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BRIEF COMMUNICATION

Association between perception of maternal bonding styles and social anxiety disorder among young women

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Objective: To evaluate the association between social anxiety disorder (SAD) and perceived maternal bonding styles among young women during pregnancy and 30 months after childbirth.
Methods: A cohort of young women from the city of Pelotas, Brazil was followed up from pregnancy to 30 months postpartum. The Mini Neuropsychiatric Interview Plus was used to assess SAD and the Parental Bonding Instrument was administered to measure maternal bonding styles. Poisson regression with robust variance was used for multivariable analysis.
Results: After adjusting for potential confounding factors, SAD prevalence was 6.39 times higher among young women who perceived their mothers as neglectful (prevalence ratio [PR] 6.39; 95% confidence interval [95%CI] 1.2-32.0), and 5.57 times higher in women who perceived their mothers as affectionless controlling (PR = 5.57; 95%CI 1.5-19.7) when compared with those who received optimal care.
Conclusion: Maternal bonding style may have an influence on the development of SAD. Therefore, support and early prevention strategies should be offered to the family.

Keywords: Phobic disorder; maternal behavior; mother-child relations

Introduction

Social anxiety disorder (SAD) usually begins in adolescence[1] and is more frequent among women[2-5] and youth,[3,6] with prevalence rates ranging between 5.0 and 8.3% among young women.[1,5-6] Studies in general population have suggested that the perception of parental bonding styles,[4,7] especially maternal bonding,[7] is associated with SAD. Perceiving their parents as less caring,[4,7] especially maternal bonding,[7] overprotective,[4,5,7] and neglectful[5,8] is associated with this disorder. However, there is little evidence in samples of pregnant young women. Thus, the objective of this study was to evaluate the possible association between SAD and perceived maternal bonding styles among young women during their second trimester of pregnancy (T1) and 30 months after childbirth (T2).

Methods

This study is part of a larger cohort study of maternal mental health and child development. The original sample consisted of pregnant adolescents, aged 19 or younger, receiving prenatal care through the Brazilian Unified Health System in the city of Pelotas, southern Brazil. Participants were recruited from October 2009 to March 2011 in 47 primary healthcare units and three public obstetric ambulatory care units. Pregnant women (T1) had a mean gestational age of 23 weeks and they were followed up until 30 months postpartum (T2).

Our main outcome (SAD) was evaluated using a Brazilian validated version of the Mini Neuropsychiatric Interview Plus[9] (MINI Plus), a short structured diagnostic interview compatible with DSM-IV criteria. The adolescents completed the MINI Plus at T1 and T2. Those individuals with a positive diagnosis of SAD at any time point were considered to be cases.

The Brazilian version of the Parental Bonding Instrument[10] (PBI) was used to measure perceived maternal bonding styles in terms of care and control. Based on the cutoff points of the validation study, we created dichotomous variables expressing high and low levels of care and control. We generated a variable by combining these two dimensions, which resulted in four bonding styles[11]: optimal bonding (high care and low control), affectionless control (low care and high control), affectionate constraint (high care and low control), and neglectful parenting (low care and low control).

In addition, we collected data on possible confounders, such as sociodemographic characteristics (age, marital status, education, occupation, and family income), social support, measured by the Medical Outcomes Study's Social Support Scale,[12] and abuse (physical violence), both prior to and during pregnancy, assessed by the Abuse Assessment Screen.[13] Finally, we included depression as a confounder. This mental disorder was also measured using the MINI Plus.[9]

Stata version 13 was used for the analysis. The chi-square test was used for univariate analysis. We used a Poisson regression model with robust variance to evaluate three hierarchical levels of analysis and estimate the crude

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and adjusted effects of the variables and SAD. The first hierarchical level included sociodemographic variables; the second level consisted of social support and physical violence; while the third level was related to the effect of maternal care model, also adjusted for diagnosis of depression. Only those variables that showed an apparent association with the outcome ($p < 0.2$) were included in the final model. We calculated prevalence ratio (PR) and 95% confidence intervals (95%CI).

This study was approved by the Ethics Committee of the Universidade Católica de Pelotas, RS, Brazil. All participants provided informed consent.

Results

Our initial sample included 537 young women who were followed up for 30 months after childbirth. Of these, 509 (95.3%) completed the measurement instruments. Their mean age was 20.1±1.6 years; 69.3% were classified as belonging to social class C; 75.9% had between 5 and 11 years of education; 63.6% were unemployed; and 53.5% were living with a partner.

The prevalence of SAD diagnosis in at least one of the assessments (T1 and T2) was 13.6%. The prevalence of SAD during pregnancy and 30 months after childbirth was 5.7%, and 9.2%, respectively. In the univariate analysis, SAD prevalence was higher in women who were not living with a partner ($p = 0.020$), had experienced any physical violence during or before pregnancy ($p = 0.001$), had current depression ($p < 0.001$), and reported neglectful or affectionless controlling maternal bonding ($p = 0.001$) (Table 1).

After adjusting for potential confounding factors, SAD prevalence was 6.39 times higher among young women who perceived their mothers as neglectful (PR = 6.39; 95%CI 1.2-32.0), and 5.57 times higher in women who perceived their mother as affectionless controlling (PR = 5.57, 95%CI 1.5-19.7) when compared with those who received optimal care.

Discussion

The prevalence of SAD was 13.6%, which is higher than that found in studies with women of the same age group.[1,5-6] However, it is important to notice that this prevalence was based on having a diagnosis of SAD in

Table 1 Sample characteristics and crude and adjusted analysis of young women with lifetime SAD

	n	Lifetime SAD (%)	Crude PR (95%CI)	p-value	Adjusted PR (95%CI)	p-value
Maternal age (years)				0.485		
Up to 20	278	12.6	0.86 (0.5-1.3)			
Above 21	231	14.7	1.00			
Socioeconomic status				0.154		0.334
A/B	84	8.8	1.00		1.00	
C	356	14.2	1.62 (0.7-3.4)		1.60 (0.5-4.4)	
D/E	69	16.7	1.90 (0.7-4.6)		2.42 (0.7-7.9)	
Education				0.064		0.170
Less than 5 years	38	27.0	2.94 (1.2-6.8)		3.75 (1.1-12)	
Between 5 and 8 years	202	12.7	1.38 (0.6-2.9)		1.27 (0.4-3.4)	
Between 8 and 11 years	184	13.9	1.51 (0.7-3.2)		1.26 (0.4-3.3)	
Between 11 and 14 years	85	9.2	1.00		1.00	
Living with partner				0.020		0.057
No	236	17.4	1.69 (1.0-2.6)		1.81 (0.9-3.3)	
Yes	273	10.3	1.00		1.00	
Occupation				0.226		
No	321	12.1	0.76 (0.4-1.1)			
Yes	188	16.0	1.00			
Overall social support				0.184		0.107
Low	287	10.7	0.72 (0.4-1.1)		0.67 (0.8-3.1)	
High	222	14.9	1.00		1.00	
Physical abuse during or before pregnancy				0.001		0.021
No	457	11.7	1.00		1.00	
Yes	52	28.8	2.47 (1.5-4.0)		2.61 (1.1-5.1)	
Current depression				< 0.001		< 0.001
No	420	8.0	1.00		1.00	
Yes	89	24.6	2.87 (1.8-4.5)		4.95 (2.4-10.1)	
Maternal bonding				0.001		0.026
Neglectful parenting	28	20.0	3.37 (1.1-9.7)		6.39 (1.2-32.0)	
Affectionless control	154	20.4	3.45 (1.5-7.6)		5.57 (1.5-19.7)	
Affectionate constraint	194	12.1	2.05 (0.9-4.6)		2.82 (0.7-10.3)	
Optimal parenting	133	5.9	1.00		1.00	

95%CI = 95% confidence interval; PR = prevalence ratio; SAD = social anxiety disorder.

at least one of the two time points (T1 and T2). It has been suggested that anxiety symptoms and consequently SAD diagnoses could be underestimated during pregnancy. Therefore, we considered that using the diagnosis at two different time points would be appropriate because, even when specificity would decrease, we would increase our sensitivity. The objective of this study was not to evaluate the prevalence of SAD at any of this time points. Actually, we intended to evaluate the association of SAD with the PBI, and therefore we believe this is an appropriate approach.

In our study, after adjusting for possible confounders, we found an association between SAD in young women and their perception of the quality of care provided by their mothers. The young women who perceived their mothers as more negligent or affectionless controlling were more likely to have SAD. These findings are in agreement with studies that found an association between SAD and lack of care/affection,[4,7] maternal overprotection and control,[4,5,7,8] as well as neglect.[5,10]

It is possible to suggest that maternal neglect may negatively affect children's self-perception. Nevertheless, because we did not measure maternal neglect directly, but the perception of maternal neglect instead, it may also be hypothesized that perceiving themselves as inadequate is what makes them perceive their mothers as inadequate.

Overprotection may also convey that the world is a place with a plentiful of dangerous situations and individuals, thus children need to be excessively protected. In addition, children may feel unable to cope alone with the adversities, which may generate anxiety. In contrast, children of overprotective mothers are often more shy and suspicious of others. Mothers who perceive their children as too shy and withdrawn tend to create strategies that restrict their autonomy, inhibit their search for new things, depriving their children of challenging experiences that are necessary to develop their self-regulatory abilities.[14] Regardless of causality, it is necessary to provide families with early prevention and intervention strategies, considering the contribution of the primary caregiver (mother) because the development of disorders, such as SAD, is associated with maternal bonding style.

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Disclosure

The authors report no conflicts of interest.

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