Postpartum posttraumatic stress disorder in a fetal high-risk maternity hospital in the city of Rio de Janeiro, Brazil

Transtorno do estresse pós-traumático no puerpério em uma maternidade de alto risco fetal no Município do Rio de Janeiro, Brasil

Trastorno de estrés postraumático en el puerperio de una maternidad de alto riesgo fetal en el municipio de Río de Janeiro, Brasil

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Abstract

The objectives of this study were to estimate the prevalence of postpartum posttraumatic stress disorder (PTSD) in a maternity hospital for fetal high-risk pregnancies and to identify vulnerable subgroups. This was a cross-sectional study at a fetal high-risk maternity hospital in Rio de Janeiro, Brazil, with a sample of 456 women who had given birth at this hospital. The Trauma History Questionnaire *and* Post-Traumatic Stress Disorder Checklist *were used to screen for lifetime traumatic events and PTSD symptoms, respectively. Overall prevalence of PTSD was 9.4%. Higher PTSD prevalence was associated with three or more births, a newborn with a 1-minute Apgar score of seven or less, history of mental disorder prior to or during the index pregnancy, postpartum depression, physical or psychological intimate partner violence during the pregnancy, a history of unwanted sexual experience, and lifetime exposure to five or more traumas. Rapid diagnosis and treatment of PTSD are essential to improve the mother's quality of life and the infant's health.*

Post-Traumatic Stress Disorders; High Risk Pregnancy; Postpartum Period

Resumo

O objetivo deste artigo é estimar a magnitude de transtorno do estresse pós-traumático (TEPT) no puerpério em uma maternidade de referência para agravos perinatais e identificar subgrupos vulneráveis. Trata-se de um estudo transversal realizado uma maternidade de alto risco fetal no Rio de Janeiro, Brasil, com 456 mulheres que realizaram o parto na instituição. O Trauma History Questionnaire *e o* Post-Traumatic Stress Disorder Checklist *foram utilizados para captar experiências traumáticas e sintomas de TEPT, respectivamente. A prevalência geral de TEPT foi de 9,4%. O TEPT mostrou-se mais prevalente entre mulheres com três ou mais partos, que tiveram recém-nascido com Apgar no 1º minuto menor ou igual a sete, com histórico de agravo mental antes ou durante a gravidez, com depressão pós-parto, que sofreram violência física ou psicológica perpetrada por parceiro íntimo na gravidez, que tiveram experiência sexual não desejada e que foram expostas a cinco ou mais traumas. Rápido diagnóstico e tratamento são fundamentais para melhorar a qualidade de vida da mulher e a saúde do recém-nascido.*

Transtornos de Estresse Pós-Traumáticos; Gravidez de Alto Risco; Período Pós-Parto

Introduction

Post-traumatic stress disorder (PTSD) is a mental condition that can occur in response to traumatic events in the individual's life. Symptoms are characterized by the following three psychopathological dimensions: (1) reliving the trauma (e.g., intrusive thoughts or memories, nightmares); (2) avoidance of stimuli that remind one of the traumatic event/ emotional blunting (e.g., avoiding thoughts, places, or situations that remind one of the traumatic event, no longer feeling affection for one's family); and (3) hyper-excitability (e.g., easily startled, always hyper-vigilant) [1]. Although PTSD has been studied for several decades, postpartum PTSD has only been investigated more frequently in the last ten years. When diagnosed in the postpartum, PTSD may result from two distinct conditions [2]. Some women develop postpartum PTSD from experiencing traumatic situations related to birthing and/or the infant's health in the first days of life, with maternal or neonatal complications as the principal risk factors in this context [3]. A second group of situations involves women that experienced some trauma before or during the pregnancy, not necessarily related to the gestational cycle. These women develop postpartum PTSD from reliving previous traumas or by continuation of the PTSD acquired during the pregnancy [4]. The main risk factors in such cases are the lifetime accumulation of traumatic events [5].

Prevalence of postpartum PTSD has not proven as negligible as initially believed. Estimated prevalence rates vary from 1% to 9%, with a mean of 3.1% among low-risk women. However, prevalence is higher among women in high-risk subgroups, varying from 10% to 30%, with a mean of 15.7% [2]. The only Brazilian study on the topic was conducted in the city of Recife, Pernambuco State, in 2009, based on interviews with 400 women with a history of uncomplicated pregnancies and who had brought their infants for regular follow-up at the pediatric outpatient clinics in three hospitals (two public and one private). According to the authors, PTSD prevalence was 5.3% [6].

Given the theme's relevance and the scarcity of studies both in Brazil and elsewhere in the world, the current study aimed to expand the knowledge on this problem in Brazil in a public maternity hospital that receives referrals of fetal high-risk pregnancies. The choice of a maternity hospital with this profile is justified precisely to estimate the prevalence of PTSD among women with different predisposing factors, including maternal and perinatal clinical characteristics. Studies elsewhere in the world have generally been done in institutions focused on care for low-risk pregnancies and exclude women with stillbirths or early neonatal deaths [3], thus potentially extending interest in the results of our study. In addition, information on which subgroups appear more vulnerable to developing PTSD may facilitate health services' screening for the disorder among women at risk.

Given the above, the main objectives of our study were to estimate the prevalence of PTSD in a public maternity hospital specializing in fetal high-risk pregnancies in the city of Rio de Janeiro State, Brazil, and to identify vulnerable subgroups for the disorder.

Methods

Study design and location

This was a cross-sectional study in the Fernandes Figueira Institute, Oswaldo Cruz Foundation (IFF/Fiocruz), a referral service for fetal high-risk pregnancies in Rio de Janeiro. Since the hospital has a neonatal intensive care unit, a large share of the women that give birth there have a history of perinatal hemolytic disease, fetal malformations, altered amniotic fluid volume, intrauterine growth restriction (IUGR), and genetic disorders in the current or previous pregnancies, or are part of obstetric and/or fetal risk groups (adolescents, over 35 years of age, HIV-positive, with twin pregnancies, among others).

Study population, eligibility criteria, and data collection

The study's sample size was determined by operational issues. No formal estimate was made due to the lack of information on PTSD prevalence in fetal high-risk maternity services in Brazil at the time the study was performed. Prior calculation of the sample size would have been merely speculative. We thus opted to investigate all the women who had given birth at IFF/Fiocruz and were attending their postpartum follow-up appointments from February to July 2011.

Interviews were held preferentially between the 6th and 8th weeks postpartum, before or after the clinical consultation, by a team of 10 previously trained interviewers. For patients that missed their appointments, an active search was done using their telephone contact information, aimed at scheduling a new appointment. When this was not possible, the interview was held by telephone.

Variables and measurement instruments

Target information was obtained with a structured and multidimensional questionnaire that includ-

ed items on the woman's socio-demographic and reproductive characteristics; maternal psychological experiences in the gravidic-puerperal cycle; personal psychiatric history (self-reported); general characteristics of the delivery; newborn's health status; intimate partner violence; and information on previous traumatic experiences and the PTSD screening instrument.

We screened for history of traumatic events using the *Trauma History Questionnaire* (THQ), previously adapted for use in Brazil [7]. The instrument consists of 26 items that address potentially traumatic situations. Individuals indicate whether they have experienced the situation mentioned in each item, the magnitude of the trauma (1-none to 5-high), and the person's age at the time of the event.

The *Post-Traumatic Stress Disorder Checklist* (PCL-C) adapted to Brazil was used to identify symptoms of postpartum PTSD [8,9,10]. PCL-C has 17 items, of which five refer to symptoms of reliving (criterion B), seven to avoidance behavior/emotional blunting (criterion C), and five to symptoms of hyper-excitability (criterion D). Besides informing the symptoms' presence or absence, the respondent also reported their magnitude, or the degree to which the symptoms are bothersome, using a scale of severity from 1 (not at all) to 5 (extremely). Symptoms were considered significant when the person scored 3 or more on the item. Women were considered positive on the PCL-C when they had at least one significant symptom for criterion B, at least three for criterion C, and two for criterion D [9,10].

PCL-C was chosen for screening suspected cases of PTSD since it is based on DSM-IV (*Diagnostic and Statistical Manual of Mental Disorders*) [10] and has shown psychometric properties in previous international studies, and because there was already a cross-culturally adapted version for use in Brazil. Results of a recent review on the instrument's criterion validity indicate that when the instrument is consolidated as in the current study (considering the cluster of representative items for the principal PTSD symptoms), its sensitivity has varied from 0.39 to 0.94 and its specificity from 0.79 to 0.94 in adult populations [11].

A suspected case of PTSD was defined as the woman having experienced at least one high-intensity traumatic situation (intensity 4 or 5 on at least one item in the THQ) and a positive score on the PCL-C. The option for the method that requires a history of previous trauma is justified by the fact that this definition of PTSD is based on the DSM-IV-R [1].

Investigation of postpartum depression (PPD) used the *Edinburgh Postnatal Depression Scale* (EPDS) [12,13], previously adapted for use in Brazil. We chose the 11/12 cutoff suggested by Santos et al. [14] due to satisfactory estimates of sensitivity (72%), specificity (88%), and accuracy (83%) when used in a sample of Brazilian pregnant women.

To detect situations of intimate partner violence during the pregnancy we used the *Revised Conflict Tactics Scales* (CTS2), adapted to Brazil. This study only used the psychological and physical violence subscales, referring only to violence against the woman during the index pregnancy. A positive case of physical and/or psychological violence was defined as the woman responding affirmatively to at least one item on these subscales [15,16,17].

Statistical analysis

PTSD prevalence rates were estimated for the entire sample and certain subgroups, with the respective 95% confidence intervals (95%CI). Fischer's exact test was used to test the homogeneity of prevalence rates in the subgroups, considering alpha ≤ 0.05 to identify statistically significant differences. All analyses were performed in Stata, release 13 (StataCorp LP, College Station, USA).

Ethical aspects

This study complies with the guidelines and regulatory standards for research in human subjects according to Rulings n. 196/1996 and n. 466/2012 of the Brazilian National Health Council and the *Declaration of Helsinki*. The study was also approved by the Institutional Review Board of the IFF/Fiocruz (CAAE n. 0040.0.008.000-10). Women whose interviews suggested a diagnosis of PTSD or PPD were referred to consultation with a mental health specialist.

Results

A total of 516 patients were eligible. Of these, 456 (88.4%) were interviewed, leaving 60 losses (11.6%). Data were collected through face-a-face interviews (95%) or by telephone (5%). In the interviewed population, prevalence of postpartum PTSD was 9.4% (95%CI: 7.0; 12.4). Tables 1, 2, 3, and 4 show the sample's profile and prevalence of PTSD in various subgroups, according to certain socioeconomic, demographic, reproductive, and maternal and neonatal health characteristics and history of various types of trauma. As shown, women were predominantly young, with average schooling, married or living with a partner, and reported having wanted to become pregnant (Table 1). In terms of the newborns' health, since this is a referral hospital for fetal high-risk pregnancies,

Table 1

Prevalence of postpartum posttraumatic stress disorder (PTSD) in subgroups according to socioeconomic profile, reproductive history, and characteristics of index pregnancy in the study population.

	n (N = 456)	%	PTSD (%)	95%CI	p-value
Age (years)					
< 20	128	28.1	9.4	4.9; 15.8	
20-35	277	60.7	10.1	6.8; 14.3	0.637
≥ 36	51	11.2	5.9	1.2; 16.2	
Maternal schooling					
≤ incomplete secondary school	242	53.1	11.2	7.5; 15.8	0.180
≥ complete secondary school	214	46.9	7.5	4.3; 11.8	
Skin color/race					
White	198	43.4	8.0	7.0; 14.9	
Black	70	15.3	11.4	5.0; 21.2	0.654
Brown/Mixed-race	188	41.3	10.1	6.2; 15.3	
Conjugal status					
Married/With partner	391	85.7	8.9	6.3; 12.2	0.391
Other	65	14.2	12.3	5.5; 22.9	
Parity (births)					
1-2	370	81.1	8.1	5.5; 11.3	0.045
3 or more	86	18.9	15.1	8.3; 24.4	
History of stillbirth					
No	436	95.6	9.4	6.8; 12.5	0.929
Yes	20	4.4	10.0	1.2; 31.7	
History of early neonatal death					
No	433	95.0	9.0	6.5; 12.1	0.180
Yes	23	5.0	17.4	4.9; 38.8	
Wanted to become pregnant					
No	157	34.5	10.8	6.4; 16.7	0.459
Yes	299	65.5	8.7	5.7; 12.4	
Delivery					
Vaginal	209	45.8	9.6	5.9; 14.4	0.925
Cesarean *	247	54.2	9.3	6.0; 13.6	

95%CI: 95% confidence interval.

* Includes both elective and emergency cesareans.

there was a large contingent of children with some perinatal condition that required admission to the neonatal intensive care unit in their first days of life. A high percentage of women also screened positive for postpartum depression (Table 2). As shown in Table 3, the majority of the study population reported satisfaction with the care received at the maternity hospital, although a large share reported feeling fear during childbirth. Furthermore, a high percentage of women reported having been victims of physical and/or psychological violence during the pregnancy and having suffered potentially traumatic experiences over the course of life (Table 4).

There were no statistically significant differences between prevalence rates for PTSD in the subgroups based on socioeconomic characteristics or related to maternal characteristics in the current pregnancy. The only exception was parity (Table 1), since women with three or more births had a higher prevalence of PTSD when compared to women with fewer children. Although the prevalence rates for PTSD were not higher among mothers of premature newborns or those with early neonatal death, malformations, or admissions to the neonatal ICU, PTSD was significantly more prevalent among mothers of newborns with a 1-minute Apgar score of 7 or less. Women with a

Table 2

Prevalence of postpartum posttraumatic stress disorder (PTSD) in subgroups according to mother's and newborn's health.

	n (N = 456)	%	PTSD (%)	95%CI	p-value
Gestational age (weeks)					
≥ 37	326	71.5	8.6	5.8; 12.2	0.331
< 37	130	28.5	11.5	2.9; 19.3	
Perinatal outcome					
Live birth	383	84.0	8.9	6.2; 12.2	
Stillbirth	30	6.6	6.7	0.8; 22.1	0.251
Early neonatal death	43	9.4	16.3	6.8; 30.7	
Birth weight (g)					
≥ 2,500	329	72.1	9.4	6.5; 13.1	
1,500-2,499	82	18.0	8.5	3.5; 16.8	0.893
< 1,500	45	9.9	11.1	3.7; 24.0	
1-minute Apgar score					
≤ 7	162	35.5	13.6	8.7; 19.8	
> 7	294	64.5	7.1	4.5; 10.7	0.024
IUGR					
No	375	82.2	9.3	6.6; 12.7	
Yes	81	17.8	9.9	4.4; 18.5	0.879
Fetal malformation					
No	320	70.2	8.1	5.3; 11.7	
Yes	136	29.8	12.5	7.4; 19.2	0.144
Admission to neonatal ICU					
No	311	73.0	8.0	5.3; 11.6	
Yes	115	27.0	13.9	8.2; 21.6	0.068
Psychological disorder prior to index pregnancy					
No	425	93.2	8.0	5.6; 11.0	
Yes	31	6.8	29.0	14.2; 48.0	< 0.001
Psychological disorder during index pregnancy					
No	426	93.4	7.5	5.2; 10.4	
Yes	30	6.6	36.7	19.9; 56.1	< 0.001
Postpartum depression					
No	345	75.7	2.3	1.0; 4.5	
Yes	111	24.3	31.5	23.0; 41.0	< 0.001

95%CI: 95% confidence interval; IUGR: intrauterine growth restriction.

history of mental disorders prior to or during the index pregnancy and women with suspicion of postpartum depression also showed higher prevalence rates for PTSD (Table 2). As shown in Table 3, there was a higher prevalence of suspected cases of PTSD in women who reported feeling lack of control and fear during childbirth/cesarean and in those who had experienced intimate partner violence (physical and/or psychological) during the pregnancy. Meanwhile, the results in Table 4 indicate that prevalence was also higher in women who had experienced neighborhood violence, serious injuries (to themselves or others), death of family members or friends, unwanted sexual experiences, and violence perpetrated by other family members or close persons over the course of life. Importantly, women with a history of childhood trauma showed higher prevalence of PTSD symptoms when compared to women that reported trauma at other times in life. This was particularly true for trauma associated with unwanted sexual experience. PTSD affected one-fourth of women that reported having been victims of unwanted sexual experiences before 12 years of age, and

Table 3

Prevalence of postpartum posttraumatic stress disorder (PTSD) in subgroups according to maternal perceptions and experiences during the gravidic-puerperal cycle.

	n (N = 456)	%	PTSD (%)	95%CI	p–value
Maternal perception of care received during childbirth/cesarean					
Bad	9	2.0	11.1	0.3; 48.2	
Good/Very good	123	27.0	7.3	3.4; 13.4	
Excellent	324	71.0	10.2	7.1; 14.0	0.641
Woman felt in control during childbirth/cesarean					
No	52	11.4	17.3	8.2; 30.3	
Yes	404	88.6	8.4	5.9; 11.6	0.039
Fear of childbirth/cesarean					
None or little	278	61.0	4.7	2.5; 7.9	< 0.001
Yes	178	39.0	16.8	11.6; 23.2	
Fear of childbirth/cesarean during index pregnancy					
None or little	297	65.1	4.7	2.6; 7.8	< 0.001
Yes	159	34.9	18.2	12.6; 25.1	
Physical violence during the pregnancy	444 *				
No	350	78.8	6.3	4.0; 9.4	< 0.001
Yes	94	21.2	19.8	11.8; 28.6	
Psychological violence during the pregnancy	444 *				
No	125	28.1	2.4	0.4; 6.8	0.002
Yes	319	71.9	11.6	8.2; 15.6	

95%CI: 95% confidence interval.

* Number of women who were married/with partner throughout the pregnancy.

PTSD was twice as common in these women when compared to those that had suffered the same traumatic experience during other moments in life. In addition, increasing number of lifetime traumas was associated with higher prevalence of postpartum PTSD.

Discussion

The study sample's profile is characteristic of a fetal high-risk referral service, since many newborns presented some type of perinatal problem. Prevalence rates for prematurity (28.5%), 1-minute Apgar score ≤ 7 (35.5%), low birth weight (27.9%), and some type of congenital malformation (29.8%) were far higher than in the total 2011 birth cohort in the city of Rio de Janeiro (Departamento de Informática do SUS. Sistema de Informação sobre Nascidos Vivos. http://tabnet.datasus.gov.br/cgi/deftohtm.exe?sinasc/cnv/nvrj.def, accessed on 01/Sep/2013). Since previous studies have pointed to a higher prevalence of postpartum PTSD among mothers of newborns with some type of perinatal problem, this observation indicates that the current study's results can only be transposed automatically to similar scenarios, i.e., referral maternity centers for fetal high risk.

PTSD prevalence in the sample as a whole was 9.4%. This estimate is lower than in most international studies in high-risk populations. For example, Åhlund et al. [18] estimated 17% prevalence in mothers of newborns with birth weight less than 1500g in the United Kingdom 20; Nagata et al. [19] found 20% PTSD in women whose infants underwent neonatal surgeries to correct malformations in Japan; Goutaudier et al. [20] found 30% prevalence in mothers of premature newborns in France; and women whose infants were admitted to the neonatal ICU in the United States showed PTSD prevalence rates from 9% to 23% [21,22,23].

Contrary to expectations [24], PTSD prevalence did not differ based on socio-demographic characteristics or reproductive history, with the exception of parity. Women with a history of three or more births showed nearly twofold prevalence of postpartum PTSD when compared to women with fewer children. Although this result should be viewed with caution due to the estimates' wide confidence intervals, the higher prevalence in multiparous women may have resulted from pathological fear of pregnancy secondary to previous traumatic

birthing experiences. According to some studies, traumatic events in previous childbirth can be an important risk factor for developing PTSD in later pregnancies [25,26].

In relation to the newborn's health, it was expected that mothers of infants with perinatal problems such as low birth weight, IUGR, and malformations, as well as stillbirths and early neonatal deaths, would have a higher prevalence of PTSD due to the potential trauma of these events for the woman [2,3]. However, this did not prove true. Postpartum PTSD was only more prevalent among mothers of newborns with 1-minute Apgar ≤ 7, although with some overlapping of the confidence intervals for the estimates in the subgroups.

Several hypotheses could explain the fact that these women did not show higher PTSD prevalence. First, some suspected cases of PTSD in this study may not have been incident cases in the postpartum period, but chronic or acute-on-chronic cases. Thus, the PTSD would not be associated with current health problems, but with previous traumatic events. This hypothesis is supported by evidence that women who reported childhood trauma had twice the likelihood of PTSD when compared to women without this history. Another possibility is that some PTSD cases that emerged in the postpartum period resulted from a series of lifetime traumas which added to each other to generate the disorder at a stressful moment (the birth of a child in this case). Higher prevalence of PTSD in women with more previous traumas supports this hypothesis. The study's sample size may also have been insufficient to identify small differences between prevalence rates in certain subgroups as statistically significant.

Importantly, since this was a maternity hospital specialized in fetal high-risk pregnancies, maternal care over the course of pregnancy and during childbirth would tend to include measures that act to prevent the development of PTSD. A supportive multidisciplinary approach can help women feel more protected and prepared over the course of pregnancy to withstand such situations emotionally. In this sense, neonatal health problems would not come as surprises, thereby reducing the likelihood of subsequent trauma. The fact that only 2% of the women reported a negative perception of the care received from the health team during childbirth supports this idea.

Although the questions on the health of the mother and newborn were not good markers for postpartum PTSD, all the psychosocial factors that were addressed appear to be associated with higher prevalence of PTSD during this period. This finding agrees with the systematic review by Andersen et al., according to whom women with previously compromised mental health are more prone to developing other mental disorders after giving birth [3].

Meanwhile, maternal perceptions of the birthing/cesarean process proved to be good risk markers for PTSD. Women who reported feeling lack of control during childbirth/cesarean (with overlapping confidence intervals) and fear of childbirth/cesarean during the pregnancy or birthing showed higher PTSD prevalence rates than those with good expectations and who had a positive experience in giving birth to their children. These findings corroborate previous studies, since evidence shows that lack of control and fear of childbirth make women more vulnerable to facing the birthing experience as traumatic. Several studies have shown fear of childbirth as a strong predictor of postpartum PTSD [27,28,29].

Another issue that merits debate is the higher PTSD prevalence rates in women that reported intimate partner violence during the index pregnancy. Cerulli et al. [30] also suggest that prevalence is higher in this subgroup (17.5%) than in non-victims of intimate partner violence (6.8%). Thus, in addition to allowing measures to interrupt such violence, screening of intimate partner violence throughout pregnancy allows triggering measures to prevent postpartum PTSD.

Considering lifetime traumatic events, prevalence of PTSD was much higher in women that reported a history of sexual abuse some time in life. Previous studies already indicated that this severe form of violence, often perpetrated by close and trusted individuals, leaves women more vulnerable to developing PTSD and other mental disorders [5,31,32]. This situation was repeated in the current study, since PTSD prevalence was also far higher (16.7%) in women that reported this trauma. Childhood sexual abuse appears to be even more serious, since 25.7% of women with this history developed suspected cases of postpartum PTSD. Other studies corroborate this result [3,33,34].

Trauma resulting from unwanted sexual experience is apparently not the only potential factor for developing postpartum PTSD. Neighborhood violence, serious injuries, death of family members and friends, violence perpetrated by family members and friends, lifetime traumas, and childhood trauma were also associated with higher prevalence of PTSD, although the confidence intervals overlapped in some of these situations. Although these events have been related to the development of PTSD in other contexts [35], the relations and paths between such situations and postpartum PTSD have still received little attention in the literature and merit further studies.

As discussed above, women with a history of negative psychosocial events before, during, and after pregnancy showed a higher prevalence of

Table 4

Prevalence of postpartum posttraumatic stress disorder (PTSD) in subgroups according to reported lifetime traumas.

	n (N = 456)	%	PTSD (%)	95%CI	p-value
Neighborhood violence					
No	228	50.0	6.6	3.7; 10.6	0.037
Yes	228	50.0	12.9	8.3; 17.2	
Natural or human-made disasters					
No	375	82.2	8.8	6.1; 12.1	0.322
Yes	81	17.8	12.3	6.0; 21.5	
Serious illness (own)					
No	415	91.0	8.7	6.1; 11.8	0.079
Yes	41	9.0	17.0	2.7; 23.1	
Exposure to corpses and mutilated bodies					
No	239	52.4	8.4	5.2; 12.6	0.416
Yes	217	47.6	10.6	6.8; 15.5	
Serious injuries (own)					
No	122	26.7	3.3	0.9; 8.2	0.007
Yes	334	73.3	11.7	8.4; 15.6	
Death of family members or friends					
No	93	20.4	2.1	0.3; 7.5	0.007
Yes	363	79.6	11.3	8.2; 15.0	
Violence perpetrated by family members or close persons					
No	264	57.9	6.0	3.5; 9.6	
Yes	192	42.1	14.0	9.5 19.9	0.004
Unwanted sexual experience					
No	360	79.0	7.5	5.0; 10.7	
Yes, ≥ 12 years of age	61	13.4	11.5	4.7; 22.2	0.002
Yes, < 12 years of age	35	7.6	25.7	12.5; 43.2	
Number of lifetime traumas					
0-2	142	31.1	0.70	0.1; 3.9	
3-4	196	43.0	11.2	7.2 16.5	< 0.001
5-7	118	25.9	17.0	10.8; 25.0	

95%CI: 95% confidence interval.

PTSD, thus indicating the importance of these variables as risk markers for the disorder. Such evidence requires including psychosocial assessment of the woman and family as part of routine follow-up of the postpartum period and the infant's early months of life. Unfortunately, according to the World Health Organization and various Brazilian and international researchers, the incorporation of these aspects into the care provided by health services is still a challenge for most health professionals and departments [36]. This difficulty may have different reasons, ranging from insufficient basic training in approaching the issue to more pragmatic aspects such as the large number of patient consultations per shift and the limited availability of referrals for mental health consultations, among others.

Given this situation, it would be important for mental health to receive more attention in the curricula for undergraduate training and continuing education for health professionals. Approaches that involve multidisciplinary care for the entire family in addition to the care offered to individual members would also be productive. In this setting, health promotion, the family-centered approach, and home visits proposed by Brazil's Family Health Strategy appear promising, since they allow comprehensive care for the woman within her family and social reality. In addition, since family health teams can spend more time with the families, they are better able to establish bonds, facilitating early detection of potential problems. This closeness also allows addressing delicate topics such as emotional

problems, intimate partner violence during pregnancy, exposure to traumatic situations over the course of life, and negative perceptions of childbirth, all of which proved essential for screening PTSD in the current study.

Greater integration between the health teams providing care to the woman and those seeing the infant in the first months of life could also facilitate detection and intervention in cases of PTSD. Timely dialogue among these healthcare professionals would facilitate sharing knowledge on the occurrence of disorders in certain subgroups, thus promoting postpartum case detection. Furthermore, pregnancy, postpartum, and infant follow-up by pediatrics provide unique windows of opportunity for screening mental disorders, including PTSD. These are phases of life in which the woman frequently attends health services, so that the entire health team is uniquely positioned to identify the problem.

The study's results should be interpreted in light of its strengths and limitations. Its strengths feature the use of measures that have been validated and cross-culturally adapted to Brazil for screening the most complex and relevant constructs (PTSD, PPD, intimate partner violence, and history of traumas). Another important point was the active search that allowed recovering 23.2% of eligible patients who had not returned for postpartum follow-up, thereby reducing the losses to only 11.6%. In terms of limitations, although there were no important differences in relation to the majority of the socio-demographic and reproductive characteristics or the index pregnancy when comparing the women included in the study and those that could not be contacted, one cannot rule out the possibility of selective losses, since patients with PTSD are expected to be more resistant to routine follow-up by health services. The loss of these women may thus have underestimated the real prevalence of this disorder in this patient population. Another limitation was the fact that history of psychiatric problems before and during the pregnancy was self-reported. This limitation tends to underestimate the real prevalence of these disorders. Equally important is the fact that the instrument used to detect PTSD symptoms (PCL-C) does not explicitly mention the need for their persistence for 30 days in order to characterize a suspected case, a criterion recommended by the DSM-IV-R. However, when investigating each symptom's severity in the previous 30 days, and only defining as positive those individuals who reported that they were moderately, considerably, or extremely bothered by the respective symptoms, the instrument is expected to filter exactly the chronic situations, characteristic of the disorder. Finally, the study's principal limitation appears to have been the inability to distinguish between cases of PTSD that began in the postpartum period and preexisting cases, due to the lack of specific information on the disorder before and during the index pregnancy. The difficulty in identifying statistically significant differences between women from certain subgroups may have been due to this limitation.

In short, the study indicates that postpartum PTSD is not a rare problem in high-risk maternity hospitals and that it deserves attention due to the severe consequences for maternal and child health. The disorder was more frequent in women with a history of psychosocial problems, especially those reporting exposure to intimate partner violence, sexual abuse, psychological difficulties related to pregnancy and childbirth, and previous trauma. An approach that encompasses these issues during prenatal care and in the infant's first days of life will facilitate rapid diagnosis and treatment, essential for relieving the woman's psychological distress and improving her quality of life, leaving her well and able to care for her infant [37].

Resumen

El propósito de este artículo es estimar la magnitud del trastorno de estrés postraumático (TEPT) en el período post-parto, en una maternidad de referencia para los problemas perinatales e identificar subgrupos vulnerables. Se trata de un estudio transversal, realizado en una maternidad de alto riesgo fetal de Río de Janeiro, Brasil, a con 456 mujeres que habían realizado parto en la institución. Trauma History Questionnaire y Post-Traumatic Stress Disorder Checklist se utilizaron para capturar experiencias traumáticas y síntomas de TEPT, respectivamente. La prevalencia global de TEPT fue del 9,4%. El TEPT fue más frecuente entre las mujeres con tres o más partos, que tuvieron niños con Apgar en el minuto 1 inferior o igual a siete, con un historial de lesión mental antes o durante el embarazo, con depresión posparto, que sufrieron violencia física o psicológica perpetrada por su pareja durante el embarazo, que tuvieron experiencia sexual no deseada durante la infancia y que fueron expuestas a cinco o más traumas. Diagnóstico precoz y el tratamiento son fundamental para mejora en la calidad de las mujeres de la vida y la salud del recién nacido.

Trastornos por Estrés Postraumático; Embarazo de Alto Riesgo; Periodo Posparto

Contributors

T. Henriques participated in the data analysis, interpretation of the results, and writing of the article. C. L. Moraes collaborated on the study planning, data collection, data analysis, and writing of the final article. M. E. Reichenheim contributed on the study planning, data analysis, and writing of the final article. G. L. Azevedo was the research project coordinator and worked on the data collection, data analysis, and writing of the final article. E. S. F. Coutinho and I. L. V. Figueira participated in the elaboration of the research project, discussion of the results, and writing of the final article.

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