FROM THE CENTERS FOR DISEASE CONTROL AND PREVENTION

MMWR
Morbidity and Mortality Weekly Report

Prevalence of Self-Reported Postpartum Depressive Symptoms—17 States, 2004-2005

MMWR. 2008;57:361-366

2 tables omitted

POSTPARTUM DEPRESSION (PPD) AFFECTS 10%-15% of mothers within the first year after giving birth.[1] Younger mothers and those experiencing partner-related stress or physical abuse might be more likely to develop PPD.[2,3] CDC analyzed data from the Pregnancy Risk Assessment Monitoring System (PRAMS) for 2004-2005 (the most recent data available) to (1) assess the prevalence of self-reported postpartum depressive symptoms (PDS) among mothers by selected demographic characteristics and other possible risk factors for PDS and (2) determine factors that identify mothers most likely to develop PPD. This report summarizes the results of that analysis, which indicated that, during 2004-2005, the prevalence of self-reported PDS in 17 U.S. states* ranged from 11.7% (Maine) to 20.4% (New Mexico). Younger women, those with lower educational attainment, and women who received Medicaid benefits for their delivery were more likely to report PDS. State and local health departments should evaluate the effectiveness of targeting mental health services to these mothers and incorporating messages about PPD into existing programs (e.g., domestic violence services) for women at higher risk.

PRAMS is an ongoing, state-specific, population-based surveillance project that collects self-reported information on maternal attitudes and experiences before, during, and after delivery of a live infant. PRAMS is administered by CDC in collaboration with participating states and cities and is designed to be representative of women in participating states who have delivered during the preceding 2-6 months.[4] Response rates were ≥70% for 2004 and 2005 in each of the 17 participating states. During 2004-2005, these 17 states included two questions on self-reported PDS in their PRAMS surveys: (1) "Since your new baby was born, how often have you felt down, depressed, or hopeless?" and (2) "Since your new baby was born, how often have you had little interest or little pleasure in doing things?" The response choices were "always," "often," "sometimes," "rarely," and "never"; women who said "often" or "always" to either question were classified as experiencing self-reported PDS. Because of their high sensitivity (96%), these two questions have been recommended as a depression case-finding instrument by health professionals.[5,6] Chi-square tests were used to test for significant differences ($p<0.05$) in the proportion of women reporting PDS by demographic characteristics and other possible risk factors for PDS within each of the 17 states; approximate 95% confidence intervals for these proportions were calculated.† To measure the strength of the association overall, the median difference across all states in the proportion of women reporting PDS between two levels of each covariate was calculated. Sample sizes varied for each estimate because women who were missing data on any variable (<5% of all women) were excluded from analysis of that variable. The analysis was conducted using statistical software to adjust for the complex survey design and produce statewide estimates. Estimates based on small sample sizes (fewer than 30 respondents) were considered to be unreliable.

The maternal characteristics analyzed included age at delivery, race/ethnicity, education, marital status, and receipt of Medicaid for delivery. Possible risk factors for PDS included in the analysis were low infant birth weight (<2,500 g), admission to a neonatal intensive-care unit (NICU), number of previous live births, tobacco use during the last 3 months of pregnancy, physical abuse before or during pregnancy, and experiencing emotional, financial, partner-related, or traumatic stress‡ during the 12 months before delivery. Women were considered physically abused if they said that a current or former husband/partner had pushed, hit, slapped, kicked, choked, or physically hurt them in any way during the 12 months before or during the most recent pregnancy. Women who reported smoking one or more cigarettes on an average day were classified as using tobacco during the last 3 months of pregnancy.

During 2004-2005, overall prevalence of self-reported PDS ranged from 11.7% (Maine) to 20.4% (New Mexico). Demographic characteristics significantly associated with PDS in all of the 17 states were maternal age, marital status, maternal education, and Medicaid coverage for delivery. Among the 17 states, the median percentage point difference in PDS prevalence was 13.4 percentage points between the youngest and oldest mothers, 13.6 between the lowest and highest education groups, 9.7 by marital status, and 11.0 by Medicaid receipt. In 13 of the 16 states for which data were available, a significant association was observed between race/ethnicity and PDS, with non-Hispanic white women having a lower prevalence of PDS compared with women of other racial/ethnic groups.

PDS was significantly associated with five possible risk factors in all or nearly all of the 17 states. The number of states with significant associations and state median percentage point differences in PDS prevalence for women with and without these risk factors were using

 ©2008 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/24/2013

tobacco during the last 3 months of pregnancy (16 states; median difference: 10.7), physical abuse before or during pregnancy (17 states; median difference: 22.4), partner-related stress during pregnancy (17 states; median difference: 16.4), traumatic stress during pregnancy (17 states; median difference: 16.4), and financial stress during pregnancy (17 states; median difference: 9.2). In 14 states, PDS was significantly associated with delivering a low birth weight infant and experiencing emotional stress during pregnancy. NICU admission was associated with PDS in nine states. The state median percentage point differences in PDS prevalence were 5.7 by low birth weight delivery, 5.2 by emotional stress, and 6.2 by NICU admission. The effect of parity on PDS was unclear; the association was significant in only two states, and the results were inconsistent across all states regarding risk for developing PDS.

Reported by: K Brett, PhD, Office of Analysis and Epidemiology, National Center for Health Statistics; W Barfield, MD, Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion; C Williams, ScD, EIS Officer, CDC.

CDC Editorial Note: The continuum of depressive disorders after delivery ranges from "baby blues" to PPD. Although "baby blues" is more prevalent, the symptoms of this disorder, which occur within the first few weeks after delivery, are less severe and do not require treatment. PPD can occur up to a year after delivery, is more severe, and requires treatment by a physician. PPD has important consequences for the well-being of mothers and their children. For example, in a 2006 study, mothers who reported depressive symptoms were less likely to engage in practices to promote child development, such as playing with their infant.[7] PPD also might also be associated with discontinuation of breastfeeding.[8]

The significant associations between PDS and young maternal age and experiencing partner-related stress or physical abuse indicated in this report are consistent with previous research.[2,3] The other significant risk factors for PDS described in this report (i.e., delivery of a low birth weight infant, tobacco use during pregnancy, and experiencing traumatic or financial stress) have not been previously identified as significant factors.[3] The associations are not unexpected, given that these risk factors all can be considered either actual stressors or indicators of stress during pregnancy. Further research is needed to examine the relationship between stressors during pregnancy and PDS. Association of PDS with other potential postpartum stressors, such as NICU admission and parity, were not consistent across states and also warrant further study.

The findings in this report are subject to at least four limitations. First, data from the PRAMS survey are based on self-report and are not confirmed by physician diagnosis. The screening questions used in the survey have a low specificity (66%) which, although similar to that of other depression screening instruments, might produce a high rate of false positives, leading to overestimates of PPD prevalence.[5] Second, mothers were asked about symptoms experienced since birth, so the duration of time about which symptoms are reported ranged from 2 to 6 months. Some women might have been misclassified as experiencing PDS because of depressive symptoms that were not associated with being postpartum, whereas others might have been misclassified because they developed PDS after the interview. However, these possible misclassifications should not differentially affect subgroups of women and, therefore, should not affect the associations identified in this report. Third, additional variables of interest, such as alcohol or illicit drug use, could not be analyzed because of limited sample sizes across all states. Finally, the analysis described in this report could not identify women with preexisting depression who might or might not also have reported PDS. These women might have been classified as experiencing PDS but might have required different interventions to address their condition than other women without a history of depression. A study conducted by a health maintenance organization found that 54.2% of women with PPD also had been diagnosed with depression either before or during their most recent pregnancy.[9]

The findings in this report can be used to estimate the number of women in each state requiring a more complete evaluation (and thus the potential burden on health-care services for those with suspected PPD). Although some states (e.g., Maryland) have already implemented methods for addressing PPD, more targeted screening and interventions for PPD could be directed at women at higher risk for developing PPD and incorporated into existing public health programs (e.g., those that address women who were physically abused). These women also could be more effectively targeted for public health interventions developed according to state and local needs and resources. Adolescent mothers or women who received Medicaid for their delivery are examples of subsets of the population at increased risk for developing PPD that could be easily identified at delivery for interventions in the postpartum period.

The American College of Obstetricians and Gynecologists includes screening for PPD among the essential parts of a women's 4-6 week postpartum visit. Postpartum women also can be screened for PPD by pediatricians at their infants' well-child visits.[10] Women who are considered to have self-reported PDS based on these screenings should be administered a full diagnostic interview because they are most likely to develop PPD. State and local health departments and other health-care providers can use these screening results in their maternal and child health needs assessments and in planning for the provision of appropriate mental health services to new mothers. Additionally, the effectiveness of targeting services to mothers at higher risk for PPD should be evaluated.

©2008 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/24/2013

Acknowledgments

The findings in this report are based on contributions by members of the PRAMS Working Group and the CDC PRAMS Team, Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

REFERENCES

1. O'Hara MW, Swain AM. Rates and risk of postpartum depression-A meta-analysis. *Int Rev Psychiatry*. 1996;8:37-54.
2. Schmidt RM, Wiemann CM, Rickert VI, Smith EO. Moderate to severe depressive symptoms among adolescent mothers followed four years postpartum. *J Adolesc Health*. 2006;38(6):712-718.
3. Gross KH, Wells CS, Radigan-Garcia A, Dietz PM. Correlates of self-reports of being very depressed in the months after delivery: results from the Pregnancy Risk Assessment Monitoring System. *Matern Child Health J*. 2002;6(4):247-253.
4. Shulman HB, Gilbert BC, Lansky A. The Pregnancy Risk Assessment Monitoring System (PRAMS): current methods and evaluation of 2001 response rates. *Public Health Rep*. 2006;121(1):74-83.
5. Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression. Two questions are as good as many. *J Gen Intern Med*. 1997;12(7):439-445.
6. Berg AO. Screening for depression: recommendations and rationale. *Am J Nurs*. 2002;102(7):77-80.
7. McLearn KT, Minkovitz CS, Strobino DM, Marks E, Hou W. Maternal depressive symptoms at 2 to 4 months post partum and early parenting practices. *Arch Pediatr Adolesc Med*. 2006;160(3):279-284.
8. Taveras EM, Capra AM, Braveman PA, Jensvold NG, Escobar GJ, Lieu TA. Clinician support and psychosocial risk factors associated with breastfeeding discontinuation. *Pediatrics*. 2003;112(1 Pt 1):108-115.
9. Dietz PM, Williams SB, Callaghan WM, Bachman DJ, Whitlock EP, Hornbrook MC. Clinically identified maternal depression before, during, and after pregnancies ending in live births. *Am J Psychiatry*. 2007;164(10):1515-1520.
10. Chaudron LH, Szilagyi PG, Campbell AT, Mounts KO, McInerny TK. Legal and ethical considerations: risks and benefits of postpartum depression screening at well-child visits. *Pediatrics*. 2007;119(1):123-128.

*Alaska, Colorado, Georgia, Hawaii, Maryland, Maine, Minnesota, North Carolina, Nebraska, New Mexico, New York (excluding New York City), Oregon, Rhode Island, South Carolina, Utah, Vermont, and Washington.

†Confidence intervals are approximate because, when adjusting for the clustered survey design, the confidence intervals computed were close to but not equal to ±1.96 × standard error.

‡Stressors during pregnancy were categorized as (1) emotional (a very sick family member had to go into the hospital or someone close to the respondent died), (2) financial (the respondent moved to a new address, her husband/partner lost his job, she lost her job, or she had a lot of bills she could not pay; 3) partner-related (the respondent separated or divorced from her husband/partner, she argued more than usual with her husband/partner, or her husband/partner said he did not want her to be pregnant); and (4) traumatic (the respondent was homeless, she was involved in a physical fight, she or her husband/partner went to jail, or someone close to her had a problem with drinking/drugs).

Notice to Readers: Medical Equipment Malfunctions Associated With Inappropriate Use of Cleaning and Disinfecting Liquids—United States, 2007

MMWR. 2008;57:152

On October 31, 2007, the Food and Drug Administration (FDA), in collaboration with CDC, the Environmental Protection Agency, and the Occupational Safety and Health Administration, issued a public health notification alerting health-care providers and the public about medical device malfunctions caused by improper use of cleaning and disinfecting liquids.* Inappropriate use of cleaning and disinfecting liquids on certain electronic medical equipment can cause equipment damage and malfunctions, which might have serious, even life-threatening consequences. Under the Safe Medical Device Act, health-care facilities are required to report to FDA any medical device malfunctions that cause or could cause death or serious injury. This notice provides recommendations to help prevent medical device malfunctions attributed to improper cleaning and disinfection.

Cleaning and disinfection are important practices to ensure that medical equipment surfaces do not serve as reservoirs for infectious pathogens. Cleaning is designed to remove infectious pathogens from inanimate objects, whereas disinfection is the process by which remaining pathogens are inactivated. Each of these two distinct processes usually involves the use of liquids (i.e., water and detergents for cleaning and chemical disinfectants for microbial inactivation). Because many types of equipment used in health-care settings have mated surfaces, moving parts, gaps, joints, and unsealed housings, improper cleaning and disinfection can create opportunities for fluids to enter the internal surface of medical equipment, resulting in damage that can cause or contribute to equipment malfunctions.

Health-care facilities, public health officials, and device manufacturers can take several measures to help improve device cleaning and disinfection and to prevent equipment malfunctions in the future. Facility staff should review equipment currently in use to determine which pieces of equipment have manufacturer instructions for cleaning but not for disinfection. Equipment that cannot be disinfected should be used in a way that minimizes the risk for contamination, for example, by positioning it far from contaminated areas or by covering it with a barrier that can be easily cleaned or replaced. If this is not possible, the facility should contact the manufacturer to discuss options for safe and effective disinfection. If the equipment is fluid-tight, and both cleaning and disinfection instructions are provided by the equipment manufacturer, the recommended cleaning agents and chemical disinfectants should be used and the conditions for their use followed. Finally, personnel responsible for cleaning and disinfection must be given appropriate training.

Reports of medical equipment malfunctions that cause or could cause death or serious injury should be made by using FDA's MedWatch 3500A form, available at https://www.fda.gov/medwatch/getforms.htm. Health-care facilities also are encouraged to report medical devices malfunctions that do not meet the mandatory reporting to MedWatch by telephone (1-800-332-1088); by fax (1-800-332-0178); by mail (MedWatch, Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20852-9787); or online (https://www.fda.gov/medwatch/report.htm).

*Available at http://www.fda.gov/cdrh/safety/103107-cleaners.html.

 ©2008 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/24/2013