

Illness perceptions associated with perinatal depression treatment use

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Abstract The relationship between psychological beliefs about depression and depression treatment use was examined in depressed pregnant and postpartum women using the Common Sense Model as a framework (CSM; Leventhal H, Nerenz DR, Steele DF (1984) A handbook of psychology and health illness representations and coping with health threats. Hillsdale, NJ: Erlbaum.). Pregnant women who screened $>/10$ on the Edinburgh Postnatal Depression Scale (EPDS; Cox et al. Br J Psychiatry 150:782–786, 1987) completed measures of depression symptoms, perceptions and treatment at three time points through 6 weeks postpartum. Understanding modifiable beliefs may be useful in improving low rates of perinatal depression treatment use.

Keywords Postpartum · Antenatal depression · Illness representations · Treatment

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Despite the efficacy of treatments for depression, between 12–15% of depressed pregnant women receive treatment (Smith et al. 2004; Flynn et al. 2006a,b). Little is understood about psychological factors that impact use of treatment. Leventhal's Common Sense Model (CSM; 1984) of self-regulation was used as a framework for understanding modifiable illness representations that may impact underutilization of treatment in this population. The CSM has been shown to relate to illness coping and engagement in treatment in general (Leventhal et al. 2008; Hagger and Orbell 2003). However, no study has examined CSM illness beliefs associated with perinatal depression and treatment use. The primary goal of this study was to identify psychological beliefs about depression endorsed by women experiencing depressive symptoms around the time of pregnancy. In order to provide preliminary information to add to the growing literature on psychological factors influencing treatment, secondary analyses examined beliefs associated with the likelihood of using depression treatment.

Methods

All study procedures were approved by the University of Michigan Institutional Review Board. Participants were recruited from 1,285 patients screened between November 2002 and December 2003 using the Edinburgh Postnatal Depression Scale (EPDS; Cox et al. 1987) at their first prenatal care visit in a University Affiliated Obstetrics-Gynecology practice in the US. English speaking women who scored $>/10$ on the EPDS and agreed to be contacted were asked to participate in the study.

Of the 15.9% ($n=204$) of women who scored ≥ 10 on the EPDS (Gaynes et al. 2005; Adouard et al. 2005), 53.9% ($n=110$) agreed to participate in this study. Women who

miscarried (8%, $n=9$), were not able to be contacted (10%, $n=11$), or no longer endorsed depressive symptoms at the baseline interview (7%, $n=8$) resulted in a sample of 82 women. Within 3 weeks of screening, women completed a baseline interview, which included measures of depression severity (Beck Depression Inventory-II ; BDI-II; Beck et al. 1996), depression perceptions (The Illness Perception Questionnaire; IPQ; Weinman et al. 1996), demographics and mental health treatment use. Interviews were conducted by at least masters level trained clinicians. Women also completed one-month prenatal (87.8%, $n=72$) and 6 week postpartum (73%, $n=60$) follow-up telephone interviews of mood and mental health treatment use.

The subscales of the IPQ included: *Timeline* in which the individual expects her symptoms might remit, perceived *Control or Cure*, perceived *Consequences*, and items measuring *Causal* attributions. Experts in women's depression added perinatal-specific items. (See Appendix). IPQ subscale items were summed to create a total subscale score, with lower scores reflecting greater endorsement (e.g., "strongly agree"). The subscales reliabilities in this study, including the pregnancy items were: *Pregnancy Cause* ($\alpha = .61$), *Control* ($\alpha = .62$), *Consequences* ($\alpha = .77$), *Timeline* ($\alpha = .75$).

Treatment use was measured with items assessing mental health treatment services (i.e., "How many days have you had a meeting or phone contact for emotional/psychological problems in the last 3 months?"). Women were also asked if they ever received help in their lifetime for any emotional or psychiatric problem. Because of low rates of any treatment use at all assessment points, analyses used a binary variable (yes/no) based on whether participants reported using any antidepressant medication or counseling / psychotherapy at any point during the study (from the timeframe 3 months prior to the pregnancy baseline interview through the six-week postpartum interview).

Results

Participants ($n=82$) ranged in age from 19–39 years (mean age=30.02 years, SD=4.9). The majority of women (91%, $n=75$) were married or living with their partner. Consistent with the demographics of the clinic region, 73% ($n=60$) percent of women were white, 10% ($n=8$) were Asian American, 10% ($n=8$) were African American, 4% ($n=4$) were Hispanic, and 3% ($n=2$) described themselves as "other" race. Participants were well educated, 28% ($n=23$) completed some college, 29% ($n=24$) college graduate, and 37% ($n=30$) had post-baccalaureate education. A total of 32% ($n=27$) had a yearly household income below \$40,000. An additional 32% ($n=27$) had an income of

\$80,000 or more. The majority (92%, $n=75$) of women had private health insurance. Attrition analyses showed no significant differences between individuals who agreed to participate in the baseline (53.9%, $n=110$) or follow up interviews (74.5% prenatal $n=82$, 65.5% postpartum $n=72$) and those who did not on depression (EPDS) scores, marital status, or age. There were significant racial differences between those who agreed to participate and those who did not ($\chi^2(1)=48.65$, $p<.001$).

Women's rank ordered endorsements of each of the CSM subscales specific to depression during the perinatal period are listed in Table 1. Overall, 26.8% ($n=22$) of

Table 1 Women's ranking of perceived illness beliefs

Rank		%	n
<i>Perceived cause</i>			
1	Stress	80.5	66
2	Hormonal changes	73.1	60
3	State of mind	69.5	57
4	Pregnancy	65.8	54
5	Lack of sleep	46.3	38
6	Difficulty adjusting to being pregnant	43.9	36
6	Hereditary	43.9	36
7	Own behavior	39.0	32
8	Marriage or relationship problems	31.7	26
9	Other people	23.2	19
10	Having additional child	17.1	14
<i>Timeline</i>			
1	Symptoms will come and go	76.8	63
2	Symptoms will last a short time	36.6	30
3	Symptoms are permanent	19.5	16
<i>Consequences</i>			
1	Symptoms have become easier to live with	48.8	40
2	Symptoms have major consequences	45.1	37
3	Symptoms have little effect	13.4	11
<i>Consequence rankings</i>			
1	Affect relationship with partner	67.1	55
2	Affect relationship with children	62.5	52
3	Affect relationship with baby	57.3	47
4	Affect relationship with friends	50.0	41
5	Affect way others view me	39.0	32
<i>Control</i>			
1	Improve in time	79.3	65
2	Have control over symptoms	62.2	51
3	Focus on baby will reduce symptoms	51.2	42
4	Treatment is effect in reducing symptoms	50.0	41
5	Religious coping	35.4	29
6	Give birth	31.7	26
7	Chance	13.4	11
7	Discontinue breast feeding	13.4	11

women received any mental health treatment throughout the course of the study, and 71.9% ($n=59$) reported any lifetime history of treatment for emotional or psychiatric problems. The mean number of psychotherapy sessions during the study was 3.4 (s.d.=3.7), and most women taking anti-depressant medications (88%, 8 out of 9) reported daily use of the recommended dose for at least 8 weeks. Because preliminary bivariate analyses revealed that none of the demographics measured in the study (race, marital status, income, health insurance, employment status, education, number of children, participant age) were related to treatment use, these variables were not included in the logistic regression analyses predicting treatment use. The results of the logistic regression with any depression treatment use as the outcome and the IPQ subscales and baseline BDI-II scores as independent variables are presented in Table 2. Controlling for depression severity, the *Timeline* subscale (i.e., belief that symptoms would last a long time) significantly predicted treatment use. Depression severity and the IPQ subscales *Control*, *Consequences*, and *Cause* did not significantly predict treatment use.

Discussion

This study provided information on the role of psychological beliefs among prenatal women with elevated depressive symptoms and the association of these beliefs with treatment use. This is an important, growing area of research given the under-utilization of perinatal depression treatment (Flynn et al. 2006a,b; Young et al. 2001), and the lack of knowledge about psychological factors that may impact treatment use. Assessing psychological beliefs influencing treatment provides opportunities for individualized, brief interventions aimed at improving

linkage with needed treatment services. Consistent with previous studies of illness representations in depressed individuals in primary care (Brown et al. 2001), pregnant and postpartum women attributed the cause of their depression to stress, heredity, and interpersonal difficulties. Perinatal women were less likely to endorse beliefs that their depressed mood was due to medical illness or causes, and were more likely to attribute their depression to both their own behavior and state of mind, and to pregnancy-related changes, such as hormonal changes, lack of sleep, and difficulties in adjusting to being pregnant. Many women in our sample reported that their symptoms had become easier to live with, which is consistent with the Network-Episode Model of help-seeking (Pescosolido 1992) describing a “muddling through” pathway to treatment that is passive and indirect, and influenced by a combination of factors. We found that, when beliefs were considered together, women who perceived their symptoms as lasting a long time were significantly more likely to have sought depression treatment during the course of the study, even after controlling for depression severity. Therefore, psychoeducation about depression chronicity may be important in helping women to understand the preventive role of treatment (Goodman et al. 2005).

Limitations

Although the participant demographics were consistent with the area in which the data was collected, the sample was primarily Caucasian, highly educated, and of relatively high socioeconomic status, which may have impacted treatment use (Breslau et al. 2005; Wang et al. 2005). These analyses did not include a diagnosis of Major Depressive Disorder, but used measures of depression

Table 2 Relationships between of IPQ subscales, BDI-II and depression treatment use¹ based on logistic regression analysis²

Model and variable	B	SE	Odds ratio	95% CI	CI	p value
$\chi^2(1,13)=25.65, p=.03$						
BDI-II	.08	.05	1.08	.99	1.18	.08
Timeline	-.33	.18	.72	.53	1.01	.05
Control	.03	.13	.92	.78	1.21	.81
Consequence	.06	.12	1.06	.85	1.33	.67
Cause						
Pregnancy	-.08	.12	.93	.73	1.68	.51
Hereditary	.28	.35	.75	.38	1.49	.41
Chance	.70	.49	2.03	.80	4.94	.15
Stress	.04	.55	1.05	.36	3.06	.94
Own behavior	-.32	.38	.48	.66	2.89	.15
State of mind	-.81	.51	.45	.18	1.29	.15
Other people	.41	.40	1.51	.62	5.04	.30
Medical care	-.42	.67	1.52	.41	5.67	.54

1 Analyses conducted with the original IPQ scales did not alter the results.

2. Analyses conducted with psychiatric treatment use history did not alter results.

severity that have been previously linked to clinical diagnosis (Adouard et al. 2005) as well as to poor maternal functioning and fetal and neonatal outcomes (Hoffman and Hatch 2000; Chung et al. 2001; Arnau et al. 2001). It is possible that women with transient symptoms may appropriately defer mental health treatment or seek informal assistance (e.g., social support), the usefulness of which should be studied further. Other factors that may impact treatment use (such as concerns about medication use) were not directly assessed. The relatively small sample size, along with the low rates of overall treatment use precluded more detailed examination of the relationships between beliefs and treatment engagement and adherence. Despite the overlap in the time frame captured by the IPQ and our treatment use variable, it is possible that women's current use of treatment influenced their illness perceptions. Treatment use may have been under-reported in that we explicitly asked about treatment for emotional / psychological problems. Future studies should include more nuanced, longitudinal descriptions of treatments being received. Finally, a small subsample of women did not complete all three interviews. It is unlikely that this subsample impacted the overall estimate of treatment seeking in the current study as corroborating research with perinatal populations have reported similar treatment utilization rates (Horowitz and Cousins 2006), and attrition analyses revealed no differences on key variables.

Appendix

Pregnancy related illness representations

Cause:

My symptoms are related to a lack of sleep due to being pregnant

My symptoms are related to being pregnant

My symptoms are related to hormone changes

My symptoms are related to not wanting to have another child.

Consequence:

My symptoms will impact my baby

My symptoms will affect my relationship to my partner

My symptoms will affect my relationship to my children.

Control:

When I stop breast feeding my symptoms will improve.

Focusing on my baby after I give birth will improve my symptoms.

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