Prenatal Depression, Violence, Substance Use, and Perception of Support in Pregnant Middle-Class Women

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Abstract

The purpose of this study was to explore the vulnerability for postpartum depression among financially, educationally, and socially advantaged middle-class women ($n = 31$). Twenty-nine percent reported prenatal depression, 13% reported intimate partner violence, and 22% reported concerns with partner relationships and support expectations after delivery. No illegal substances were reported; however, a past history of smoking and excessive use of caffeine was disclosed. Implications for practice focus on the need to screen and implement intervention programs for these social problems and to adopt measures as a universal standard of care for all women, regardless of demographic advantages.

Journal of Perinatal Education, 11(1), 14–21; risk factors, pregnant middle-class women, prenatal screening, intervention programs.

In 1996 the United States ranked 21st in infant mortality (Wong & Perry, 1998). Known influences on pregnancy outcomes frequently relate to economics and the availability of resources and health care. Compared to pregnant Caucasian women of high socioeconomic status (SES), pregnant women of lower SES and nonwhite ethnic background often may be uninsured, require more hospitalizations for problem pregnancies, receive less medical intervention, and experience more pregnancy complications (e.g., fetal distress, preterm labor, spontaneous abortion, and low birth-weight infants) as well as subsequent infant morbidity and mortality (Nichols & Zwelling, 1997).

Additional contributors to increased morbidity and

mortality rates include prenatal depression, lack of social support, intimate partner violence (IPV), and substance use (Anderson & Snow, 1998). While both the literature and clinical practice suggest that depression, limited social support, IPV, and substance use cross all demographic boundaries, few studies have evaluated these risk factors in middle-class, advantaged women. The purpose of this study was to explore the vulnerability of this population by examining the prevalence of prenatal depression, IPV, and substance use. Perceptions and expectations of the woman's support system during and after delivery were also explored. The study's research questions were as follows: (1) What is the prevalence of prenatal depression among a sample of middle-class, advantaged women? (2) How do middle-class, advantaged women perceive the support provided by their partners during and after pregnancy? (3) What is the prevalence of IPV (defined as physical, verbal, emotional, and sexual abuse) among a sample of middle-class, advantaged women? and (4) What is the prevalence of substance use (defined as illegal drugs, alcohol, cigarettes, and coffee) among a sample of middle-class, advantaged women?

Review of Literature

Pregnancy represents a time of role change and transition. While pregnancy is a positive event for most, some women find themselves tearful, sad, alone, or exhibiting other perplexing behaviors. The prevalence of depression during pregnancy has been found in multiple studies to be equal to or higher than the prevalence of depression after pregnancy (Gotlib, Whiffen, Mount, Milne, & Cordy, 1989; Logsdon, McBride, & Birkner, 1994). In fact, depression during pregnancy has been identified as a significant factor contributing to postpartum depression. The reasons for depression are unknown, but numerous indicators from maternal-centered physiologic influences (genetics or hormonal shifts) to maternal-/paternal-

centered psychosocial influences have been considered (Beck, 1998).

With the advent of pregnancy and impending birth, expectant fathers may also display an array of reactions ranging from feelings of happiness to feelings of inadequacy, jealousy, helplessness, or a desire for power and control (Diemer, 1997). These changes may feel threatening and trigger changes in the physical, emotional, economic, and social system of the woman and her family. When any woman becomes pregnant, her partner may perceive a loss of power in the relationship and resort to abuse as a means to restore the power. Between 7%–65% of pregnant women experience abuse during pregnancy (Curry, 1998), revealing abuse to be more common than other health care conditions routinely screened for during pregnancy, such as gestational diabetes or pregnancy-induced hypertension (Gazmararian et al., 1996).

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Compared to nonabused women, abused women report more anxiety and stress, less social support, and lower self-esteem (Curry, 1998). Additionally, living with the fear and humiliation of partner abuse can lead to maternal depression and/or use of alcohol or drugs (inclusive of cigarettes and caffeine) (Anderson, 1992; Curry, 1998; Landenburger, 1998). Abused women, especially Caucasian women, are significantly more likely to smoke tobacco or to use alcohol or illegal drugs (Curry, 1998).

Methods

Following human-subjects review and approval by the university, we recruited pregnant women from a large, private group of physicians and a fee-for-service, community-based childbirth class to take part in a 29-month project. Settings for the "middle class" population were

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purposely selected to explore the prevalence of risk factors among a group of demographically advantaged women. Selection criteria assured that all participants were insured, receiving adequate prenatal care, between 32 and 39 weeks pregnant, not in active labor, and English-speaking. Additionally, in this setting the majority of the women were married, employed, educated beyond high school, and of an "adequate income" level. The case manager of the physicians' group and the childbirth educator sent all potential participants an explanation of the study, a consent form, and a stamped, self-addressed envelope. Women indicated a willingness to participate in the study by returning signed consents and their phone number. They were then called and a home visit was arranged. Each participant also received the name of the principal investigator who was available to answer future questions or concerns regarding the study.

Twenty-eight volunteering participants returned signed informed consents and contact numbers. Three additional women recruited from the high-risk obstetrical area of a large, private hospital were interviewed in the hospital in lieu of a home visit for a total number of 31 women. The low response rate (16%) was believed to be due to the personal nature of the study questions and the requested two-and-one-half-year study commitment. With a possible selection bias among those who chose to participate coupled with a small sample size, it is suggested that the reader interpret findings with caution. Study questions exploring depression, social support perceptions and expectations, IPV, substance use, and selected demographics were read to the women during a structured interview format. With the women's permission, field notes were taken to collect additional information disclosed by the participants. This report describes the baseline (prenatal) data only.

Instruments

The following instruments were used to collect data: the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987), the Abuse Assessment Screen (AAS) (Nursing Research Consortium on Violence and Abuse, 1991), and a tool we developed to assess selected demographics, support perceptions and expectations, and substance use. Upon request, community resources and referrals for depression, IPV, and substance use were supplied to participants. The women

were informed that their lack of participation would not change the level of care provided to them.

The EPDS and the AAS were chosen for this study because of the ease in administration to subjects, availability, and previous use to assess the study variables. The EPDS consists of 10 short statements of common depressive symptoms with four possible replies for each symptom. Sensitivity and specificity of the EPDS have been found to be 86% and 76%, respectively, in postpartum samples (Cox et al., 1987). While initially developed to measure postpartum depression, the EPDS has been used in a prenatal population with a coefficient alpha of 0.82 when used before and after delivery (Deater-Deckard, Pickering, Dunn, & Golding, 1998). Satisfactory validity, split-half reliability, and sensitivity to changes in the severity of depression over time have been reported (Cox et al., 1987). For this study, reliability of the EPDS was found to be .87, comparable to that reported by Cox et al. (1987) from their original study of 60 postpartum mothers at six weeks.

In a sample of depressed women previously diagnosed by the Research Diagnostic Criteria (RDC) for depressive illness, a cut-off score of 12–13 on the EPDS identified all the women as depressed. Scores on the EPDS above a threshold of 12–13 were determined to indicate a depressive illness of varying severity (Cox et al., 1987). According to Cox and colleagues, if other factors present (e.g., verbalization of depression), a threshold of 9–10 may be considered for a diagnosis of depression.

The AAS consists of three questions identifying the type and intensity of violence received over a two-year period for either pregnant or nonpregnant women. Two of the questions—"Have you ever been hit, slapped, kicked, or otherwise physically hurt by your male partner?" and "Have you ever been forced to have sexual activities?"—identified 61% of a sample of women who presented in the emergency department for vaginal bleeding as having experienced abuse (McFarlane, Greenberg, Weltge, & Watson, 1995). McFarlane and colleagues report that the AAS "appears to be a sensitive tool and a rapid way to detect physical and/or sexual abuse in women not presenting for abuse-related treatment" (p. 394). The AAS was chosen for use in this study because of reported validity and reliability and the correlation with longer research instruments that measure abuse (Curry, 1998).

A third tool, which we developed, assessed the follow-

ing: social support perceptions and expectations, selected demographic variables, and the use and frequency of tobacco, caffeine, alcohol, and illegal drugs. Fifteen questions explored each participant's perceptions and expectations of social support, happiness before and during the pregnancy, satisfaction with partner, closeness to parents/guardians, the risk of abuse from the partner, eagerness to return to work after delivery, and the belief that one can take care of everything after delivery. The questions were rated on a scale of 0 (*does not describe your feelings*) to 6 (*does describe your feelings*). In this sample, the 15 items/questions represented the available literature (face validity) and had a Cronbach's alpha of .85. Additional questions on the tool assessed substance use and demographic information.

Results

Description of Sample

The participants were primarily Caucasian, married, and college educated (see Table 1). Ages ranged between 23 and 42 years, with a mean age of 31.7 years ($SD = 4.92$). The majority was employed; occupations included nurse, dentist, lawyer, and CEO of a small company. All the women had insurance coverage for the birth (100%) and 87.1% reported "adequate" or "more than adequate" yearly incomes. Seventy-eight percent of the participants had two or fewer children. All the women were receiving prenatal care in accordance with their physician's requirements. Also, all the women lived in the surrounding communities of a large urban city with a population of one million inhabitants. Overall, the women were considered to be fairly homogenous, demographically; however, the smallness of the sample prevented testing for homogeneity.

Prenatal Depression

Depression levels during pregnancy were measured by self-report and the EPDS. Scores on the EPDS ranged between 1–25, with a mean of 8.71. Over one-quarter of the women (29%, $n = 9$) indicated a score of 12 or more on the EPDS, classifying them as *depressed*. In the majority of instances, self-reports of depression mirrored the findings of the EPDS scores. Interestingly, self-reports of "mood" before and during pregnancy were also significantly similar ($r = .473$, $p = .008$). Five additional

Table 1 Demographic Characteristics of Women ($n = 31$)

Characteristic	Frequency	Percentage*
<i>Race/Ethnicity</i>		
Caucasian	26	84.0
African American	3	10.0
Hispanic	1	3.2
Other	1	3.2
<i>Marital Status</i>		
Married	27	87.0
Single	2	6.5
Separated	1	3.2
Living with Partner	1	3.2
<i>Highest Level of Education ($n = 29$)</i>		
Did Not Complete High School	2	6.9
High School Graduate	2	6.9
1-3 Years of College	7	24.1
College Degree	11	38.0
Advanced Degree	7	24.1
<i>Employment Status</i>		
Fulltime	20	65.0
Part-time	7	23.0
Unemployed/Homemaker	4	13.0
<i>Age</i>		
Range: 23-42 years		
Mean: 31.7 ($SD = 4.92$)		

*Figures are rounded up.

women (16%) scored between 9 and 11; however, limited supports, depression, IPV, or substance use were not verbalized, and a diagnosis of depression was not considered.

Depression scores significantly correlated with several demographic variables, indicating that women of the lower educational levels ($Tau = -.290$, $p = .027$) and perceived lower income status ($Tau = -.362$, $p = .019$) were more likely to have higher depression scores than women of the higher educational levels and perception of higher incomes. Ethnicity and depression scores also correlated, but the small study sample of non-Caucasian women ($n = 5$) prevented interpretation.

Interestingly, depression was not limited to only the prenatal period—three women reported nonpregnancy-related depression. Self-report by these three women (10%) revealed past episodes of depression that required either outpatient treatment or hospitalization related to chronic, unknown factors. In the majority of instances,

women in this study reported only a short-term hospital stay without any ongoing medical or pharmacological intervention. One pregnant woman who was admitted to the high-risk antepartum unit for medical reasons at 32 weeks gestation reported a lengthy use of “Prozac and Buspar in the past” because of “depression, relationship, and codependency issues.”

Two women (6.5%) reported postpartum depression related to the birth of a previous infant, while six women (19%) reported depression related to the loss of an infant. Four women (13%) reported mild depressive episodes triggered by previous pregnancies; however, these women did not receive hospitalizations or medical interventions.

Support Systems: Perceptions and Expectations

Social support questions allowed the women to rank their perceptions and expectations of support, closeness to parents and partner, and satisfaction with partner and pregnancy. These questions were rated on a scale between 0 (*does not describe your feelings*) to 6 (*does describe your feelings*). Relationship quality (marital dissatisfaction) and depression scores were found to be significantly associated ($r = .378, p = .02$). Furthermore, significant inverse relationships were noted between depression scores and partner satisfaction ($r = -.584, p = .001$), partner support ($r = -.578, p = .001$), partner closeness ($r = -.663, p = .000$), and partner love ($r = -.506, p = .004$).

Overall, the majority of the study's participants perceived partner closeness, satisfaction, and support. Perceived risk for physical harm by the partner was minimal ($M = .387, SD 1.17$). Seventy-eight percent of the women expected their partner to be very supportive or helpful after their baby was born. Perceived partner support was significantly associated with expectations of support and help following the birth of the baby ($r = .817, p = .000$). Additionally, the women did not believe they could do everything alone after delivery ($M = 2.38, SD 1.47$), and they did not express an eagerness to return to work ($M = 2.22, SD = 1.74$).

Participants reported that the current closeness to their partners was as much as they expected it to be ($M = 4.86, SD = 1.75$). Feelings of partner closeness ($r = .795, p = .000$) and satisfaction with partner relationship ($r = .857, p = .000$) were significantly associated

with perceived partner support. Perceived partner support was also significantly associated with happiness over the current pregnancy ($r = .776, p = .000$).

Support systems also extend to the family of origin. The study participants' parental support was explored on two levels: the closeness to their parents/guardians as both a child ($M = 4.43, SD = 1.69$) and an adult ($M = 4.86, S = 1.66$). The women's perceived closeness to their parents/guardians as a child or as an adult was not found to correlate with the satisfaction level of their relationship to their partner.

While the majority of the women appeared happy with their relationships and pregnancy, seven (21.8%) women reported some concerns about the support and help their partners would provide. All seven of these women reported a less than satisfying partner relationship. Of the seven women indicating concerns over future support, six had EPDS scores of 12–25, indicating prenatal depression. The seventh subject's EPDS score was 11. (See Table 2 for the range of prenatal depression scores for all women by concerns for support).

Abuse Assessment

None of the women reported hospitalization due to injuries perpetrated by a partner. One woman, however, did reveal a history of physical abuse from her partner, which occurred from the time of their dating period until their recent separation. This woman described how, at 36 weeks gestation, she was held at knifepoint all night so she could not fall asleep. Both her self-report and EPDS score of 18 confirmed depression (see the “Epilogue” section on page 20). Three additional women reported “control issues,” verbal and emotional abuse, and long-term abuse from a divorced partner (including an assault with a car). One woman made the following comment, which illustrates emotional and verbal abuse: “I was held down in a chair to prevent me from leaving

Table 2 Range of Prenatal Scores by Concern over Future Support

	Group A: Concerns ($n = 24$)	Group B: No Concerns ($n = 7$)
Range	11–25	1–18
Mean	15.57	6.71
Mode	12; 18 (bimodal)	3; 4 (bimodal)

the room while he yelled at me.” Two of the three women who reported a controlling partner and an emotionally and verbally abusive relationship were unsure about their partner’s support and were dissatisfied with their relationship. The woman reporting physical abuse vehemently denied support and expressed extreme dissatisfaction with her relationship. After a reported eight years of abuse, she said that she was leaving her husband.

IPV-perceived risk significantly correlated with marital status ($X^2 = 30.117, p = .000$); however, the majority of women (87%) were married. Ethnicity and risk of abuse were not significantly related. Depression (verbalization or EPDS scores over 11) characterized six (67%) women relating either dissatisfaction with their relationship or controlling and abusive relationships. Dissatisfaction with relationships or controlling and abusive relationships characterized five (56%) women reporting depression, indicating that all the women did not relate the poor quality of their relationship with their feelings of depression.

Tobacco, Alcohol, and Illegal Drug Use

None of the subjects reported more than a social use of alcohol, often stating that their use was minimal (e.g., “a margarita a week”) to nonexistent while pregnant. Partners were also described as nondrinkers. None of the subjects reported either personal or partner use of illegal drugs (see “Epilogue” section on page 20). No woman reported the current use of nicotine; however, five women did report a history of smoking. One woman (a nurse and past smoker) reported drinking “over 20 cups of coffee each day.”

Discussion

Prenatal depression, lack of social support, IPV, and substance use are not “visible” risks or conditions confined to one stratum of women. Prenatal depression, social support, and happiness with relationships were not guaranteed for these middle-class women who would be considered as “low risk” by social, financial, and educational parameters.

Identification of prenatal depression by either self-report or the EPDS revealed reliable and valid mechanisms of assessment. The EPDS classified nine women (29%) as prenatally depressed. A similar prenatal depres-

sion rate of 28% (Gotlib et al., 1989) was noted among previously identified high-risk groups, including younger, less educated women with more children and no employment (Brown & Harris, 1978; Weissman, Myers, & Thompson, 1981). In this small study, Caucasian women who reported the least amount of education and perceived income were found to show a trend toward higher depression scores on the EPDS. However, this is viewed cautiously in the context of a small sample and the fact that the education and income levels of this sample of women averaged above national means. Furthermore, other women reported depression within this demographically similar population. Therefore, depression during pregnancy may be more common than expected among all women despite their financial, educational, and social advantages.

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Additionally, the significant correlation shown between self-report of “mood” before and during pregnancy suggests the possibility of a chronic, mild depression—rather than prenatal depression—among women. Over the past two decades, postpartum depression rates have remained stable: between 10%–15% of women (Beck & Gable, 2001; Cox, Connor, & Kendell, 1982). At best, rates for prenatal depression have been considered comparable to or higher than rates for postpartum depression (Gotlib et al., 1989). Both rates are similar to rates found for chronic depression (12%–26%) (Johnson, 1997). Comparability of rates led Gotlib and colleagues (1989) to suggest that pregnancy and postpartum may not necessarily be periods of increased risk of depression for women. Yet, despite an unknown increased incidence, the influence of social support, IPV, and substance use associated with depression require assessment and attention.

Close to 22% of the women in this middle-class group expressed concerns over support expectations before and

after delivery or dissatisfaction with partner relationships, describing them, in fact, as controlling or abusive. Reported rates of IPV (12.9%) among participants in this study compare with Sampselles, Petersen, Murtland, and Oakley's (1992) findings of a 9% self-report rate of violence (physical, emotional, or sexual) among advantaged women who attended a private clinic. In their published meta-analysis of 13 studies (including Sampselles et al.'s 1992 report), Gazmararian and colleagues (1996) indicated a combined prevalence rate for violence of 9%–20.1%; however, the analysis was reported as difficult, given methodological variations between studies. Sampselles et al.'s (1992) research was noted as the only reviewed study that included an advantaged population.

Reports of IPV among less advantaged populations appear to be higher. In mixed populations (women recruited from both private and public sectors), rates have been found to be as high as 17% (Greenberg, McFarlane, & Watson, 1997) to 29% (when disclosed as a result of an oral history taking) (McFarlane & Gondolf, 1998).

The use of drugs and alcohol are often associated with violence. Excessive alcohol intake or illegal drug use was not reported by this sample of pregnant women. Yet, in other studies, approximately 25%–35% of pregnant women continued to smoke during pregnancy, 4%–20% used cocaine, 14%–32% used marijuana, and 6%–8% were considered to be problem drinkers (Ewing, 1992). In our study, past histories of smoking and an excessive intake of caffeine were disclosed.

For the majority of women in this study, several “buffers” preventing prenatal and future postpartum depression might have been in place, including perceived/real partner support, realistic after-delivery expectations, partner satisfaction, absence of IPV and substance use, and higher educational and income levels. Yet, despite lifestyle advantages, several women revealed prenatal depression and dissatisfaction with partner relationships, including concerns over support after delivery. Poor partner relationships have been associated with depression during pregnancy and may predict depression after childbirth (Diemitrosky, Perez-Hirschberg, & Itskowitz, 1987). When risk indicators appear during the prenatal period, education and/or counseling are essential in an effort to decrease the prevalence and, perhaps, the severity of postpartum depression that may follow.

Implications for Practice

In this small study, while only one woman reported physical abuse, the level of physical danger for all participants was alarming. Emotional and verbal abuses were commonly reported and may indicate the potential to escalate to physical abuse at a future date. Therefore, risk-assessment screening must become a standard of care for all pregnant women. It must also be conducted at determined times in each trimester to allow for heightened awareness and identification of needed resources and referrals. Additionally, providers need to be aware of intervention programs available in their communities in order to make appropriate referrals for education and counseling. In clinical practice, the AAS and the EPDS are manageable screening tools to determine quickly and accurately the possibility of IPV and depression. Screening for IPV and depression is imperative, both prenatally and after delivery.

The responsibility for assessment and intervention for violence and depression remains with the care provider.

The responsibility for assessment and intervention for violence and depression remains with the care provider. Too often the current model of care is “don’t ask, don’t deal with it.” Assessment of frequently used substances such as caffeine is also essential because of potential, undesired infant outcomes (e.g., decreased fetal growth and low birth weight). Improved pregnancy outcomes and the resulting decrease in infant morbidity and mortality rates are advanced not only by medical technology but also by screening and intervention programs for social problems such as depression, lack of social support, IPV, and substance use among all women.

Epilogue

As the study continued following the birth of each participant’s baby, physical abuse continued for one woman. At two weeks postpartum, she was choked until she became unconscious. During a follow-up home visit at 12 weeks, the subject reported having made plans to

take her two children and move away from the area. At that time, her EPDS score had decreased to 9.

A second woman who was diagnosed with prenatal depression (EPDS score of 18) revealed emotional, verbal, and physical abuse, along with the use of cocaine after the birth of a full-term infant with numerous physical defects. She refused further interviews and was subsequently lost to the study. The infant died.

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