

Symptoms of Postpartum PTSD and Expressive Writing: A Prospective Study

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Abstract: Research studies on post-partum PTSD have highlighted that the experience of childbirth can be traumatic in itself because it often involves fear, pain, impotence and non-expressed negative emotions. This study hypothesized that mental processing post-partum emotions, through Pennekaber's expressive writing (EW) method, can reduce short- and long-term posttraumatic symptoms. The sample was of 242 women (mean age=31.5; SD=4) of whom 120 performed the EW-task and 122 were not asked to write. The Perinatal PTSD Questionnaire (PPQ) was administered 48 hours and two months after childbirth (the total sample) and 12 months after childbirth (65 women). The data show a positive effect of expressive writing, which allows them to process and mentalize negative emotions, worries and fears, deactivating both avoidance mechanisms and physiological symptoms linked to hyperarousal.

Key Words: childbirth, expressive writing, negative emotion elaboration, PTSD, post partum symptoms

Post-partum stress symptoms have long been underestimated. However, the massive presence of post-partum anxiety symptoms (Abramowitz, Schwartz, Moore, & Luenzmann, 2003; Matthey, Barnett, Howie, & Kavanagh, 2003; McMahan, Barnett, Kowalenko, & Tennant, 2001; Shear & Mammen, 1995; Wenzel, Haugen, Jackson, & Brendle, 2005) has persuaded researchers to introduce systematically the diagnostic category of *post-traumatic stress disorder* (PTSD) (Ballard, Stanley, & Brockington, 1995; Fones, 1996) to consider the significance of this disorder and to reveal its prevalence by studying also explicative factors (Ayers, 2004; Ayers & Pickering, 2001; Creedy, Shochet, & Horsfall, 2000; Czarnocka & Slade, 2000; Soet, Brack, & Dilorio, 2003; van Son, Verkerk, van der Hart, Komproe, & Pop, 2005;

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Wijma, Wijma, & Soderquist, 1997).

Various studies have produced data that are reliable, differences of methods used, and in the time period considered for the persistence of the symptoms. Researchers speak of a percentage of women, varying between 2% and 7%, who present with this disorder 6 weeks after childbirth. In particular, Wijma et al. (1997) find percentages of 1.7%, Czarnocka and Slade (2000) of 3% and Soet et al. (2003) of 1.9%, while Creedy et al. (2000) and Ayers and Pickering (2001) report higher values, of 5.6% and 6.9% respectively. However, the number of women affected by post-partum stress increases by about 10.5% when the symptoms are considered in a partial form and not according to the criteria indicated by the *Diagnostic and Statistical Manual* (DSM-IV; 2000) for the diagnosis of PTSD (Creedy et al., 2000; Czarnocka & Slade, 2000). Negative experiences connected to childbirth are common to a higher number of women when the limits of the diagnostic categories are widened.

As far as stability across time of these symptoms is concerned, some studies show that a percentage of 6.9% of women with PTSD 6 weeks after childbirth moves to 3.5% 6 months after childbirth (Ayers & Pickering, 2001); others indicate a substantial stability (White, Matthey, Boyd, & Barnett, 2006) with percentages of 2.6% of women with PTSD 6 months after childbirth and 2.4% 12 months after childbirth, or an increase in symptoms.

The few studies on the co-morbidity between post-partum PTSD and depression (Czarnocka & Slade, 2000; Wenzel et al., 2005; White et al., 2006) indicate both the co-presence of stress symptoms and depressive disorders, and the wider recurrence and extension of PTSD than of depression.

The overlap between neonatal depressive disturbance and PTSD leads to an underestimation of stress symptoms, due both to the fact that attention has only recently been dedicated to this diagnostic category and to the fact that knowledge and diagnostic instruments facilitating the identification of postnatal depression are more diffused among professionals.

Post-traumatic stress disorder is, in fact, typically an anxiety condition, which implies a perception of self as vulnerable, a perception of the world as unreliable and a fear of the future as unpredictable. Depression shares with the anxiety condition three main categories of symptoms: feelings of fear for the future, disturbed sleep and difficulties in concentration (Wijma et al., 1997). These induce negative thoughts and emotions of the same type as in

depression (Beck, 2004; Beck, Emery, & Greenberg, 1985).

The fundamental characteristic of PTSD is the development of symptoms which follow the exposure to a traumatic event (Criterion A of the DSM-IV-TR; American Psychiatric Association, 2000): an event which has an objective nature and which is interpreted as threatening or experienced with anguish, pain or fear.

Some studies on the subject investigated the predisposing and risk factors and identified in the presence of pre-existing psychiatric problems the main predisposing factor (Czarnocka et al., 2000; Wijma et al., 1997), together with other psychosocial elements, such as, anxiety, low coping ability, low self-efficacy in facing childbirth, poor locus of internal control and lack of support during pregnancy (Soet et al., 2003).

Other works have focussed their attention on some variables which, in themselves, may figure as traumatic events. In particular, the difficulty and length of the childbirth and the complications linked to the health of the child (Affleck, Tennen, & Rowe, 1991; DeMier, Hynan, Harris, & Manniello, 1996) give rise to symptoms of emotional arousal that may then lead to PTSD (Ballard et al., 1995; De Mier et al., 1996; Fones, 1996). Mothers who see their newborn in the neonatal intensive unit show many symptoms of post-traumatic stress disorder, even months after the child has been discharged (Bydlowsky & Raul-Duval, 1978; De Mier et al., 1996).

Besides the presence of events, which objectively assume a form of traumatic aggravation, one can also add that the experience of childbirth, being characterized by strong onset of stress, the fear of physical pain and worry about the unborn child, can be considered in itself a potentially traumatic condition.

Some studies have moved in this direction, underlining that even in completely natural situations, one should not underestimate the worries connected to it, the weight of expectations which lie on the experience, the way that it is faced, the individual reaction to physical pain, the subjective perception of loss of control of the situation, the intrinsic threat to one's physical integrity and the lack of information about what will happen or what is happening (Menage, 1993; Wijma et al., 1997).

This conjunction of factors, which implies a negative cognitive evaluation, could be responsible for the appearance of stress symptoms after childbirth. In particular, some authors stress the significance which the fear emotion assumes and suggest giving particular attention to women who show a strong fear of childbirth, also in the absence of medical and physical complications, since the presence of

emotional arousal associated with the perception of not being able to cope with the event may constitute a serious risk pre-condition in producing a group of stress symptoms (Wijma et al., 1997; Wijma, Wijma, & Zar, 1998).

The psychological dynamics set off by the combination of PTSD symptoms guarantees, on the one hand, that the stressful and traumatic experience is renewed in the mind and in the emotions, through the unexpected emergence of images, thoughts, perceptions, dreams, unpleasant feelings and flashback episodes. At the same time, in order to face up to the burden of anxiety linked to the re-emergence of negative feelings and thoughts, the individual tries to avoid the stimuli associated with the trauma avoiding places, persons and situations that could renew the memory, places barriers to the emergence of emotions and in the end shows a generalized attitude of diminution of general reactivity which is expressed in detachment and non-involvement towards others, difficulty in participating in activities, avoidance behaviours, depression, absence of interest in usual activities. The joint and sequential action of avoidance and the re-emergence of negative thoughts, causes phenomena of increased arousal and hyper-excitability which are expressed in disturbed sleep, irritability, outbreaks of rage, difficulties in concentration, hyper-vigilance and exaggerated alert responses.

According to these considerations and to the specific emotional connotation that the birth of a child has as a moment of transition important for the Self, we can consider that the experience of childbirth presents certain characteristics that could set off non-complete elaboration mechanisms. We can hypothesize (Di Blasio & Ionio, 2002, 2005) that the positive emotions aroused by the birth of a child are so strongly felt and strongly valued on a personal, family and social level that they produce an avoidance of negative emotions provoked by the painful events correlated to the labour and childbirth, which are thus confined to an area of experience which is not translated into words or elaborated. In our opinion, the crucial point lies, therefore, in the difficulty of processing cognitively, mentalizing and inserting coherently into one's autobiographical experience events that, for their painful or stressful content, tend to remain fragmented or unexpressed. The co-presence of positive feelings about the birth of the child that are explicitly recognized, shared and self-awared along with negative emotions, neither admitted and recognized nor legitimated, due to the loss of control, pain and solitude, creates an emotional disequilibrium and the perception of the extraneousness of oneself and of others. In general, we know that the failure to process

negative experiences lead to inhibition mechanisms for thoughts, feelings and impulses associated with the stressful events: these require a strong psychological commitment and, as time goes on, tend to produce an accumulation of stress. The thoughts and inhibited feelings provoke also intrusive ruminations with further stress and further reinforcement of the inhibition (Wegner, Schneider, Carter, & White, 1987). Numerous research studies conducted on various samples of adults, by Pennebaker and his group, have produced stimulating results that confirm this close connection between emotion and state of health (Pennebaker, 1985, 1999; Pennebaker & Beall, 1986; Pennebaker, Kielcolt-Glaser, & Glaser, 1988). Supported by further research carried out in other countries and by other scholars, Pennebaker and collaborators (1999) stated that the exercise of writing, similarly to that of speaking, influences the state of physical health, exercising a positive effect on the hematic markers of the immune function and increasing resistance to illness. The salient aspect lies in the fact that the people, in the writing task, are encouraged to explore their emotions mentally and to make contact with them. Other types of intervention have not proved, in fact, equally significant. The mere expression of a trauma is not sufficient, when this is not accompanied by the cognitive processing of the emotions. Although the use of non-verbal techniques of expression involves a cathartic effect or a release of emotion, and may temporarily induce a certain well-being, it is not effective in producing long-lasting changes on the state of health. To do this, it seems to be necessary to translate the experience into words, to integrate thoughts and feelings and to make one's history coherent and significant, in short, to create connections which give significance and sense to experiences (Pennebaker, 1999, p. 43).

When the event has been inserted into one's history and has entered the biographical memory, it simplifies mental life. The mind does not need to effort to give it a structure and a meaning. And gradually, as the experience is related and re-related, it becomes briefer and the details become gradually blurred, until only the salient and most important elements are re-evoked in a history which—its rougher elements removed—becomes shorter, more compact and more coherent (Pennebaker, 1999, p. 44).

The interpretation of childbirth as a stressful and traumatic event per se, not only due to the physical pain, anxiety, fears, worries and uncertainties connected to it, but also as a social and personal experience which is not completely mentally processed (because of a sort of avoidance of its negative aspects, which are neither verbalized

nor verbalizable) has been verified in a preliminary research study (Di Blasio & Ionio, 2002, 2005) on post-partum PTSD. This research follows the same line of investigation; it has the aim of verifying, in a wider sample and by a longitudinal project, whether the expression of emotion connected with childbirth affects positively stress symptoms.

METHOD

Participants

The research, carried out over 4 years (from 2003 to 2007), was conducted in hospitals of Northern Italy. This was after approval by the medical staff and the administrators of the hospitals.

The research sample was composed of 242 women participating in the first three phases of the research and a sub-sample of 65 women who participated in the follow-up after 12 months.

The group of 242 was between 20 and 43 years of age ($M=31.5$; $SD=4$) and reported a stable relationship with their partner (84.7% married and 15.3% living together). The sub-sample of 65 women who participated in the follow-up after 12 months had similar characteristics to those of the total group both in age (age between 21 and 41 years with $M= 31.8$; $SD=4.3$) and in the relationship with the partner (86.4% married and 13.6% living together).

Procedure

In the first phase of the research carried out a week before childbirth (Time 1), a brief biographical questionnaire and a personality questionnaire (MMPI-2) were administered to the total group of subjects: the latter was used to select the sample so as to exclude from the second phase of the research women with psychological and psychiatric pathologies. The criterion of exclusion on the basis of the profile in the MMPI-2 was determined by the presence of either high or very high scores (>66 T points) on one or more of the 10 clinical scales. All the women included in the sample had low, modal or moderate scores on the validity scales Lie (Points T: > 49 e >79) and Frequency (>44 e >90) and on the 10 clinical scales.

The second, post-partum phase (Time 2) was carried out in the 48 hours immediately after childbirth. We then verified, with the collaboration of the medical and nursing staff, the absence of complications connected to labour and established the good health of the mother and child (Apgar score for children at minute 1 after delivery was 8.97, at minute 5 it was 9.81).

Then the sample was randomly subdivided into two sub-groups: one group (122 subjects) was asked to narrate their childbirth experience by writing about personal thoughts and feelings whereas the other group was not asked to write. Women who performed the writing task were supplied with pen, paper and a sheet with the following instruction: *I would like you, once the door of your room is closed, to write for 10-15 minutes, continuously and without lifting your pen from the paper, the thoughts and feelings that you had during labour and delivery. It is important for us that you describe also your most secret feelings and thoughts which you have not told, nor would tell, to anyone. It is essential that you let yourself go and come into contact with your deepest emotions and thoughts. In other words, write what happened, how you lived through this experience and how you feel about it. Everything you write will remain strictly confidential.* The contents of the instruction are substantially similar to those of Pennebaker (1999), except for the reference to the specific situation of childbirth, while the number of writing sessions was reduced to one from the four indicated by Pennebaker.

A day after the sheet with the written account was handed in the questionnaire measuring the stress symptoms was administered to the total sample.

After two months (Time 3), the PTSD symptoms were again evaluated for the entire sample, by means of a telephone interview fixed, by appointment, at a time of day chosen by the women.

After 12 months, a sample of 100 women was randomly extracted from the two subgroups (with and without writing); these were contacted telephonically to take part in the fourth phase of the follow-up (Time 4) for the administration of the questionnaire on PTSD symptoms. 65 subjects agreed to take part, of whom 32 had narrated and 33 had not.

Measures

At Time 1, the women were evaluated with the *Minnesota Multiphasic Personality Inventory-2* (MMPI-2; (Hathaway & McKinley, 1989/1995) in the Italian version validated by Pancheri and Sirigatti (1995). The MMPI-2, administered in a reduced form, is composed of 357 items, with dichotomous answers (True or False) and presented the same characteristics as the complete form. It consists of 6 validity scales, ten basic scales, twelve supplementary scales and fifteen control scales. We examined the scores both on the validity scales and on the base scales. The validity scales served to ascertain with what

precision and sincerity the subject completed the questionnaire. The base scales probed the most significant dimensions of the personality in terms of Hypochondria, Depression, Hysteria, Psychopathic Deviate, Masculinity-femininity, Paranoia, Psychasthenia, Schizophrenia, Hypomania, Mania and Social Introversion.

A brief biographical form (12 Items) was administered to record personal and family details.

At Times 2, 3 and 4, the PPQ (Perinatal PTSD Questionnaire) designed by De Mier et al. (1996) and validated by Quinnell and Hynan (1999) was administered. The PPQ is a questionnaire designed to analyze the symptoms of post-traumatic stress disorder specifically related to childhood and to the ensuing postnatal period. The PPQ is a 14-item dichotomous questionnaire, with scores ranging from 0 to 14. The first three items describe symptoms of unwanted intrusions (e.g., Did you have several bad dreams of giving birth or of your baby's hospital stay?). The next six items describe symptoms of avoidance or numbing of responsiveness (Did you avoid doing things which might bring up feelings you had about childbirth or your baby's hospital stay?). The last five items describe symptoms of hyperarousal (Were you more irritable or angry than usual?). The questionnaire has a good internal consistency (coefficient alpha .83) and test-retest reliability ($r=0.92$) (De Mier et al., 1996); moreover the result is significantly correlated with other well-validated measures of PTSD (Quinnell & Hynan, 1999).

In accordance with the indications of DeMier et al. (1996) and Quinnell et al. (1999), we calculated the sum of the symptoms for the individual items to obtain both the total stress score and the partial scores in the three categories of Intrusion, Avoidance and Hyperarousal (cf. DeMier et al., 1996, p. 279), considering significant, in accordance with the authors' indications, a total set of symptoms characterized by 6 or more DSM symptoms. For the clinical diagnosis of PTSD we followed the DSM-IV indications, considering the joint presence of one Intrusion symptom, three Avoidance symptoms and two Hyperarousal symptoms.

The questionnaire was firstly administered 48 hours after delivery (with the instruction to indicate when the symptoms appeared after childbirth) and then two months afterwards (with the instruction to indicate the presence of symptoms during the two months) to find out the persistence of stress symptoms. The same questionnaire was also administered to a reduced group, 12 months after childbirth.

RESULTS

Sample Characteristics

The sample consisted of Italian-speaking women who gave birth to a healthy child after a full-term pregnancy. The total sample of 242 women examined at Times 1, 2 and 3 has a medium-high level of education (41.4% with degree, 47.8% with high-school certificate and 10.8% with middle-school certificate). Regarding the number of children, 80.6% were primiparous, 15.7% had another child and 3.7% had two other children.

The sub-sample of 65 women examined in the follow-up after 12 months (Time 4) presented a higher level of education than the total group (52.3% with degree and 44.6% with high-school certificate) and a slightly higher number of children (73.8% primiparous; 21.5 with another child and 4.7 with two other children).

Stress Symptoms and Expressive Writing

One of the first data concerns the presence of stress symptoms, using as a cut-off value 6 or more symptoms as indicative of significant distress (DeMier et al., 1996; Quinnell & Hynan, 1999). We note that 49.3% of our sample did not present any stress symptom, 23.5% had six or more symptoms after childbirth and 11.6% after two months, while 15.7% showed 6 or more symptoms always, that is, both after 48 hours and after two months. The comparison of the women with one child and those with more than one in relation to the number of stress

Table 1
Stress Symptoms at 48 Hours and Two Months from Childbirth

PTSD Symptoms	48 hours		2 months		t-test
	N = 242		N = 242		
	Mean	SD	Mean	SD	
Intrusive Symptoms	1.13	.70	0.82	.68	6.33**
Avoidance	1.19	1.1	0.96	1.0	2.30*
Hyperarousal	2.42	1.2	2.59	1.3	-1.70
Total Symptoms	4.74	2.1	4.37	2.0	32.5**

* $p < 0.05$; ** $p < 0.01$

symptoms was not significant neither after two days ($t = 1.5$; $df = 240$; $p = n.s.$) nor after two months ($t = .55$; $df = 240$; $p = n.s.$).

The mean of the symptoms in the three DSM-IV categories in our sample (Table 1) is slightly higher than that found in other samples composed, like ours, of women not at risk, with children born healthy after a full-term pregnancy (Quinnell & Hynan, 1999). The difference between the symptoms after 48 hours and after two months showed a decrease, over time, in Intrusive and Avoidance symptoms and substantial stability of those of Hyperarousal.

Let us now see how the stress symptoms are manifested in relation to the variable introduced by us (i.e., the writing task).

Table 2

Expressive Writing and Stress Symptoms at 48 Hours and Two Months from Childbirth (N=242)

PTSD Symptoms	48 hours				t-test
	<i>EW</i> N = 120		<i>No-EW</i> N = 122		
	Mean	SD	Mean	SD	
Intrusive Symptoms	1.12	.72	1.15	.68	.34
Avoidance	.89	.94	1.48	1.2	4.14**
Hyperarousal	2.20	1.2	2.46	1.2	2.28*
Total Symptoms	4.21	2.0	5.27	2.2	3.84**
PTSD Symptoms	Two months				T-test
	<i>EW</i> N = 120		<i>No-EW</i> N = 122		
	Mean	SD	Mean	SD	
Intrusive Symptoms	.75	.65	.89	.71	1.63
Avoidance	.85	.10	1.0	1.1	.59
Hyperarousal	2.04	1.1	2.9	1.1	2.12*
Total Symptoms	4.0	1.9	4.7	2.0	2.43**

* $p < 0.05$; ** $p < 0.01$

Table 2 contains the means of the symptoms in the two groups of women: one of 120 who performed the expressive writing task and one of 122 who were not asked to write (control group).

The data show a significant difference between the two subgroups,

in the total mean of symptoms 48 hours after childbirth ($t = 3.84$; $df = 240$; $p < .0001$) (Table 2). In particular, the women who participated in the expressive writing session presented a lower number of stress symptoms ($M = 4.2$; $SD = 2.0$) than those who did not narrate their experience ($M = 5.2$; $SD = 2.2$).

A significant difference emerged in the Avoidance symptoms ($t = 4.14$; $df = 240$; $p < .0001$) and Hyperarousal symptoms ($t = 2.28$; $df = 240$; $p < .005$), but not in the Intrusive symptoms.

Two months after childbirth, the average number of total symptoms differed in the two groups ($t = 2.438$; $df = 240$; $p < .01$) with lower scores in the expressive writing subgroup ($M = 4$; $SD = 1.9$) than in the one without writing ($M = 4.7$; $SD = 2.0$). The significant difference emerged in the Hyperarousal category ($t = 2.12$; $df = 240$; $p < .05$) and the symptoms of irritability, state of alert, lack of concentration and disturbed sleep were on average less high in the subjects who expressed their emotions and worries in writing.

There are not, however, differences between the two groups in relation to Intrusive and Avoidance symptoms, that is in relation either to the memory of childbirth, pain, worries for the health of the child or to the cognitive and behavioral mechanisms adopted to avoid the negative aspects of such an experience.

Stress Symptoms after a Year

In the subgroup of 65 subjects examined after 12 months one notes a tendency, similar to that found in the total sample, for the symptoms to diminish over time (Table 3). In particular, Intrusive symptoms and

Table 3
Stress Symptoms: Follow-up at 12 Months

PTSD Symptoms	48 hours		2 months		12 months	
	N = 65		N = 65		N = 65	
	Mean	SD	Mean	SD	Mean	SD
Intrusive Symptoms	.95	.57	.77	.70	.48	.66
Avoidance	1.29	1.00	1.25	1.01	1.05	.87
Hyperarousal	2.83	1.1	2.85	1.2	2.26	1.3
Total Symptoms	5.08	2.0	4.85	2.1	3.78	2.1

recurrent thoughts decrease progressively, symptoms of Avoidance of thoughts and emotions are higher 48 hours and two months after childbirth but then diminish through time, while Hyperarousal symptoms first decrease then continue to be constantly high both after two months and after a year.

If we consider the trend of the symptoms in the two groups with and without written narration (Table 4), we note the same trend found in the total sample.

The expression of emotions reduces, immediately after childbirth, the tendency toward Avoidance, allowing comprehension and contact with negative emotions, which are not denied or relegated to a sphere exempt from verbalization and interiorization, and also Hyperarousal symptoms are significantly lower. After two months and one year, the differences between the two groups are focused on Hyperarousal symptoms, which are significantly more numerous in women who have not expressed their negative emotions immediately after childbirth than in women who have narrated them.

DISCUSSION

The results indicate a significant difference in the total stress symptoms in the two groups two days after childbirth, in particular the presence of higher avoidance reactions and increased physiological arousal in mothers not subjected to the writing session. After two months there still exists a significant difference in relation to the number of symptoms, but it is above all the Hyperarousal ones that determine the difference between the two groups. There emerges the centrality of Hyperarousal symptoms, which remain high after some time, especially in subjects who have not performed the expressive writing task. The results of our research therefore indicate that expressive writing reduces stress symptoms and that this improvement persists through time. These data confirm those obtained by us in a previous study on post-partum reactions (Di Blasio & Ionio, 2002, 2005) and are consistent both with those found in the studies by Pennebaker et al. (1985, 1986, 1988), in which several writing sessions were used, and with those of Lepore (1997) who, using a single writing session, verified in a group of university students the reduction in depression symptoms in the period preceding a very stressful examination. In particular, the author demonstrated that the writing task specifically affects positively intrusive thoughts, which in their turn moderate the impact on depression symptoms.

If we consider post-partum stress symptoms as the result of

Table 4
Expressive Writing and Stress Symptoms at 48 hours, 2 and 12 months from Childbirth

48 hours					
PTSD Symptoms	<i>EW</i> N=32		<i>No-EW</i> N=33		t-test
	Mean	SD	Mean	SD	
Intrusive Symptoms	.88	.49	1.03	.63	1.09
Avoidance	.88	.83	1.50	1.00	3.43**
Hyperarousal	2.68	1.00	3.13	1.02	.31
Total Symptoms	4.44	1.06	5.66	2.02	2.43*
Two months					
PTSD Symptoms	<i>EW</i> N=32		<i>No-EW</i> N=33		t-test
	Mean	SD	Mean	SD	
Intrusive Symptoms	.59	.61	.94	.74	1.08
Avoidance	1.22	.12	1.27	1.1	.85
Hyperarousal	2.05	1.3	3.1	1.0	2.04*
Total Symptoms	4.03	2.03	5.7	1.9	2.0*
Twelve months					
PTSD Symptoms	<i>EW</i> N=32		<i>No-EW</i> N=33		t-test
	Mean	SD	Mean	SD	
Intrusive Symptoms	.50	.71	.45	.61	.27
Avoidance	1.16	.88	.94	.86	1.00
Hyperarousal	1.84	1.4	2.7	1.1	2.56*
Total Symptoms	3.50	2.3	4.0	1.9	1.05

* $p < 0.05$; ** $p < 0.01$

different interacting symptoms, we note, from our data, that in the days immediately after childbirth the propensity of the new mothers to re-experience in thoughts and feelings the negative emotions linked to childbirth. Further, the presence of feelings of sadness, fears, worries, the tendency to cry, and in general a state of greater emotional vulnerability, marked by Intrusive symptoms, is present in both groups and is not influenced by the writing task. This pattern of symptoms has many points of contact with that widespread mood disturbance called "baby blues" which affects many women after childbirth (with an incidence from 39% to 85%), generating a certain weakness in affections and transitory mood instability, probably due not only to psychological causes, but also to phenomena of physiological and endocrine re-adaptation following the detachment of the placenta. After two months, these symptoms diminish, becoming ever slighter, independently of whether or not they have participated in the writing session. This indicates that the propensity to re-evoke and to think again about negative emotions is not at all unusual, but accompanies the experience of childbirth, connoting it as an experience with a strong emotional charge. The mechanisms adopted to confront the emergence of these intrusive memories and the strategies used to process them are important. The propensity to deny, to avoid mentally anxiety-creating experience is certainly central. And, in fact, the effect of the expressive writing task is clearly shown in relation to Avoidance and Hyperarousal symptoms. The intrusive character of negative thoughts and emotions absorbs energies and the spontaneous tendency is to try to suppress the flow of these thoughts and emotions by detaching oneself and avoiding thoughts and feelings associated with them. This propensity to avoidance is not without consequences, because it impoverishes the capacity to cope with events, with the requirements of the environment and with affectively near persons, among whom the newborn him/herself, and leads to a sort of mechanical and routine attitude, drained of its affective and emotional drive. If the avoidance mechanisms persist, there emerges an attitude that is bored, cold, worried, unaffectionate, together with a diminution of interest and positive reactivity to stimuli, which recall answers of the depression type. Alongside the avoidance, the hyperarousal symptoms contribute progressively to making the individual irritable, incapable of concentrating, of remembering important information and particularly tired as a result of a constant state of alarm and worry which increases due to the concomitant difficulty in going to sleep, in staying asleep and in resting. In our sample it is interesting to note that expressed negative thoughts and emotions reduces the tendency

to adopt avoidance mechanisms and reduces hyperarousal symptoms. In particular, we think that the writing task offers the chance to process and mentalize negative emotions, worries and fears, deactivating the avoidance mechanisms, which would prevent adequate coping strategies. Furthermore, in this way, physiological activation and symptoms linked to Hyperarousal are reduced. Two months after childbirth, the variations between the two groups no longer concern avoidance mechanisms, which partly diminish also in those who did not narrate, but regard only Hyperarousal symptoms that continue to be significantly higher in the group that did not narrate. It is reasonable to think that the presence of avoidance mechanisms linked to the failure to elaborate emotions contributes to the chronicization of Hyperarousal symptoms, which then persist independently of the mechanisms that helped to generate them. Hyperarousal symptoms, in fact, entail the activation of the autonomous nervous system and can be understood as a preparatory response of the organism when faced with the expectation of damage or non-definable danger. The subjective perception of finding oneself in a situation of looming and non-specific threat leads the individual to lose control of his existence, to focus attention on details and signals interpreted as dangerous, preventing him from elaborating cognitively the important information coming from the environment. The overwhelming anxiety, which derives from the emotionally and cognitively jeopardized condition could, in absence of adequate social and affective support, lead to problems of mnemonic functioning and disassociated detachment mechanisms. It should also be remembered that all the items of the questionnaire which we used to evaluate PTSD are specifically linked to childbirth and to the birth of the child and that for this reason the presence of a significant number of partial Hyperarousal symptoms in a sample with normal characteristics like ours causes one to reflect on the significance that the stabilizing and persisting in time of such symptoms could assume. If it is true that PTSD and depression have in common symptoms like fear for the future, disturbed sleep and difficulties in concentration (Beck, 2004; Beck et al., 1985; Wijma et al. 1997), we cannot fail to note the strong resemblance of this set of depression symptoms to those of Hyperarousal here described; we therefore ask ourselves whether the evolution towards depression could not also be caused by the absence of attention and of early interventions specifically aimed at the traumatic dimensions of childbirth, or at the subjective perception of childbirth as an experience whose negative contents cannot usually be expressed.

REFERENCES

- Abramowitz, J. S., Schwartz, S. A., Moore, K. M., & Luenzmann, K. R. (2003). Obsessive-compulsive symptoms in pregnancy and the puerperium: A review of the literature. *Journal of Anxiety Disorders, 17*, 461-478.
- Affleck, G., Tennen, H., & Rowe, J. (1991). *Infant in crisis: how parents cope with newborn intensive care and its aftermath*. New York: Springer-Verlag.
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual-Text Revision* (4th ed.; DSM-IV TR). Washington, DC: Author.
- Ayers, S. (2004). Delivery as a traumatic event: Prevalence, risk factors, screening & treatment for postnatal posttraumatic stress. *Clinical Obstetrics & Gynecology, 47*(3), 552-567.
- Ayers, S., & Pickering, A. D. (2001). Do women get posttraumatic stress disorder as a result of childbirth? A prospective study of incidence. *Birth, 28*(2), 111-118.
- Ballard, C. G., Stanley, A. K., & Brockington, I. F. (1995). Post Traumatic Stress Disorder (PTSD) after childbirth. *British Journal of Psychiatry, 166*, 525-528.
- Beck, A. T., Emery, G. A., & Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Basic Books.
- Beck, C. T. (2004). Birth trauma: In the eye of the beholder. *Nursing Researches, 53*, 28-35.
- Briere, J., Weathers, F., & Runtz, M. (2005). Is dissociation a multidimensional construct? Data from the Multiscale Dissociation Inventory. *Journal of Traumatic Stress, 18*(3), 221-231.
- Bydłowski, M., & Raul-Duval, A. (1978). Un avatar psychique méconnu de la puepéralité: La névrose traumatique post-obstétricale. *Perspectives Psychiatriques, 4*, 321-8.
- Creedy, D. K. (1999). Postnatal depression and posttraumatic stress disorder: What are the links? *Birth, 8*, 125-130.
- Creedy, D. K., Shochet, I. M., & Horsfall, J. (2000). Childbirth and the development of acute trauma symptoms: Incidence and contributing factors. *Birth, 27*(2), 104-111.
- Czarnocka, J., & Slade, P. (2000). Prevalence and predictors of post-traumatic stress symptoms following childbirth. *British Journal of Clinical Psychology, 39*, 35-41.
- DeMier, R. L., Hynan, M. T., Harris, H. B., & Manniello, R. L. (1996). Perinatal stressors as predictors of symptoms of posttraumatic stress in mother and infants at high-risk. *Journal of Perinatology, 16*, 276-280.
- Di Blasio, P. & Ionio, C. (2002). Childbirth and narratives: How do mothers deal with their childbirth? *Journal of Prenatal and Perinatal Psychology and Health, 17*(2), 143-151.
- Di Blasio, P. & Ionio, C. (2005). Postpartum stress symptoms and child temperament: A follow-up study. *Journal of Prenatal and Perinatal Psychology and Health, 19*(3), 185-198.
- Fones, C. (1996). Posttraumatic stress disorder occurring after painful childbirth. *Journal of Nervous and Mental Disease, 184*, 195-196.
- Harlbreich, U. (2005). The association between pregnancy processes, preterm delivery, low birth weight and post partum depression. The need for interdisciplinary integration. *American Journal of Obstetric and Gynecologic, 193*, 1312-1322.
- Hathaway, S. R., & McKinley, J. C. (1995). *MMPI-2. Minnesota Multiphasic Personality Inventory-2*. Firenze: OS. (Original work published 1989)
- Hynan, M. T. (1998). The perinatal posttraumatic stress disorder (PTSD) questionnaire (PPQ). In R. Wood & C. P. Zalaquette (Eds.), *Evaluating stress: A handbook of resources (vol. 2)*. London: The Scarecrow Press, Inc.

- Lepore, S. (1997). Expressive writing moderates the relation between intrusive thoughts and depressive symptoms. *Journal of Personality and Social Psychology, 73*, 1030-1037.
- Matthey, S., Barnett, B., Howie, P., & Kavanagh, D. J. (2003). Diagnosing postpartum depression in mothers and fathers: Whatever happened to anxiety? *Journal of Affective Disorders, 74*, 139-147.
- McMahon, C., Barnett, B., Kowalenko, N., & Tennant, C. (2001). Postnatal depression, anxiety and unsettled infant behavior. *Australian and New Zealand Journal of Psychiatry, 35*, 581-588.
- Menage, J. (1993). Posttraumatic stress disorders in women who have undergone obstetric and or gynecological procedures: A consecutive series of 30 cases of PTSD. *Journal of Reproductive and Infant Psychology, 11*, 221-228.
- Pancheri, P., & Sirigatti, S. (1995). *Minnesota Multiphasic Personality Inventory - 2*. Firenze: OS.
- Pennebaker, J. W. (1985). Traumatic experience and psychosomatic disease: Exploring the roles of behavior, obsession and confiding. *Canadian Psychology, 26*, 82-95.
- Pennebaker, J. W. (1999). Tradurre in parole le esperienze traumatiche: Implicazioni per l'abuso infantile e per il mantenimento della salute. *Psicologia della salute, 2*, 32-48.
- Pennebaker, J. W., & Beall, S. K. (1986). Confronting a traumatic event: Toward and understanding of inhibition and disease. *Journal of Abnormal Psychology, 95*, 274-281.
- Pennebaker, J. W., Kielcolt-Glaser, J. K., & Glaser, R. (1988). Disclosure of traumas and immune function: Health implication for psychotherapy. *Journal of Consulting and Clinical Psychology, 64*, 239-245.
- Quinnel, F. A., & Hynan, M. T. (1999). Convergent and discriminant validity of perinatal PTSD questionnaire (PPQ). *Journal of Traumatic Stress, 12*(1), 193-199.
- Shear, M. K., & Mammen, O. (1995). Anxiety disorders in pregnant and postpartum women. *Psychopharmacology Bulletin, 31*, 693-703.
- Soet, J. E., Brack, G. A., & Dilorio, C. (2003). Prevalence and predictors of women's experience of psychological trauma during childbirth. *Birth, 30*, 36-46.
- van Son, M., Verkerk, G., van der Hart, O., Komproe, I., & Pop, V. (2005). Prenatal depression, mode of delivery and perinatal dissociation as predictors of postpartum posttraumatic stress: An empirical study. *Clinical Psychology and Psychotherapy, 12*, 297-312.
- Wegner, D., Schneider, D., Carter, S., & White, T. (1987). Paradoxical aspects of thought suppression. *Journal of Personality and Social Psychology, 53*, 5-13.
- Wenzel, A., Haugen, E. N., Jackson, L. C., & Brendle, J. R. (2005). Anxiety symptoms and disorders at eight weeks postpartum. *Journal of Anxiety Disorders, 19*, 295-311.
- White, T., Matthey, S., Boyd, K., & Barnett, B. (2006). Postnatal depression and post-traumatic stress after childbirth: Prevalence, course and co-occurrence. *Journal of Reproductive and Infant Psychology, 24*(2), 107 – 120.
- Wijma, K., Wijma, B., & Soderquist, M. A. (1997). Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetric and Gynecologic, 11*(6), 587-597.
- Wijma, K., Wijma, B., & Zar, M. (1998). Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetric and Gynecologic, 19*, 84-97.