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The relationship between perinatal psychiatric disorders and contraception use among postpartum women

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Abstract

Background—The relationship between perinatal psychiatric disorders and the use of effective contraceptive methods among postpartum women served by primary care clinics has not been established.

Study Design—This was a prospective cohort study with 831 pregnant women recruited from 10 primary care clinics of the public sector in São Paulo followed up to 18 months after delivery.

Results—Among 701 postpartum women, 644 women (91.8%) had resumed sexual activity. Two hundred fifty-three women (39.2%) were classified as using a less effective contraception method (LECM). The presence of perinatal psychiatric disorder (in pregnancy and/or postpartum) was not associated with LECM. Resumption of sexual life 3 months or beyond after delivery was associated with LECM (odds ratio=1.28, 95% confidence interval: 1.02–1.56).

Discussion—Although the use of an LECM after delivery is common, contraception choice is not associated with perinatal depressive/anxiety symptoms. However, women who delay the resumption of sexual activity after delivery should be counseled on the use of available contraceptive methods.

Keywords

Perinatal depression; Contraceptive counseling; Contraception; Primary care; Women's health; Common mental disorders

1. Introduction

Unintended pregnancies are common events both in developed and in developing countries. Although numerous contraceptive methods are widely available, nearly one half of all pregnancies in the United States are unintended, and nearly 40% of those end in abortion [1]. Unintended pregnancies during the postpartum period are a particularly serious problem since the short interval between pregnancies is associated with a higher risk for low birth weight and preterm birth [2, 3].

Contraception choice has been related to social, cultural and psychological factors [4]. In addition, the choice of a particular contraceptive method may be influenced by depression.

An American study showed that women screening positive for depression had significantly lower odds of choosing a more effective method of contraception [5]. Another study of lower-income women has also found a link between depressive symptoms and self-reported contraceptive nonuse [6]. However, a review of articles does not consider depression to be a factor associated with the use of less effective contraceptive methods (LECMs) [7].

The relationship between the use of more effective forms of contraception and depression in the perinatal period is even less clear. However, antenatal depression and postpartum events are also common, occurring in between 15% and 20% of women [8], with important consequences for both the mother and her infant [9]. In Brazil, several studies have shown a high prevalence of depressive symptoms during pregnancy [10, 11] and in the postpartum period [12].

In the postpartum period, depressed women may present problems with sexual desire and have less sexual activity or may feel more anxious and worried about contraceptive methods if they are breastfeeding, both situations leading to the use of less reliable forms of contraception.

To date, no prospective study has investigated the relationship between perinatal psychiatric disorders and the use of effective contraceptive methods among postpartum women served by primary care clinics. Our hypothesis is that women with perinatal psychiatric disorders are more likely to use LECM than those who do not have perinatal psychiatric disorders.

2. Methods

2.1. Study design and sample

This was a prospective cohort study, conducted between May 2005 and January 2006, with pregnant women recruited from 10 primary care clinics of the public sector in three administrative districts in the Western area of the city of São Paulo, Brazil. The study area was comprised of a heterogeneous population of approximately 250,000 inhabitants, where people with high, medium and low income live near each other. Public primary care clinics offer free antenatal care for all women living in their catchment areas. Antenatal care is offered regularly, usually once a month, generally starting as soon as the woman seeks the clinic for a pregnancy test. Women followed in these clinics are at low obstetric risk. After childbirth, women are also seen in the primary care clinics where they receive their PAP smear and receive contraceptive counseling. Pregnant women between 20 and 30 weeks of pregnancy, whose conception occurred naturally, with 16 years of age or older, with singleton pregnancies and who were receiving antenatal care in primary care clinics in the study area were considered eligible. Postpartum women were interviewed at home (mean time of interview after delivery: 11.1 months, SD: 2.3 months). Almost three fourths of the women were interviewed between 6 and 12 months, and 27.6% were evaluated up to 18 months. Further details of the study sample were described elsewhere [13].

2.2. Instruments

2.2.1. Perinatal psychiatric disorders—Presence of antenatal and postnatal psychiatric disorders was measured by the Self-Report Questionnaire (SRQ-20), which was developed for screening psychiatric disorders in patients treated in primary care settings [14]. The SRQ-20 was validated in primary care in Brazil, with 85% sensitivity and 80% specificity [15]. The SRQ-20 has good psychometric properties for diagnosing perinatal psychiatric disorders, performing even better than instruments specifically designed for this purpose [16, 17]. The cutoff point of the SRQ-20 for the present study was set at 7/8 [15]. Four groups were defined according to the presence of a psychiatric disorder during pregnancy

and/or postpartum: group 1, absence of both antenatal and postpartum psychiatric disorder; group 2, presence of antenatal psychiatric disorder only; group 3, presence of postpartum psychiatric disorder only; group 4, presence of both antenatal and postpartum psychiatric disorder.

2.2.2. Social support—A Brazilian version of the scale used in the Medical Outcomes Study was used. The original version showed good psychometric properties [18]. Items in the scale were translated and independently back-translated and adapted to Portuguese in five pretest steps and in the pilot study [19]. The Brazilian version was shown to have good test–retest reliability [20]. The 19-item scale measured five dimensions of social support: material, emotional, informational, affective and positive social interaction. For each item, the respondent indicated how often she perceived that kind of support: never, rarely, sometimes, very often or always. The scale allows the use of five dimension-specific scores or the total score. Social support dimensions showed internal consistency, with Cronbach's alpha coefficients ranging from 0.75 to 0.91 at test and from 0.86 to 0.93 at retest. The intraclass correlation coefficient was high in the five dimensions of the scale, with no substantial differences by gender, age or level of education.

2.2.3. Other exposure variables—Sociodemographic characteristics and obstetric information were obtained through a structured detailed questionnaire applied during the antenatal assessment. Such information included age, years of schooling, family income (in US dollars), marital status, skin color and frequency of contact with neighbors. Household goods included electricity, plumbing, computer, television, cable television, bathroom, telephone and refrigerator. A score of goods was created, where every existing item in the household was assigned a point. Previous and current obstetric data included planned pregnancy, number of previous abortions, number of pregnancies, gestational age, birth weight of infants and Apgar scores at 5 min. A dual “yes–no” classification of obstetric complications was developed. “Yes” was defined by the presence of gestational age less than 37 weeks or weight of newborns under 2500 g or 5-min Apgar less than 7. After childbirth, the questionnaire included questions about social support, breastfeeding, sexual life and contraception (which evaluated if and when postpartum women had resumed intercourse and if they were using any kind of contraceptive method). Breastfeeding was defined as feeding the baby with breast milk, regardless of supplementing with other food. Breastfeeding length was ascertained through a single question to the mother: “How long have you breastfed?” Contraceptive methods were classified into two groups: more reliable methods (injection or oral hormonal contraceptive, and intrauterine device) and less reliable methods (condom, withdrawn, periodic abstinence or no method at all).

2.3. Procedures

During the study period, trained research assistants visited the primary care clinics and approached all pregnant women. Eligible women were invited to participate. Those who agreed to sign an informed consent were then interviewed. The same group of research assistants administered the SRQ-20 and questionnaire with questions about contraception, through home interviews, up to 18 months after delivery. The Ethics Committee of the University of São Paulo School of Medicine approved the research project.

2.4. Statistical analysis

Our main outcome was Less Effective Contraception Use. Exposure variables were summarized and categorized. Crude and adjusted risk ratios (RRs), with 95% confidence intervals (95% CIs), were calculated using Poisson regression with robust variance to examine the associations between psychiatric disorders during pregnancy and/or postpartum

and LECM. Statistical associations were assessed with likelihood ratio tests. Statistical analysis was performed using STATA 9 software (College Station, TX, USA).

3. Results

Eight hundred and sixty-eight eligible pregnant women were identified, and 831 (95.7%) were included in the study during the antenatal care period. Of these, 701 (84.4%) were reassessed during the postnatal period. Among 701 postpartum women, 644 (91.8%) had resumed sexual activity in the postpartum period. Two hundred and ninety (45.0%) resumed sexual life during the first month after delivery, 213 (33.0%) resumed sexual life during the second month, and less than 4% took more than 6 months to resume intercourse after delivery. The mean time for the beginning of sexual activity in the postpartum period was 2.1 months (range, 1–12). Women who had resumed sexual activity were of similar age, but were more educated, had higher family income and had less psychiatric disorders than the group of 184 women who did not return after delivery or did not resume sexual activity in the postpartum period. Participants had a mean age of 25 years (range, 16–44) and were predominantly Catholic (63.6%), and most were living with a partner (78.1%). In addition, 46.4% had completed 8 years of education and 63.6% were housewives. The mean monthly family income was US\$ 400.00, while 30.6% had a family income below US\$ 240.

The most common contraceptive methods among the 644 women who resumed sexual activity were as follows: oral contraceptive (30.9%), condom (27.5%) and injectable hormonal contraceptive (19.9%). Sixty-seven women (10.4%) were not using any method. Twenty-six women (4.0%) did not answer the question. According to our criteria, 253 women (39.2%) were classified as using an LECM.

In the univariate analysis (Table 1), LECM was not associated with mother's age, years of schooling, monthly family income (in US dollars), marital status, skin color, frequency of contact with neighbors, score of goods, planning of previous pregnancy, number of pregnancies, gestational age, obstetric complications, breastfeeding and social support. Notably, LECM was also not associated with antenatal and/or postnatal psychiatric disorders. Only two variables were associated with LECM: time of resumption to sexual life and previous miscarriage. Women who had resumed their sexual life 3 months or beyond after delivery had a greater chance of using an LECM [odds ratio (OR)= 1.36, 95% CI: 1.10–1.70]. Women with a previous miscarriage had a greater chance of using an LECM (OR=1.27, 95% CI: 1.04–1.56).

In the multivariate analysis (Table 2), only time of resumption of sexual life remained significantly associated with LECM. Women who delayed resuming sexual activity after delivery had a greater chance of using an LECM (OR= 1.28, 95% CI 1.02–1.56).

4. Discussion

The results of this study showed that 39.2% of postpartum women were using an LECM and that psychiatric disorders during pregnancy or postpartum were not associated with the choice of contraceptive methods. On the other hand, in comparison with women who resumed sexual activity during the first or second month after delivery, women who resume sexual activity after 3 months of delivery had a greater chance of choosing an LECM. This finding may be explained by the fact that women who resumed sexual life on the first 2 months after delivery may be more worried about becoming pregnant again in comparison with women who resumed their sexual life later. Therefore, they may decide for a more effective contraception choice whether or not they are breastfeeding.

Our results differ from those of an American study [5] in which women screening positive for depression had significantly lower odds of choosing a more effective method of contraception. However, our study has distinguishing features: our classification of an LECM was different, including condom use as a less reliable method, and our sample was composed of postpartum women up to 18 months after delivery. Moreover, depression/anxiety symptoms were higher in our sample (27.6% vs. 7.8%). This may also be explained by the different instruments used in the evaluation of psychiatric disorders.

A prospective cohort study of 643 sexually active, low-income, inner-city adult women who were enrolled prenatally and were followed twice after delivery found that low educational status and less effective contraceptive use were associated with unintended pregnancy, but neither depressive symptoms nor contraceptive use reduced the risk of pregnancy that was associated with low educational status. [21].

Previous research on the association between mental health and unintended pregnancy has been primarily focused on adolescents [22–24]. Although a concern with contraceptive choices by adolescents is important, there are several studies showing that older women are less likely to use effective forms of contraception [25–27]. Our study sample was comprised of 21% adolescents, but we did not find an association between mother's age and use of an LECM.

Choosing an LECM places sexually active women at increased risk of unintended pregnancies. A very important step in reducing the prevalence of unintended pregnancies is to promote women's awareness and use of reliable contraceptive methods [28, 29]. Moreover, contraceptive counseling strategies should be individually tailored taking into account several factors about women's lives [30]. But, according to our results, a discussion with postpartum women about contraceptive choices should take place regardless of their mental health status.

Some limitations of this study should be discussed. First, we use only a self-assessment of depressive/anxiety symptoms for classification of our main outcome (antenatal and postnatal common mental disorder), and some non-differential misclassification is expected in this type of evaluation. However, the SRQ-20 has been validated and is widely used in research in Brazil and the rest of the world for both clinical and research purposes. Second, evaluation of postpartum women's contraception methods was performed only at one interview, between 6 and 18 months after delivery. Women could have used different contraceptive methods before or after our assessment. Our study also has strengths. The representativeness of our sample (low-income women sample composed of pregnant women enrolled in Basic Health Units) and the low dropout rate (15%) are two positive aspects of our study.

5. Conclusion

Although the use of an LECM after delivery is common, contraception choice is not associated with perinatal depressive/anxiety symptoms. However, women who delay the resumption of sexual activity after delivery should be counseled on the use of available contraceptive methods.

Acknowledgments

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Table 1

Patient characteristics, number and percentage of LECM, and unadjusted RR using Poisson regression

Study variable	Total (n)	LECM (%)	RR	95% CI	Statistical significance
Maternal age					.31
16–19	131	48 (36.6)	1.00		
20–29	352	143 (40.6)	1.10	0.85–1.43	
30–45	135	62 (45.9)	1.25	0.93–1.67	
Have a partner					.47
No	140	61 (43.5)	1.00		
Yes	478	192 (40.1)	0.92	0.74–1.14	
Family income/month (US dollars)					.62
0–85	189	80 (42.3)	1.00		
290–470	210	80 (38.1)	0.90	0.70–1.14	
475–2900	212	89 (42.0)	0.99	0.78–1.24	
Years of education					.70
<8	285	119 (41.7)	1.00		
8	333	134 (40.2)	0.96	0.79–1.16	
Color					.90
White	295	120 (40.7)	1.00		
Other	323	133 (41.2)	1.01	0.83–1.22	
Previous miscarriage					.02
No	480	185 (38.5)	1.00		
Yes	138	68 (49.3)	1.27	1.04–1.56	
Planned pregnancy					.19
No	409	175 (42.3)	1.00		
Yes	209	78 (37.3)	0.87	0.71–1.07	
Breastfeeding more than 4 months					.06
No	197	70 (35.5)	1.00		
Yes	421	183 (43.4)	1.22	0.98–1.52	
Wealth score					.81
0	197	82 (41.6)	1.00		

Study variable	Total (n)	LECM (%)	RR	95% CI	Statistical significance
1	421	171 (40.6)	0.97	0.79–1.19	
Number of pregnancies					.09
1	222	93 (41.9)	1.00		
2	197	69 (35.0)	0.83	0.65–1.06	
3	199	91 (45.6)	1.09	0.87–1.35	
Complications score					.21
No	506	213 (42.1)	1.00		
Yes	112	40 (35.7)	0.84	0.64–1.11	
Social support score (tertile)					.46
1	212	91 (43.0)	1.00		
2	213	80 (37.5)	0.87	0.69–1.10	
3	193	82 (42.5)	0.98	0.79–1.24	
Resumption of sexual life (month)					.005
First	274	106 (38.7)	1.00		
Second	208	75 (36.0)	0.93	0.73–1.18	
Third or more	136	72 (52.9)	1.36	1.10–1.70	
Perinatal psychiatric disorders groups					.60
No antenatal/postpartum CMD	353	138 (39.1)	1.00		
Antenatal CMD	94	42 (44.7)	1.14	0.88–1.48	
Postpartum CMD	74	34 (45.6)	1.17	0.89–1.55	
Antenatal and postpartum CMD	97	39 (40.2)	1.02	0.78–1.35	

Table 2

Multivariate analysis showing unadjusted and adjusted RRs of LECM using Poisson regression^a

Study variable	Crude RR	95% CI	Adjusted RR	95% CI	Statistical significance
Perinatal psychiatric disorders groups					.84
No antenatal/postpartum CMD	1.00				
Antenatal CMD	1.14	0.88–1.48	1.12	0.86–1.46	
Postpartum CMD	1.17	0.89–1.55	1.15	0.87–1.52	
Antenatal and postpartum CMD	1.02	0.78–1.35	0.97	0.71–1.31	
Resumption of sexual life (months after delivery)					.03
1	1.00				
2	0.93	0.73–1.18	0.91	0.71–1.15	
3 or more	1.36	1.10–1.70	1.28	1.02–1.60	
Previous miscarriage					.08
No	1.00				
Yes	1.27	1.04–1.56	1.25	0.97–1.60	

Adjusted for maternal age, marriage status, color, monthly family income, social support score, years of education, planning of pregnancy, number of pregnancies, obstetric complications and breastfeeding more than 4 months.