Co-Occurring Intimate Partner Violence and Mental Health Diagnoses in Perinatal Women

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Abstract

Objectives: To describe the co-occurrence of intimate partner violence (IPV) and mental health burden among perinatal mothers attending well-baby visits with their infants in the first year of life. We compare rates of depression, anxiety disorder, and substance abuse diagnoses between mothers who reported IPV within the past year to those who did not.

Methods: This cross-sectional study of 188 mothers of infants (under 14 months) was conducted in an urban hospital pediatric clinic. Participants reported demographics and IPV and completed a semistructured psychiatric diagnostic interview.

Results: Mothers reporting IPV were more likely to be diagnosed with mood and/or anxiety diagnoses ($p < 0.05$, Fisher's exact test), specifically current depressive diagnoses ($p < 0.01$, Fisher's exact test) and panic disorder ($p < 0.05$, Fisher's exact test). There was a trend for more posttraumatic stress disorder (PTSD) ($p < 0.06$) among abused mothers. Substance abuse and dependence, age, race, insurance status, employment, education, and family arrangements did not differ between groups. Prior major or minor depression increases the odds for perinatal depression threefold (OD 3.18).

Conclusion: These findings have implications for practitioners who encounter perinatal women. Findings suggest providers should explore signs and symptoms of depression and anxiety disorders among women reporting IPV. Similarly, when perinatal mothers report symptoms of depression, PTSD, or panic disorder, practitioners should be alert to the possible contributory role of IPV.

Introduction

INTIMATE PARTNER VIOLENCE (IPV) is a major public health concern.^{1,2} In the United States, more than 20% of all women will experience IPV during their lifetime.^{3,4} Low-income,⁵ less educated, and minority women⁶ report higher rates of IPV.⁷⁻⁹ IPV is not confined to the United States; lifetime prevalence rates of IPV may be as high as 44% to 50% both in the United States and abroad.^{5,10-12} IPV victims report greater medical service use^{13,14} and an increased mental health burden that includes depression, posttraumatic stress disorder (PTSD), suicidal thinking, and suicide attempts.¹⁵⁻²² IPV affects women more often than men and results in higher rates of serious injuries,⁴ including death.²³

Research indicates that abuse before pregnancy is associated with abuse during and after pregnancy,²⁴ with estimates ranging from 1% to 6%.^{25,26} Contradictory evidence suggests rates of abuse can be lower in pregnancy than

prior to pregnancy (6.1% vs. 6.9%) and even lower in the postpartum period (3.2%).²⁴ In a 17-state study of IPV during pregnancy, younger women and those without a high school education reported greater risk. In 16 of the 17 states, women who received Medicaid were also at greater risk for IPV.²⁷

While IPV rates during pregnancy vary, largely due to measurement issues, research consistently demonstrates the negative effects of IPV during pregnancy. Abuse during pregnancy is associated with preterm labor, low birth weight, future child abuse, and femicide.²⁶⁻²⁹ A recent meta-analysis of 28 pregnancy-IPV studies confirmed that IPV exposure resulted in increased risk for preterm births and low birth weight.³⁰ IPV exposure during pregnancy also has long-term effects on children, including increased risk for childhood death.³¹ However, until recently little was known about the effects from and the relationship between IPV and maternal depression.

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In one study of 1519 women recruited during obstetrical postpartum visits, IPV, measured with two questions, and depressive symptoms, measured by the Edinburgh Postnatal Depression Scale (EPDS),⁶ were assessed, with 7.4% of the women reporting emotional or physical abuse in the last 12 months. Women were more likely to report abuse if their EPDS score was 13 or greater. This intersection between depression and IPV is robust and holds true in international studies,³² as well as in studies with Latina women, mostly foreign born.³³ In a British study of 200 women, a multivariate analysis found both IPV and postpartum depression are associated with obstetric complications.³² In a study of 210 Latina women recruited during pregnancy, IPV and depression prior to pregnancy were associated with postpartum depression in both bivariate and multivariate analyses.³³ The timing of the abuse relative to the pregnancy has been shown to impact depressive symptoms.³⁴ In a study of low-income pregnant mothers, abuse during the pregnancy, regardless of the type (psychological or physical), was associated with greater severity of depression.³⁴

It is important to consider ethnicity and race in the examination of the intersection between IPV and perinatal depression. Other studies that have explored perinatal risk factors of high-risk women, particularly African-American low-income mothers, have not explicitly noted IPV.³⁵ Among 546 African American women, maternal age of 30 or older was found to be the major risk factor for antenatal depression, increasing a mother's odds of depression by five times compared with a teen mother.³⁵ In a study exploring mental health and IPV in relation to family support among pregnant women, black women reported better mental health, controlling for social support, severity of abuse, income, and ethnicity.³⁶ Although the overlap between IPV and perinatal depression is a fairly new area of investigation, perinatal depression has been a focus of attention for almost two decades. Perinatal depression and its effects on women, children, and families is a public health concern. Perinatal depression affects 14% of new mothers³⁷ and rates among low-income and minority women are double those in the general population.³¹⁻³⁴ Perinatal depression has been associated with obstetric complications, inadequate prenatal care, and inability to parent.^{38,39}

Perinatal anxiety is less well-recognized and explored but is becoming increasingly identified as an important component of the experiences of perinatal women. While comorbid anxiety symptoms are often reported,⁴⁰ the co-occurrence of perinatal anxiety and depressive diagnoses are not as well documented.⁴¹ However, recent studies highlight the importance of identifying anxiety as well as depression. Anxiety during pregnancy can negatively affect both pregnancy outcomes and, years later, the child's behaviors.^{42,43}

Given that IPV victims are at increased risk for depression, PTSD, and suicidal thoughts and risk factors for IPV are similar to those for perinatal depression, it is important to begin to examine the intersection between perinatal violence and mental health. Doing so will facilitate the design and implementation of effective prevention and early intervention efforts for women at risk. This interface is crucial to explore and understand because mental health burden might impact IPV-positive mothers' abilities to follow-up with mental health referrals and safety planning. Conversely, IPV might interfere with depressed and anxious mothers' safety and

pursuit of mental health treatment. In a recent study, IPV was one of the most important independent risk factors for antenatal depression, increasing a woman's odds for antenatal depression by more than three times.⁴⁴ Melville and colleagues⁴⁴ used diagnostic criteria from the Patient Health Questionnaire to assess depression. They noted depression in approximately 10% of their subjects ($n=1888$), with psychosocial risk factors including domestic violence, chronic medical conditions, and being Asian or African American.

Although the prevalence and severity of IPV among perinatal women has been reviewed, as well as the intersection between depressive symptoms and IPV, this is the first study to our knowledge to explore the relationship between mood and anxiety disorder diagnoses and IPV among postpartum mothers attending well-baby visits in a pediatric clinic. Little is known about the prevalence of co-occurring IPV and perinatal depression or anxiety disorders among mothers who attend well-baby visits with their infants in the first year of life. Additionally, the overwhelming majority of studies conducted to date have used symptom measures as opposed to diagnoses, with a notable exception of some that used diagnostic criteria.⁴⁴ Well-baby visits may be an opportunity not only to identify women and children at risk, but also to intervene. We hypothesized that IPV-positive participants have increased risk for co-occurring mood and anxiety disorder diagnoses.

Materials and Methods

The University of Rochester Research Subjects Review Board approved this study. All participants provided written informed consent.

Sample

This cross-sectional study of postpartum mothers is described elsewhere,⁴¹ and the methods relevant to this secondary analysis are noted. Between April 1, 2003, and August 31, 2005, a convenience sample of mothers ($n=647$) age 18 years and older, with infants under 14 months of age and attending a well-baby visit during the first postpartum year at an urban university pediatric primary care clinic, were invited to complete a demographic questionnaire and a depression screening tool and to return for a diagnostic interview. The clinic serves approximately 12,000 children, including around 900 infants, each year. Recruiters were present in the waiting room of the clinic during office hours to approach mothers who completed screening. Of these, 422 (66%) women provided written informed consent and completed basic demographic information and a depression screening tool. The remaining 245 (34%) women completed only the basic demographic information or refused completely. Of the 422 women who provided informed consent, 198 (47%) returned and completed the Structured Clinical Interview for DSM-IV (SCID), additional depression screening tools, and other questionnaires.⁴⁵ Two hundred twenty-four (53%) were either lost during follow-up ($n=187$), refused further participation ($n=28$), or were excluded ($n=9$). There were no statistical differences between those that completed the interview and those that did not regarding race, age, education, the number of children, or depression scores. Of the 198 women who completed the SCID, 188 (95%) also completed the IPV questionnaire, thereby comprising the sample for this study.

Reasons for noncompletion of the IPV questionnaire were not obtained.

Measures

The 38-item IPV questionnaire asked about participants' IPV experiences ever, during pregnancy, and immediately postpartum (1 month) with respect to threats, physical assaults, and forced sex of any kind. Participants also indicated whether the most recent incident was within the past year. Questions were adapted from earlier studies assessing for IPV incidents.⁴⁶ Due to the exploratory nature of this aspect of the study, we did not employ a standardized instrument. This decision was based on anticipated subject burden and a desire to conduct a mixed-method assessment providing the opportunity for the participant to describe incidents that may not be covered in a standardized instrument. Rather, using questions noted by Dunford,⁴⁶ the questions addressed behaviors based on the three levels of abuse: threats, physical aggression, and serious violence resulting in injuries. We supplemented those areas by also inquiring about the threatened or actual use of a weapon, denial of medical care, and sexual abuse. Participants who responded that they had been threatened with physical violence, forced to have sex of any nature, or physically assaulted within the past year, were coded as IPV positive.

Mothers were recruited at any well-baby visit in the first postpartum year, thereby giving a sample of mothers who were at different time points postpartum (2 weeks to 14 months). All participants were assessed at only one time point. The IPV questionnaire was given at the time of the SCID. Repeated measures were not obtained.

Psychiatric diagnoses, including mood, anxiety and substance use disorder diagnoses, were assessed using the SCID.⁴⁵ The SCID is a semistructured psychiatric diagnostic interview conducted by trained interviewers to characterize psychiatric diagnoses among patient and general populations. It is considered the gold standard for psychiatric diagnoses. It was administered by a trained rater and reviewed by a team, consisting of a psychiatrist, two psychologists, and trained raters, to confirm the diagnoses.

Demographic variables including maternal age; maternal, paternal, and child race and ethnicity; age of infant; sexual orientation; marital status; living arrangements; employment or student status; education; and religion were collected from the subjects at the time of the interview. Race was recoded to reflect white, black, and other due to small sample sizes for those who self-reported as being Asian, Native American, or mixed race. Employment was collected as full-time, part-time, disability, or unemployment and recoded into employed or unemployed. Education was coded by the number of years of

schooling completed. The majority of participants (80%) had never married; thus, only living status (alone or with others) was included in the analysis.

Analyses

T-tests were used for continuous demographic variables. Chi-square tests were used to test for differences among categorical variables. Fisher's exact test was utilized when one of the expected cell sizes was <5 and dictated chi-square tests were not appropriate. SPSS⁴⁷ was utilized for descriptive analyses. SAS⁴⁸ was utilized for multivariate logistic regression.

Results

Table 1 provides an overview of the nature of violence among the participants during their relationships, during their pregnancies, and immediately in the month after the birth of their child.

Fifty-four (29%) women reported ever having been threatened by their partner or expartner. Of these, 22 (12%) participants reported being threatened during their pregnancy and seven (4%) during the month after the baby was born. Fifty-three (28%) participants reported they had been assaulted during their relationship. Of these, 17 (9%) indicated the assault occurred during their pregnancy, and six (3%) during their first month postpartum. Far fewer women, 17 (9%), reported they had been forced to have sex of any kind; of these women, three (2%) reported forced sex during their pregnancy. As with threats and assaults, fewer reported forced sex occurred postpartum, and only two (1%) of participants reported this occurred during the first month postpartum.

Due to small sample sizes for the specific types of violence before, during, and after pregnancy, we defined women as IPV positive if any abuse (verbal, physical, or sexual) occurred during the past year. Forty women, or 20% of the sample, reported IPV within the past year. The range of injuries included minor and major bruises, lacerations, broken bones, and internal injuries.

Table 2 provides the sample characteristics of mothers who screened positive for IPV within the past year compared with those who did not. Mothers who reported physical and emotional abuse within the past year did not differ from those who did not report abuse in the past year on the following demographic variables: age, race, socioeconomic status, employment, insurance, education, or number of children.

Table 3 provides an overview of the mood, anxiety, and substance abuse diagnoses in the sample. We highlight the anxiety disorders most commonly described in relationship to perinatal depression and IPV. Five (13%) of the participants

TABLE 1. IPV PREVALENCE DURING PERINATAL STAGE

Questions	No IPV	Yes IPV	During pregnancy	During first month after birth
Has your partner/ex partner ever threaten you with physical harm?	134 (71%)	54 (29%)	22 (12%)	7 (4%)
As part of a fight or disagreement, has your partner ever been physically aggressive toward you, for example, pushed, hit, or beat you up?	135 (72%)	53 (28%)	17 (9%)	6 (3%)
Including incidents such as grabbing, slapping, or shoving.				
Has your partner ever forced you to have any kind of sex against your will?	171 (75%)	17 (9%)	3 (2%)	2 (1%)

TABLE 2. PARTICIPANT DEMOGRAPHICS STRATIFIED BY ABUSE STATUS

Variable	IPV Negative 148 (79%)	IPV Positive 40 (21%)	Chi-square/ Fisher's exact test p value
Age – mean (SD)	24.7 (5.6)	24.1 (4.7)	
Race:			
White	27 (18.24)	6 (15.00)	0.6316 ^a
Black	102 (68.92)	28 (70.00)	
Other	19 (12.84)	6 (15.00)	
Living status:			
Alone	90 (60.81)	27 (67.50)	0.4388
With others	58 (39.19)	13 (32.50)	
Employed:			
No	104 (70.27)	27 (67.50)	0.7352
Yes	44 (29.73)	13 (32.50)	
Insurance:			
Government	130 (87.84)	35 (87.50)	1.000 ^a
Private	18 (12.16)	5 (12.50)	
Number of children:			
1	64 (43.24)		0.5930
2	33 (22.30)	12 (30.00)	
>2	51 (34.46)	12 (30.00)	
Education			
HS or less	112 (81%)	27 (19%)	0.296
More than HS	36 (74%)	13 (26%)	

^aIndicates Fisher's Exact Test.

who experienced IPV in the past year were diagnosed with four or more current mood, anxiety, and/or substance abuse diagnoses, compared with six (4%) of those who did not report IPV in the past year. Diagnoses included major or minor depression, dysthymia, bipolar disorder, PTSD, obsessive-compulsive disorder (OCD), specific phobia, social phobia, panic disorder, generalized anxiety disorder, anxiety disorder not otherwise specified, alcohol, cannabis, or other substance abuse or dependence.

A higher percentage of the IPV-positive participants were diagnosed with a current mood or anxiety diagnosis. Thirty-

TABLE 3. CURRENT PSYCHIATRIC DIAGNOSES STRATIFIED BY IPV STATUS

Mental health diagnosis	IPV Negative 148 (79%)	IPV Positive 40 (21%)	Chi-Square/ Fisher's exact test p value
Mood, anxiety or substance use disorder			
None	53 (35.81)	8 (20.00)	0.0237 ^a
1	49 (33.11)	10 (25.00)	
2	33 (22.30)	14 (35.00)	
3	7 (4.73)	3 (7.50)	
4 or more	6 (4.06)	5 (12.50)	
PTSD	10 (6.76)	7 (17.50)	0.0567
OCD	7 (4.73)	4 (10.00)	0.2510 ^a
Panic disorder	3 (2.03)	4 (10.00)	0.0382 ^a
Depression	75 (50.68)	31 (77.50)	0.0023
Alcohol abuse/ dependence	3 (2.03)	2 (5.00)	0.2882 ^a

^aIndicates Fisher's Exact Test.

one (78%) of the participants who reported IPV within the past year were diagnosed with major or minor depression compared with 75 (51%) who did not report abuse ($p < 0.01$). Ten (7%) of those who did not report IPV showed PTSD compared with seven (18%) of the abused women ($p = 0.05$). Women who reported IPV were also more likely to be diagnosed with panic disorder than those not reporting abuse ($p < 0.05$). There were no statistically significant differences in the likelihood of being diagnosed with either OCD or alcohol abuse between women who did or did not report IPV within the past year. Due to the cross-sectional nature of this study, we did not attempt to disentangle causal ordering for the IPV status and mental health diagnosis.

In an effort to examine whether these statistically significant bivariate relationships held in a multivariate analysis, we conducted logistic regression to examine whether race, IPV, living status, or prior depression would increase the odds of a participant reporting current depression. These variables were selected *a priori*, despite not being significant at the bivariate level. The only variable that was related to current depression was past depression (major or minor) (OR, 3.18; $p < 0.0001$). Due to data separation issues between prior and current depression, Firth bias correction method was applied.

Discussion

This is the first study to examine the co-occurrence of mood and anxiety diagnoses and IPV among a sample of urban mothers attending well-baby visits. This article addresses a gap in the literature that often assesses only depression symptoms, often ignoring anxiety symptoms or mood or anxiety diagnoses in perinatal women. The use of a diagnostic interview to establish diagnoses, rather than relying solely on screening tools, is unusual in perinatal research and may shed light on their diagnostic complexity.

Twenty-one percent of women in this low-income, urban group of mothers reported IPV during the perinatal period, which contrasts sharply with the U.S. national average of 1.7% past-year prevalence for IPV among women. The national rate of 1.7% includes only physical and sexual assault, whereas we report on IPV that includes psychological, physical, and sexual abuse. Additionally, the national studies draw from a community-based sample, as compared with an urban clinic from which our sample is drawn. Nationally, women age 18 to 24 are at increased risk for IPV,⁵ as are women who report lower income.⁵ Nonetheless, more than half of the women who reported abuse (21 of the 40) reported that it occurred during their pregnancies and included threats, assaults, or both. Some suffered serious physical injury. Interestingly, fewer women reported threats ($n = 7$), forced sex ($n = 2$), or physical assaults ($n = 6$), in the first postpartum month. Further research is needed to examine whether this month is protective from violence. One hypothesis is that the new mother has more supports around assisting her with the new infant, thereby interfering with the abuse during that early postpartum period. Understanding this phenomenon is critical because it may represent an opportunity for intervention and prevention of future abuse.

We hypothesized that women who reported IPV within the past year would be at increased risk for co-occurring mood and anxiety disorders. In fact, the women who reported IPV were more likely to be diagnosed with multiple disorders,

including PTSD, panic disorder, and depression. Despite research documenting the high rates of alcohol and substance abuse among women with histories of IPV, our findings did not show a greater likelihood of a diagnosis of alcohol or drug abuse or dependence. The low rate of reported current drug and alcohol abuse in this sample would make it difficult to find between-group differences, if they exist.

Multivariate analysis suggests that previous minor or major depression increases the odds of perinatal depression threefold, as compared with no history of prior depression. In addition to screening for social support and violence, providers may want to inquire about a patient's prior mental health burden.

The findings reveal a portrait of a patient that may appear in a pediatrician's office for a well-baby visit—exhausted, overwhelmed, and anxious. Without inquiry into the mother's experiences, it is easy for one to jump to a conclusion that she is only a nervous, sleep-deprived new mother. The findings suggest that the clinical picture may be more complex, however, and that careful assessment of the possible co-occurrence of IPV and mood and/or anxiety disorder is warranted. For maximum effectiveness, interventions may need to be tailored to address safety and mental health concerns conjointly. It is possible that women who are more depressed find it difficult to disengage from a violent relationship. It has also been documented that women who are abused suffer with mental health problems. Due to the difficulty in disentangling causal order for this study population, further studies are warranted.

While providing important information, these findings have limitations. Since this study was conducted in an urban teaching hospital, the sample was comprised of mostly black, low-income women. We do not know whether these findings are generalizable to other populations of urban perinatal women or perinatal women in rural or other communities. We also do not know if the women who did not complete the IPV questionnaire were at greater or lesser risk of having experienced IPV in the previous year, thereby potentially affecting the point prevalence. Additionally, the abuse questionnaires were based on recall, not verified by secondary data sources. It is important to highlight that this is a cross-sectional study and that the information was obtained at different single time points for different women across the postpartum year. Therefore, recall may vary with regard to the length of time from pregnancy. The results nonetheless provide important information worthy of future research. Further study is warranted to understand the temporal ordering of IPV and mental health diagnosis, potential confounders, and what interventions are best suited for this population. Heterogeneous samples would allow for a more detailed analysis of potential confounders.

Conclusion

IPV, maternal depression, and maternal anxiety can have severe repercussions for child development. Children of depressed mothers can have difficulties with behaviors, social interactions, and bonding and are at increased risk for future mental health concerns. Children can also develop a host of physical and psychological symptoms after exposure to IPV, and a recent study revealed IPV exposure can lead to increased risk for asthma.⁴⁹ While both depression and IPV

affect child outcomes, little is known about the impact on children who are exposed to combinations of these experiences.

The American College of Obstetricians and Gynecologists recommends that physicians screen for psychosocial risk factors repeatedly throughout pregnancy and in the postpartum phase.⁵⁰ Pediatricians and family practitioners are also encouraged to screen for psychosocial risk factors such as IPV and perinatal depression.⁵¹ In fact, a recent report by the American Academy of Pediatrics recommended maternal depression screening in the postpartum year.⁵² When IPV questions are anchored to "in the past year," we may miss opportunities to intervene given that abuse has lingering effects for both the mother and the child. Repeated screening, in more than one setting, not only allows patients to report new events, but also to reveal symptoms from past abuse, such as PTSD and depression, which may linger long past the violence itself. Screening is only one step and must lead to referral for further evaluation and diagnosis. A clinical diagnosis of the mother's mental health may allow her to receive help such as case managers, disability assistance, time relief from work, county-supported interventions, and visiting home health nurses. Likewise, repeated screening allows practitioners to assess whether patients who share parenting responsibilities with their former abusive partners continue being abused despite disentangling from the relationships. Even if the mother is living separately from her abusive partner, the visitation and shared custody arrangements, often the norm, offer future opportunities for abusive episodes, which may merit continued dialogue about both mental health and IPV status.

Acknowledgments

This research was supported by grants from the National Institute of Mental Health K23MH64476 (Dr. Chaudron), NRSA T32MH018977-17 (PI: Dr. Caine; support for Dr. Cerulli), K01MH075965-01 (PI: C. Cerulli), and T32 MH18911 (PI: E.D. Caine).

Disclosure Statement

The authors have no conflicts of interest to report.

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