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Screening for Postpartum Depression at Well-Baby Visits

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Screening for Postpartum Depression at Well-Baby Visits

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ABSTRACT

Objective: To assess the prevalence of postpartum depression among mothers who attend first-year well-baby visits.

Methods: A convenience sample of 33 women was screened during first year well-baby visits using the Edinburgh Postpartum Depression Scale (EPDS) at three pediatric offices in Northern California. Measures included demographic data, history of depression, tobacco use, strength of support system, breast/bottle feeding, and child's health. EPDS scores were collected to calculate the prevalence of postpartum depression.

Results: The EPDS was administered to 33 women at first year well-baby visits. Thirty-two were completed. Sixty-six percent of women had scores < 10 indicating no depression. Thirty-four percent reported scores of >=10 during the postpartum year indicating depression.

Conclusion: Any follow-up related to postpartum issues is often referred to women's health, or maternity healthcare providers. This study provides another possible resource for new mothers. Screening for postpartum depression at well-baby visits using the EPDS was feasible and detected mothers with depression. Follow-up and treatment can then be addressed.

Key Words: depression * maternal* screening *well-baby visits

INTRODUCTION

Approximately 10-20% of women will experience postpartum depression (PPD) within the first year of giving birth, with initial symptoms presenting between four and six weeks postpartum.[1] Postpartum depression is a severe mood disturbance characterized by having at least four of the following symptoms: decrease in appetite, agitation, sleep disturbance, fatigue, loss of interest, self-deprecation, lack of concentration, and suicidal ideation.[2] Women experiencing these feelings may self-isolate, unaware that what they are experiencing is postpartum depression. Consequently, many will not seek out help and continue the downward spiral of depression that is detrimental to the woman, her child, and the family dynamic as a whole.

Postpartum depression affects not only the mother but also the infant and family. With respect to the mother/infant relationship, PPD is thought to negatively influence maternal/infant bonding and maternal responsiveness.[3] Infants of mothers who have suffered postpartum depressive episodes are more likely to develop insecure attachments and behavioral problems and to score more poorly on cognitive tests. Mothers with PPD are also less likely to engage in preventive health measures for their babies, such as regular use of a car seat and covering electrical outlets. Infants may have poor emotional and behavioral outcomes when the maternal-infant bond is compromised due to PPD.[4] Anti-social behavior and insecure attachment have been observed in children as young as one year of age whose mothers suffered from PPD.[5] It is imperative that early detection and screening for PPD occur to prevent long term sequelae for families, and lessen the risk for significant mental health problems for the mother and child. If left untreated, women run the risk of still being depressed up to one year postpartum.[6] Hence, PPD has

extensive consequences for the well-being of children and can be considered an important concern in the pediatric setting.

In a study to assess the clinical acceptability of screening for postpartum depression, Gemmill, Leigh, Ericksen, and Milgron[7] found that 97% of postnatal women felt that screening was desirable. Symptoms of PPD usually present by the sixth week postpartum, thus making the six week checkup an ideal time to screen for depression. Risk factors for PPD may serve as valuable "red flags" to assist physicians in diagnosing patients with PPD. Review of the literature revealed fatigue, formula feeding in place of breastfeeding, history of depression, and cigarette smoking to be risk factors for developing PPD.[8] The presence of more than one of these risk factors in postpartum patients should serve as an even greater warning to physicians that these patients should be observed, evaluated for, and educated about PPD.[9] Since some women may not feel comfortable discussing this subject, a heighten sense of awareness from the provider is crucial to helping women in need. Since past research has shown that the majority of women are amenable to PPD screening, thus providers should not hesitate in discussing the signs and symptoms of PPD, as well as screening all women at their six week check-ups.

Postpartum depression can present later than six weeks after delivery, thus mothers should be routinely screened at well-baby visits, which would be at two weeks, six weeks, four months, six months, nine months, and twelve months postpartum. Past research has demonstrated that screening women for PPD at well-baby visits is feasible, well-received by mothers, and has led to the diagnosis of PPD.[10]

MATERIALS AND METHODS

Procedures

Between January and April 2007, all mothers with children up to 12 months of age were screened for postpartum depression (n=33) using the Edinburgh Postnatal Depression Scale (EPDS) at three local pediatric offices in Northern California. Three pediatricians in private practice agreed to administer the EPDS to their postpartum patients. The EPDS was administered to patients by their pediatrician during the well-baby assessment. After self-completing the EDPS, women received a handout on the signs and symptoms of postpartum blues, postpartum depression, and postpartum psychosis. The EDPS was administered and the handout given in the presence of the pediatrician in the event that the patients had questions or concerns about PPD. Referrals were provided for support groups dealing with PPD.

Measures

The EPDS is a measurement tool used to screen for depression during the postpartum period. The tool has been validated for the use of screening women for postpartum depression up to one year after giving birth. It does not provide information on the severity of the depression. Responses are scored from 0-3 according to increased severity of the symptoms. Individual items are totaled to give an overall score (maximum score of 23). A score of 10 or greater on the EPDS, or an affirmative answer on question 10 (suicidal thoughts), would require a more thorough evaluation.[11]

Data were gathered from completed EPDS forms. Variables collected included demographic information such as infant's age and health, maternal age and ethnicity, and marital status. Additional information such as number of children, strength of support

system, cigarette smoking, history of depression, current treatment for depression, and problems encountered with infant's birth was also collected.

Data Plan

The data were analyzed using SPSS, version 14, and included item frequencies, cross tabulations, descriptive statistics (means). An independent samples t-test was performed.

RESULTS

A total of 33 women at well-baby visits were screened for PPD using the EDPS, with a 97% completion rate. Overall, 66% (n=21) of women screened scored below the cutoff of 10 on the EDPS as seen in Table 1. Table 2 shows women with scores of >=10 (n=11) comprised 34% of the study. The overall mean score was 7.7 (SD=6.6). In order to determine if EPDS scores differed between mothers who showed no depression and those who did, based on their EPDS scores, an independent samples t-test was performed. The mean for the non-depressed group (scores <=9) was 3.6 and for the depressed group (scores >=10) was 15.4 (Table 3). Results reported in Table 4 showed a significant difference in the EPDS group means ($t = 9.06$, $df = 30$, $p < .001$).

EPDS Score Frequencies for Each Subgroup and t-test of EPDS Means
Table 1. EPDS (a) GROUP 1 = NOT DEPRESSED
Table 2. EPDS (a) GROUP 2 = DEPRESSED
Table 3. Group Statistics t-Test
Table 4. Independent Samples Test
Table 5. Sample Demographic Characteristics and Differences Based on EPDS Scores

DISCUSSION

Detection of PPD in the pediatric setting increases the likelihood that women will receive proper medical treatment when faced with depression. Screening for PPD during well-baby visits proved to be feasible and well-received by women as evidence by the 97% compliance rate seen in this study. Thirty-four percent of the mothers who completed the EDPS had depressive symptoms (EDPS >=10). This rate is higher than expected since the average rate of PPD in the general population is 10% to 20%. One explanation for the higher rate found in this study may be due to physician bias. The physician may have handed out the EDPS to mothers he/she suspected were depressed. Physicians reported all women who were asked to fill out the EDPS completed the form. Thus the bias that women were either too depressed to complete the survey, or not depressed and refused the survey, was not a factor in this study. When comparing the two groups of women, not depressed (group 1) vs. depressed (group 2), there was no significant difference noted with respect to maternal age, average for group 1, 33 years old vs. group 2, 31years years old, or the age of the infant, 12 weeks vs. 13 weeks. Sixty-six percent of women in group 1 were Caucasian, 19% Hispanic, and 19% Asian. The majority of group 2 was Caucasian (55%), 9% Hispanic, and 36% Asian. The majority of mothers in both groups were married, 81% vs. 73%.

One interesting finding in the study was women's perception of the strength of their support system. Eighty-three percent of women in the non-depressed group rated their support system to be very good. Only 54% of the depressed group rated their support system as very good. Past research has determined lack of social support to be a precipitating factor in developing PPD. Also women rated the overall health of their

infants higher in the non-depressed group than the women in the depressed group. Eighty-nine percent of group 1 rated infant's health as excellent or very good, compared to 55% in group 2. Both groups had similar rates of bottle-feeding, 33% in group 1 and 30% in group 2. Thirty-eight percent of women in group 1 reported breastfeeding compared to 50% of group 2. Both group reported similar rates of both breast and bottle-feeding. It is possible the women in group 2 were more fatigued than group 1, a factor in developing postpartum depression, since breastfed infants tend to feed on the average more often than bottle fed infants. With respect to history of depression, group 1 had a lower rate than group 2, 14% and 36% respectively. Almost half of the depressed group (45%) was being treated for postpartum depression. Four percent of women who scored not depressed were being treated for depression. According to the finding in this study, 55% of women who scored in the depressed state were not receiving medical treatment for PPD. Neither group reported cigarette use. Sixteen percent of group 1 reported problems during delivery, compared to a slightly higher rate of 18% in group 2.

A reassuring and positive aspect of conducting the study was the open participation of the pediatricians. After discussing the aim of this study with the physicians, it was evident they all had a clear understanding of PPD, the affects on the mother and child, viewed PPD as having serious consequences, and supported efforts to screen postpartum patients for PPD. All three physicians stated they would continue to routinely screen postpartum mothers using the EDPS after participating in this study. There were certain limitations to this study. This study was conducted in three small practices in a relatively small town, thus a small sample size was obtained. Doctors reported "forgetting" to handout out the EPDS because of time limitations. All

participating physicians were in solo private practices. Utilizing the staff, such as medical assistants and receptionists, to administer to survey could potentially result in more women being screened.

CONCLUSION

Any follow-up related to postpartum issues is often referred to women's health, or maternity healthcare providers. This study provides another possible resource for new mothers. Postpartum depression can be detected using the EDPS in the pediatric setting. This study supports women being amenable to PPD screening at well-baby visits and the detection of PPD. All pediatric health care providers can play an important role in the detection of PPD. Follow-up and treatment can then be addressed quickly and efficiently.

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REFERENCES

1. Teissedre, F., & Charbrol, H. (2004). A study of the Edinburgh Postnatal Depression Scale (EPDS) on 859 mothers: Detection of mothers at risk for postpartum depression. *Encephale*, 30, 376-381.

2. Amankwaa, L. (2003). Postpartum depression, culture, and African-American women. *Journal of Cultural Diversity*, 10(1), 23-29.

3. Coyl, D., Roggmann, L., & Newland, L. (2002). Stress, maternal depression, and negative mother-infant interactions in relation to infant attachment. *Infant Mental Health Journal*, 23, 145-163.

4. Cryan, E., Keogh, F., Connolly, E., Cody, S., Quinlan, A., & Daly, I. (2001). Depression among postnatal women in an urban Irish community. *Irish Journal of Psychology and Medicine*, 18, 5-10.

5. Beck, C. (1998). The effects of postpartum depression on child development: *A meta-analysis. Archives of Psychiatric Nursing*, 12, 12-20.

6. Stowe, Z., & Nemeroff, C. (1995). Women at risk for postpartum-onset depression. *American Journal of Obstetrics and Gynecology*, 173, 639-45.

7. Gemmill, A., Leigh, B., Ericksen, J., & Milgrom, J. (2006). A survey of the clinical acceptability of screening for postnatal depression in depressed and non-depressed women. *BMC Public Health*, 6, 211-218.

8. Breese McCoy, S., Beal, M., Miller Shipman, S., Payton, M., Watson, G. (2006). Risk factors for postpartum depression: A retrospective investigation at 4-weeks postnatal and a review of the literature. *Journal of the American Osteopathic Association*, 106, 193-198.

9. Freeman, M., Wright, R., Watchman, M., Wahl, R., Sisk, D., Fraleigh, L., et al. (2005). Postpartum depression assessment at well-baby visits: Screening feasibility, prevalence, and risk factors. *Journal of Women's Health*, 14, 929-935.

10. Marcus, S. (2003). Depressive symptoms among pregnant women screened in obstetrics settings. *Journal of Women's Health*, 12, 373-380.

Table 1. EPDS (a) GROUP 1 = NOT DEPRESSED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	9.5	9.5	9.5
	1.00	4	19.0	19.0	28.6
	2.00	3	14.3	14.3	42.9
	3.00	1	4.8	4.8	47.6
	4.00	4	19.0	19.0	66.7
	5.00	1	4.8	4.8	71.4
	6.00	3	14.3	14.3	85.7
	7.00	1	4.8	4.8	90.5
	8.00	1	4.8	4.8	95.2
	9.00	1	4.8	4.8	100.0
	Total	21	100.0	100.0	

a GROUP 1 = NOT DEPRESSED

Table 2. EPDS (a) GROUP 2 = DEPRESSED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10.00	1	9.1	9.1	9.1
	11.00	3	27.3	27.3	36.4
	12.00	1	9.1	9.1	45.5
	15.00	1	9.1	9.1	54.5
	17.00	1	9.1	9.1	63.6
	18.00	1	9.1	9.1	72.7
	19.00	1	9.1	9.1	81.8
	22.00	1	9.1	9.1	90.9
	23.00	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

a GROUP 2 = DEPRESSED

Table 3. Group Statistics t-Test

	GROUP	N	Mean	Std. Deviation
EPDS	1 NOT DEPRESSED	21	3.6190	2.65474
	2 DEPRESSED	11	15.3636	4.71747

Table 4. Independent Samples Test

	t-test for Equality of Means			
	t	df	Sig. (2-tailed)	Mean Difference
EPDS	-9.065	30	.000	-11.74459

Table 5. Sample Demographic Characteristics and Differences Based on EPDS Scores

Variable	Group 1 EPDS <10	Group 2 EDPS >=10
Maternal age, y, mean	33	31
Infant age,wk, mean	12	13
Maternal ethnicity, n, (%)		
Asian	3(19)	4(36)
Hispanic	4(19)	1(9)
White	14(66)	6(55)
Marital status, n, (%)		
Married	17(81)	8(73)
Single	4(19)	2(18)
Divorced/Separated	0(0)	1(9)
No. of children, n, (%)		
1	9(43)	6(55)
2	8(38)	5(46)
3	4(19)	0(0)
Support System, n, (%)		
Very good	15(83)	5(45)
Good	2(11)	4(36)
Average	1(6)	2(19)
Infant's health, n, (%)		
Excellent	9(50)	5(45)
Very good	7(39)	1(9)
Average	1(5.5)	4(37)
Fair	1(5.5)	1(9)
Bottle-feeding, n, (%)	6(33)	3(30)
Breastfeeding, n, (%)	7(38)	5(50)
Both, n, (%)	5(29)	2(20)
Smokers (%)	0	0
Hx of depression, n, (%)		
Yes	3(14)	4(36)
No	18(86)	7(64)
Treated for postpartum depression, n, (%)		
Yes	1(4)	5(45)
No	20(96)	6(55)
Problems with delivery, n, (%)		
Yes	3(16)	2(18)
No	18(84)	9(82)