 35 or older. When it came to depressive feelings, puerperal mothers who were 34 or younger showed a 2.20 ( $\pm 0.09$ ) mean value, while those who were 35 or older showed a 2.36 ( $\pm 0.17$ ) mean value. When they were asked about their concern, the participants who were 34 or younger showed a 1.89 ( $\pm 0.08$ ) mean value, while those who were 35 or older showed a 1.92 ( $\pm 0.13$ ) mean value.

## 3. Results and Discussion

### 3.1. Sample characterization

**Table 1.** Psycho-emotional changes according to the puerperal women's age statistics.

Psycho-emotional Changes	n.	Min.	Máx.	Mean	SD	CV%	Sk/error	K/error	K-S
<b>Anxiety</b>									
<=34 years old	136	1.00	5.00	2.48	0.08	3.23	3.07	-0.79	0.000
>=35 years old	39	1.13	4.50	2.44	0.13	5.32	1.67	0.24	0.000
<b>Depressive feelings</b>									
<=34 years old	136	1.00	5.00	2.20	0.09	4.10	4.07	-0.55	0.000
>=35 years old	39	1.00	4.25	2.36	0.17	7.20	0.90	-1.39	0.000
<b>Concern</b>									
<=34 years old	136	1.00	5.00	1.89	0.08	4.23	5.87	1.94	0.000
>=35 years old	39	1.00	4.25	1.92	0.13	6.77	3.12	1.23	0.000
<b>Total Psycho-emotional Changes</b>									
<=34 anos	136	1.00	5.00	2.27	0.08	3.52	4.24	0.28	0.000
>=35 anos	39	1.06	4.06	2.29	0.12	5.24	1.67	-0.09	0.000

During the analysis of the different factors of the postpartum psycho-emotional changes scale, we found similar results in the entire sample, as far as anxiety and depressive feelings were concerned. We found out that 28.0% of the participants showed moderate or severe levels of change when they referred to anxiety. This pattern is more frequent in women who were 34 or younger. When it came to depressive feelings, we found out that 25,1% of the sample showed moderate or severe levels of change. These changes occurred more frequently in puerperal mothers who were 35 years old or older.

Regarding the concern they had felt, 16,6% of the participants showed moderate or severe levels of change. In this dimension, the results point to a balance between the different age-groups.

**Table 2.** Absolute frequencies of the puerperium psycho-emotional changes.

		<=34 years old		>=35 years old		Total	
		n (=136)	%(77,7%)	N (=39)	%(22,3%)	N(=175)	%(100,0 %)
<b>Psycho-emotional changes</b>							
<b>Anxiety</b>	Absence of significant psycho-emotional changes	96	70.6	30	76.9	126	72.0
	Presence of moderate psycho-emotional levels of change	<b>38</b>	<b>27.9</b>	9	23.1	<b>47</b>	<b>26.9</b>
	Presence of severe psycho-emotional levels of change	<b>2</b>	<b>1.5</b>	0	0.0	<b>2</b>	<b>1.1</b>
<b>Depressive disturbance</b>	Absence of significant psycho-emotional changes	103	75.7	28	71.8	131	74.9
	Presence of moderate psycho-emotional levels of change	30	22.1	<b>11</b>	<b>28.2</b>	<b>41</b>	<b>23.4</b>
	Presence of severe psycho-emotional levels of change	3	2,2	<b>0</b>	<b>0.0</b>	<b>3</b>	<b>1.7</b>
<b>Concern</b>	Absence of significant psycho-emotional changes	113	83.1	33	84.6	146	83.4
	Presence of moderate psycho-emotional levels of change	22	16.2	6	15.4	28	16.0
	Presence of severe psycho-emotional levels of change	1	0.7	0	0.0	1	0.6
<b>Total</b>	Absence of significant psycho-emotional changes	104	76.5	31	79.5	135	77.1
	Absence of significant psycho-emotional changes	31	22.8	8	<b>20.5</b>	<b>39</b>	<b>22.3</b>
	Presence of severe psycho-emotional levels of change	1	0.7	0	<b>0.0</b>	<b>1</b>	<b>0.6</b>

When we analysed the statistics which refer to the **anxiety** factor, we found out that 41.7% of the puerperal mothers showed moderate or severe signs of insecurity when they were providing care to their baby, especially those who were 34 or younger (47,1%). 52.6% confessed that they were feeling exhausted, 49,2% of them mentioned mental fatigue and 45,2% were physically exhausted and said they were getting weaker and weaker. As far as the **depressive feelings** factor was concerned, the results showed that 43,6% of the puerperal women who were 35 or older reported having felt moderate or severe sadness and depression. We found similar results (43,6%) when we analysed the melancholy and hopelessness in the same age-group. When we analysed the information about crying and loneliness, we found out that 32.6% and 28.0% of the participants showed moderate and severe signs of changes. There is a balance between the age-groups.

**Table 3.** Feelings absolute and relative frequencies

	<=34 years old		>=35 years old		Total	
	n (=136)	%(77,7%)	N (=39)	%(22,3%)	N(=175)	%(100,0%)
<b>3 – I felt sad and depressed</b>						
Absence of significant psycho-emotional changes	87	64.0%	22	56.4%	109	62.3%
Absence of significant psycho-emotional changes	37	27.2%	<b>15</b>	<b>38.5%</b>	52	29.7%
Presence of severe psycho-emotional levels of change	12	8.8%	<b>2</b>	<b>5.1%</b>	14	8.0%
<b>7 – I felt melancholic and hopeless</b>						
Absence of significant psycho-emotional changes	93	68.4%	22	56.4%	115	65.7%
Absence of significant psycho-emotional changes	34	25.0%	<b>16</b>	<b>41.0%</b>	50	28.6%
Presence of severe psycho-emotional levels of change	9	6.6%	<b>1</b>	<b>2.6%</b>	10	5.7%
<b>11 – I had moments of intense crying</b>						
Absence of significant psycho-emotional changes	93	68.4%	25	64.1%	118	67.4%
Absence of significant psycho-emotional changes	35	25.7%	11	28.2%	46	26.3%
Presence of severe psycho-emotional levels of change	8	5.9%	3	7.7%	11	6.3%
<b>12 – I felt lonely</b>						
Absence of significant psycho-emotional changes	98	72.1%	28	71.8%	126	72.0%
Absence of significant psycho-emotional changes	34	25.0%	8	20.5%	42	24.0%
Presence of severe psycho-emotional levels of change	4	2.9%	3	7.7%	7	4.0%

### 3.2 Self-esteem statistics

When dealing with positive self-esteem, we found a 13.50 ( $\pm 1.28$ ) mean value for puerperal mothers who were 34 or younger and a 13.51 ( $\pm 1.19$ ) mean value for those who were 35 or older. As far as negative self-esteem was concerned, we found a 11.79 ( $\pm 1.68$ ) mean value for the participants who were 34 or younger and a 12.00 ( $\pm 1.62$ ) mean value for those who were 35 or older. For the global self-esteem the participants who were 34 or younger showed a 25.29 ( $\pm 2.58$ ) value, ranging from a minimum of 18 and a maximum of 33 in the scale scoring. In the group of puerperal mothers who were 35 or older, the mean value was 25.51 ( $\pm 2.50$ ), with scores ranging from 20 to 30. The coefficient of variation suggested a mild dispersion and the asymmetry and kurtosis values reveal a symmetric and leptokurtic curve for the 34 or younger age-group. The curve was normal for the 35 or above age-group.

The regression analysis model showed that the only variable that could integrate the model, through the stepwise regression method, was the negative self-esteem variable. This variable became a predictor for the puerperium psycho-emotional changes. The percentage of explained variance was about 7%, with a 0.844 standard error of estimate. The direct relationship which existed suggested that a higher score in the negative self-esteem dimension is associated with a stronger presence of psycho-emotional changes during puerperium.

**Table 4.** Linear multiple regression between negative self-esteem and psycho-emotional changes in puerperium

<b>Dependent Variable – Psycho-emotional changes in puerperium – Global</b>					
<b>R= 0.266</b>					
<b>R<sup>2</sup>=0.071</b>					
<b>R<sup>2</sup> adjusted= 0.065</b>					
<b>Standard error of estimate= 0.844</b>					
<b>Incremental R<sup>2</sup>= 0.071</b>					
<b>F= 13.135</b>					
<b>p= 0.000</b>					
<b>Weights of Regression</b>					
<b>Independent Variable</b>	<b>β Coef.</b>	<b>B Standard Coefficient</b>	<b>t</b>	<b>p</b>	<b>Colinearity VIF</b>
<b>Constant</b>	0.623		1.355	0.177	
<b>Negative Self-esteem</b>	0.139	0.266	3.624	0.000	1.000
<b>Variance Analysis</b>					
<b>Effect</b>	<b>Sum of Squares</b>	<b>GL</b>	<b>Mean of squares</b>	<b>F</b>	<b>p</b>
<b>Regression</b>	9.366	1	9.366	13.135	0.000
<b>Residual</b>	123.368	173	0.713		
<b>Total</b>	132.735	174			

#### 4. Conclusion

The analysis of the results we have found showed that around one in four of the puerperal mothers (22.3%) presented moderate levels of psycho-emotional changes. One of them revealed severe levels of change and the majority (77.1%) didn't exhibit any significant changes. These facts are in agreement with the literature reviewed.

The percentage of participants who showed anxiety symptoms was slightly superior than the percentage of puerperal women who showed depressive symptoms (28% and 25,1%, respectively). The depressive changes were more frequent in women who were 35 or older (28.2%), however we couldn't establish a significant statistical relationship. The study conducted by Pooler, Perry e Ghandour, (2013) Katon, Russo, & Gavin, 2014; Saligheh, Rooney, McNamara, & Kane, (2014) showed that the prevalence of these symptoms was higher in younger women. When it came to the participants' school level, the results we have found are in contrast with the studies conducted by Pooler, Perry e Ghandour (2013) and (Alfayumi, Kaufman, Zeadra, Lauden, & Shoham-Vardi, 2014) that show that psycho-emotional changes during puerperium were higher in new mothers who got a college degree (p=0.012). This association is statistically significant in every factor, except in the concern factor. The main differences were found between the new mothers who had finished their basic education and those who graduated from college. As far as the professional situation was concerned, our study showed that anxiety, depressive feelings and concern were higher in puerperal mothers who were professionally active. This association is significant only for the anxiety factor (p=0.041), though.

The puerperium psycho-emotional changes are higher in new mothers who have had no experience in preterm births so far. This association is statistically significant (p=0.002). Data showed that the feelings of anxiety and concern are higher in puerperal women who have not experienced preterm births yet, while the depressive feelings are higher in new mothers who had already experienced preterm births. However, these differences didn't show any statistical meaning.

Our data showed higher levels of anxiety and of total psycho-emotional changes in new mothers who have an anomalous background, but there's no visible statistical value, which is in agreement with what was shown by Furuta, Sandall, Cooper & Bick (2014).

When we analysed the data related to the kind of delivery, our study confirms the data we found in the literature reviewed: there is no significant association between the kind of delivery and the psycho-emotional changes that occur during postpartum. However, these changes seem to be more important among new mothers who went through a dystocic delivery (Alharbi & Abdughani, 2014).

As we expected, the puerperium psycho-emotional changes are more important in new mothers who said that they had a reasonable/ bad delivery experience, despite the lack of statistical meaning. This evidence is supported by the studies conducted by Verreault, Costa, Marchaud, Ireland, Dritsa and Khalifé (2014). The psycho-emotional changes presented by the puerperal mothers whose children were exclusively breastfed were less important than those that were shown by new mothers whose children were fed with formula milk or through mixed feeding. This association doesn't have any statistical meaning, though.

Breastfeeding complications are associated with higher values of psycho-emotional changes during puerperium, in all the dimensions, an observation which is in agreement with the results found by Stuebe, Horton, Chetwynd, Watkins, Grewen & Meltzer-Brody (2014).

The analysis of the correlation between age, type of delivery, self-esteem and anxiety we have carried out in this study, showed that the anxiety establishes a positive relationship with the new mother's self-esteem and the dystocic delivery and a negative relationship with the women's age and with the normal delivery they went through. The only significant meaning refers to negative and total self-esteem ( $p=0.001$  e  $p=0.002$ , respectively). Negative self-esteem is a predictor of anxiety, thus the higher the levels of negative self-esteem, the greater the new mother's anxiety ( $p=0.001$ ). We found out that total self-esteem is the only predictor of depressive feelings during this period: therefore we can say that the greater the total self-esteem, the higher the occurrences of depressive feelings ( $p=0.001$ ). Negative self-esteem has proved to be predictor of psycho-emotional changes ( $p=0.000$ ), which indicates that a higher score in negative items of the self-esteem scale will be associated with a more effective presence of psycho-emotional postpartum changes. Both psycho-emotional changes and self-esteem require an attentive and individual approach, promoting the new mother's well-being and consequently the baby and the whole family's well-being. The promotion of the puerperal women's health must be based on health monitoring programmes, close proximity programmes with suitable follow-up processes, helped by home visits and the assessment of the difficulties felt by women during their transition to motherhood, on the mother's breastfeeding and favouring the fatigue, depression, anxiety and stress symptoms. Performing an early diagnosis to assess the possibility of developing severe psycho-emotional changes allows a precocious intervention and major health improvements for the women/families and the whole community.

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