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Pregnant Mothers' Perceptions of how Intimate Partner Violence affects Their Unborn Children

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Abstract

Objective—To explore the perceptions of pregnant women on the experience of intimate partner violence (IPV) as it affects maternal and fetal health.

Design—Secondary qualitative content analysis.

Setting—Individual interviews conducted within three urban obstetric and gynecologic clinics

Participants—Our sample included a subset of eight pregnant women experiencing IPV during the current pregnancy. Participants were selected from a larger parent study that included qualitative data from 13 women.

Methods—We analyzed in-depth individual interview transcripts in which participants discussed how they perceived IPV to affect their health as well as the health of their unborn children. Constant comparative techniques and conventional content analysis methodology were used in analysis.

Results—Three themes emerged to illustrate mothers' perceptions of how IPV influenced maternal and fetal outcomes: protection, fetal awareness, and fetal well-being.

Conclusions—This analysis provides important insights into concerns that pregnant women experiencing IPV shared about maternal attachment and fetal well-being. Health care providers can use these findings to better assess the physical and psychological concerns of pregnant women experiencing IPV. Further research is needed to better understand how IPV contributes to adverse neonatal outcomes, particularly from a biological perspective.

Keywords

Intimate Partner Violence during Pregnancy; Maternal Attachment; Adverse Neonatal Outcomes; Stress

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Disclosure

The authors report no conflict of interest or relevant financial relationships.

Intimate partner violence (IPV) is increasingly recognized as a global public health issue with significant negative physical and mental health sequelae, particularly for women and their children (Alhusen, Ray, Sharps, & Bullock, 2014; Shah, Shah, & Knowledge Synthesis Group on Determinants of Preterm/LBW Births, 2010a). IPV affects women and men, regardless of age, ethnicity, socioeconomic status, sexual orientation, or religion though there are well-established risk factors associated with an elevated risk of IPV in women, including young age, single relationship status, minority race/ethnicity, and poverty (Tjaden & Thoennes, 2000; Vest, Catlin, Chen, & Brownson, 2002). IPV during pregnancy confers considerable risk to the health of the woman and her unborn child. Maternal complications include low pregnancy weight gain, anemia, infections, bleeding in the first and second trimester, preterm labor, high blood pressure or edema, and severe nausea, vomiting, or dehydration (Cokkinides, Coker, Sanderson, Addy, & Bethea, 1999; Silverman, Decker, Reed, & Raj, 2006). Premature birth, uterine rupture, hemorrhage, a neonate requiring NICU care, and maternal or fetal death also are associated with IPV during pregnancy (El Kady, Gilbert, Xing, & Smith, 2005). In the majority of recent studies, researchers demonstrated a significant relationship between IPV during pregnancy and an elevated risk of delivering a low birth weight (LBW) neonate (Alhusen, Lucea, Bullock, & Sharps, 2013; Sarkar, 2008; Shah, Shah, & Knowledge Synthesis Group on Determinants of Preterm/LBW Births, 2010b; Silverman et al., 2006). Further, researchers have also demonstrated an association between IPV during pregnancy and delivering a neonate classified as small for gestational age (SGA) (Alhusen et al., 2013; Janssen et al., 2003).

The mechanisms through which IPV contributes to LBW and SGA are multi-factorial and not fully understood. It is presumed that violence and the accompanying psychological stress may influence dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis leading to precipitation of labor while simultaneously decreasing utero-placental perfusion due to vasoconstriction (Kalantaridou et al., 2010). IPV may also increase the risk of adverse neonatal outcomes via one or more of the following mechanisms: negative maternal coping behaviors, inadequate or poor maternal nutrition, and poor or limited access to prenatal care (Alhusen, Gross, Hayat, Woods, & Sharps, 2012; Alhusen et al., 2013; Bauer et al., 2002; Martin, Beaumont, & Kupper, 2003).

Currently, little is known regarding how pregnant women who are experiencing IPV perceive the risk IPV confers to the well-being of their unborn children. Understanding women's concerns about how IPV may be affecting the health of their unborn children could assist health care professionals in tailoring the clinical care and education they provide to women experiencing IPV during pregnancy. Further, understanding how women respond to IPV during pregnancy may illuminate the manner in which IPV contributes to adverse neonatal outcomes. Thus, the purpose of this study was to explore how women who experienced IPV during pregnancy perceived its effects on maternal and fetal health.

METHODS

The qualitative data reported here represent a secondary analysis of data collected from a parent study. The parent mixed-methods study sample included a convenience sample of 166 low-income pregnant women, 13 of whom also participated in qualitative interviews.

The primary aim of the parent study was to understand the role of mental health on maternal-fetal attachment (MFA) and neonatal outcomes. Results from the quantitative and qualitative analyses of the entire sample revealed that poor MFA was associated with an increased likelihood of delivering a LBW or SGA neonate, and women with supportive partners noted a stronger attachment to their unborn children than those women reporting poor social support (Alhusen, Gross, Hayat, Rose, & Sharps, 2012).

During the qualitative interviews, eight of 13 participants reported experiencing IPV during their current pregnancies. Thus, in the present study, the narrative interview data from women experiencing IPV during pregnancy were analyzed using conventional content analysis (Hsieh & Shannon, 2005). This type of analytic approach is appropriate when research literature on the study phenomenon is limited (Hsieh & Shannon, 2005).

Sample and Setting

The parent study's convenience sample included 166 women recruited from three obstetrical clinics in an urban, East Coast city. Each of the clinics serves a patient population that is predominantly African-American (>95%), and of low socioeconomic status (>95% Medicaid eligible). Study eligibility included English-speaking pregnant women, aged 16 and older, with singleton pregnancies. Exclusion criteria included a history of fetal or infant death, abnormal fetal diagnostic result (e.g., known fetal anomaly, abnormal first or second trimester screening), and known maternal chronic health disease (e.g., hypertension, diabetes). These exclusion criteria were assigned because of their potential to influence the attachment process compared to those women experiencing seemingly uncomplicated pregnancies. At the time of entry into the study, all women were between 24 and 28 weeks gestation. The 8 participants ranged in age from 16-39 years (mean=22.8) and were predominantly African-American (n=7), multigravida (n=7), single (n=6), and unemployed (n=6). Five of the participants had less than a high school education and seven had a household income less than \$20,000.

Procedures

Institutional Review Board approval was obtained prior to study commencement. Eligible women were approached by the first author regarding study participation during their routine prenatal care visits. Contact information was obtained from women who desired to participate but had not yet reached 24 weeks gestation, and they were re-contacted and interviewed prior to their scheduled prenatal visits that occurred between 24-28 weeks gestation.

After a complete oral and written description of the study, informed consent was obtained. Women were informed that they were being asked to participate in the individual in-depth qualitative interviews in an effort to better understand what factors influenced the relationship they had with their unborn children. After obtaining participants' permission, all interviews were audio-recorded. The qualitative interviews lasted approximately 60 minutes and occurred in a private office within the obstetrical clinic with only the researcher and participant present. The individual interviews were guided by open-ended questions with accompanying probes to assist as needed. The first author developed the interview guide to

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elicited in-depth stories from each participant about how certain factors (e.g., depressive symptoms, IPV, social support) influenced their relationship with their unborn child. The questions specific to IPV included How has your response to the violence changed since you found out you were pregnant? What impact, if any, do you think the violence will have on your baby? How does the violence influence your bond with your unborn child? While each interview followed a topical outline, the information obtained varied across interviews based on women's experiences during their pregnancies. The interviewer was flexible during the interviews allowing women to describe their experiences, probing only for clarification. Upon the completion of the interview, each woman was given a list of IPV-specific community resources in the area. Participants were also given the recommendation to meet with the clinic social worker to assure adequate support was available. Six participants had previously met with the social worker during the current pregnancy, and the remaining two participants were agreeable to meeting with the social worker for further assessment.

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Analytic Process—Analyses of the qualitative interviews occurred through a four-step process (Hsieh & Shannon, 2005). Throughout each step of the process, constant comparison within and across interview transcripts was continually undertaken to develop and refine categories throughout the analysis (Glaser & Strauss, 1966). Initially, each author independently read all eight interviews to immerse ourselves in participants' stories. Next, we coded the eight individual interview transcripts with attention focused on the participants' descriptions of IPV and its influence on the unborn child. Notes of our first impressions as well as initial analysis were included. During the third step, we discussed emerging categories and themes in an iterative manner, connecting categorizations between coders. Lastly, using the emergent themes identified, interviews were reanalyzed by each author. During this final step, we examined the data for any incidents of contradiction, and discussion continued until consensus was reached (Glaser & Strauss, 1966). Trustworthiness was enhanced via the use of an audit trail that included memos regarding our thoughts and reactions to each participant's interview throughout the analytic process (Hsieh & Shannon, 2005).

RESULTS

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Participants shared common concerns about how IPV would affect the growth and subsequent health and development of their unborn children and measures they were taking to mitigate these effects. Three themes emerged regarding the concerns of women experiencing IPV during pregnancy: *protection*, *fetal awareness*, and *fetal well-being*. These three themes were quite interrelated. Mothers described measures they took to protect their unborn children from the negative sequelae of IPV but voiced concerns that despite these efforts, their unborn children were aware of the IPV and consequently experiencing negative effects.

Protection: To Love and Protect

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Each of the eight participants indicated that they were taking measures to protect their unborn children from the effects of IPV. Women discussed two major ways they responded to the violence occurring within their relationships and attributed these responses directly to

being pregnant and needing to protect their unborn children. These responses included changes in their response to their perpetrator's use of violence or termination of the relationship. All of the participants experienced IPV prior to becoming pregnant, thus they were able to compare their responses pre and during pregnancy.

With regard to changes in response to IPV, several participants discussed new behaviors they employed to preemptively avoid an escalation in violence. These new behaviors were often tied to an expressed concern for the need to protect the unborn child from the physical and mental effects of violence exposure. One participant noted that because she was pregnant she responded to arguments differently: "I would just leave. I don't need him giving us a stroke...I mean my blood pressure is already high...so I just try to avoid the arguments." Another participant, who had been with her partner for five years, noted how her response to the violence had changed: "I don't have time for fussing. I'm not going to stress my child out because of you."

Both of these participants went on to discuss how they felt the violence affected their own health and ultimately the health of their unborn children. When asked why being pregnant influenced her change in response to the violence, one participant noted:

Before I was pregnant I wouldn't let no one have the last word but now it's not about me anymore. He [unborn child] didn't have any say coming into this world so it's up to me to do the best I can for him now. I don't want him [partner] hurting my baby through me. Similarly, another participant discussed leaving the situation before it escalated: "I used to not back down but now I just take it and leave until he cools off. I don't need him really hurting me because now I got my daughter to worry about." For those women who remained in abusive relationships, there was a conscious effort to engage in behaviors that would reduce the chance of arguments escalating into physical abuse. These strategies were implemented largely out of concern for the need to protect the unborn children.

The IPV that occurred during pregnancy engendered three participants to end the relationships with their partners. One participant commented:

I swore I would never let a man lay a hand on me but here I am again. But once this baby comes he is out the door. I'm gonna love her. I'm gonna take care of her. I'm not gonna let nobody hurt her. I'm gonna protect her.

Another participant had already ended her relationship: "I ended it shortly after he kept hitting me when I was carrying his child." She went on to describe this as an act of protecting her child: "Nobody ever gonna lay a hand on him no more. He already got a strike or two against him so it's up to me to make sure he has an equal chance when he is born." The decision to leave, for those women who did, was not without significant other concerns, including lack of social support and lack of a father figure in their children's lives:

He should have a father who is like "that's my boy" and stuff like that and he got a father who could care less about him. Before he's even here he don't care about him...he needs at least a father figure, which he won't have.

Fetal Awareness: She Knows Something's Wrong with Mommy

All of the participants described their unborn children as being aware of the IPV and responding in utero to the violence and often expressed a certainty that “he/she [unborn child] knows.” Participants attributed this knowledge to decreased movement in utero during the violence or situational stress. Participants described their fetuses as balled up, curled up, quiet, tensed, tightened, and stressed. One participant stated, “I swear she knows when he is cutting me down...once he raises his voice or even when he slapped me last week I had to poke her an hour later to get her to move.” Another participant noted a change in her unborn child's movement if her partner was in close proximity:

When his father is yelling at me he balls up tight and I tell him [partner] to stop because he is stressing my baby out. And I swear the moment he [partner] leaves us, I take a deep breath, rub my belly, and he moves a bit.

One of the participants had ended the relationship at the time of the interview but still felt that her unborn child may have been aware of the violence in her relationship:

The relationship ended before he [unborn child] was big enough to hear things but I think he is quiet in my belly. Like he scared to make me upset or something. I tell him all the time I love him, and I hope that's enough.

Many of the participants also described movements by the child to seemingly provide comfort and consolation, “she moves because I am feeling a certain way...she's trying to comfort me...even though she's not even born yet...she know something's wrong with mommy.” One participant described her unborn child's response to her moods:

I know my chemicals or hormones go through the baby and you can't tell me that because I'm crying or yelling or whatever that the baby doesn't feel it. I know she does. She is all quiet when I'm screaming or crying. I think she's trying not to overwhelm me but it's too late.

Most of the women also noted a difference in their unborn children's behavior when the IPV and situational stress were not present. The absence of violence or a reduction in stress was often attributed to an increase in fetal activity. A participant who moved out of the apartment she shared with her partner noted, “she [unborn child] moves a lot more often now compared to when I was living there. She moves, moves, moves...like her emotions and feelings have even changed.” A second participant described her unborn child as more active when she was relaxed: “When I am in the bath rubbing my stomach she kicks some. I guess she is happy. I must be relaxed or something in the bathtub because that's when she seems to move around and my belly goes soft.”

Fetal Well-being: I Know She's Small Because I'm Stressed Out

Despite multiple measures to protect their unborn children from violence, participants uniformly discussed concerns related to fetal well-being. When participants were asked how they felt the violence was affecting their fetuses, they all discussed concerns over maternal nutrition, including inadequate weight gain and subsequent fetal growth. All of the participants discussed stress as a factor that affected their ability to eat healthy, well-balanced diets. One participant noted, “The stress is why I'm sick and not gaining weight.

It's [the violence] always on my mind. Even when I'm doing something else." Another participant discussed the stress of her abusive relationship: "I know the stress is interfering with everything...I mean my vomiting, my energy, my slow weight gain, my mood, and how my baby is growing."

When discussing concerns about nutrition and poor weight gain, each participant related concern that their health status would affect fetal growth:

It's hard to eat when you're stressed out...my stomach is in a knot and my son don't even kick like he's hungry...I hope he isn't too small. I mean I don't want to push out a nine pound baby or anything but seven pounds would be good. But I know he's measuring small.

This participant went on to discuss how the violence was causing her a great deal of stress, and despite her best efforts and encouragement from family members, she found it difficult to eat well-balanced meals.

DISCUSSION

Three central themes were identified. First was the inclination of mothers to prioritize protection of the child in their chosen response to the violence. This theme appears elsewhere in the literature. Among a sample of pregnant and parenting women experiencing IPV, one of two major themes that emerged was related to mothers' efforts to protect their children from the violence (Rose et al., 2010). Similar to our findings, women expressed concerns that the abuse had negatively affected their children and this concern subsequently influenced their attempts to prevent abuse as well as their responses to violence when it occurred. Additionally, other qualitative researchers found that a woman's perception that the violence affects or threatens her children, including those unborn, can be an impetus for change in an attempt to protect them (Bhandari, Bullock, Anderson, Danis, & Sharps, 2011; Chang et al., 2010; Humphreys, 2011).

Next, all of the participants believed their fetuses aware of the abuse. Each woman shared narratives of specific behaviors of their unborn children in response to the violence and associated stress. Additionally, most of the women drew comparisons in fetal activity in the presence and absence of the IPV and stress. During the past decade, a growing number of quantitative researchers described the fetal response to maternal stress, specifically fetal heart rate (FHR), heart rate variability, and motor activity. Thus far, findings have been variable. In a sample of low-risk pregnant women, investigators found that induced maternal stress at 24 and 36 weeks gestation resulted in significant changes in fetal heart rate variability and suppressed motor activity of the fetus (DiPietro, Costigan, & Gurewitsch, 2003). Contrarily, maternal indicators of stress and anxiety have been linked to higher levels of fetal motor activity (DiPietro, 2010). Van den Bergh (2005) reviewed research spanning two decades that examined antenatal maternal anxiety or stress and fetal behavior finding three studies demonstrated no association, six studies demonstrating increased FHR and movement in near-term fetuses of high stress/anxiety mothers, two studies demonstrating reduced FHR variability and poorer movement, and one study reporting increased fetal

activity initially followed by a period of reduction (Van den Bergh, Mulder, Mennes, & Glover, 2005).

It is important to note that none of the aforementioned studies were specific to stress or anxiety related to IPV, and maternal perception of fetal activity was not assessed. The qualitative perspective of how women experiencing IPV perceive its influence on fetal well-being is not as well explored. In a phenomenological study, researchers documented participants' experiences of being exposed to IPV in pregnancy and a theme of *the violence is living in the body* was identified relating to the fact that the fetus lives in the woman's body. A subcategory of this theme was a change in fetal movement, where the fetus "kicked more powerfully" following a woman's exposure to violence (Engnes, Liden, & Lundgren, 2012). Our study appears to be the first of its kind in eliciting lengthy, concrete descriptions of fetal responses to IPV and maternal stress through the experiences of pregnant women.

Lastly, all participants drew connections between their experience of IPV and stress to issues of maternal weight gain and fetal growth. These findings are consistent with established quantitative literature. Results from a systematic review revealed that abused pregnant mothers gain less weight during pregnancy more often than non-abused mothers (Boy & Salihu, 2004). Similarly, researchers more recently identified positive associations between IPV during pregnancy and poor neonatal outcomes, including low birth weight and small for gestational age (Alhusen et al., 2013; El Kady et al., 2005; Kiely, El-Mohandes, El-Khorazaty, Blake, & Gantz, 2010; Martin, Mackie, Kupper, Buescher, & Moracco, 2001; Silverman et al., 2006).

Implications for Research

Despite a growing body of research demonstrating the links between IPV and adverse neonatal outcomes, the understanding of the mechanisms by which IPV influences birth outcomes is limited. In our study, women spoke of stress and its related factors as possible mediators of IPV and adverse neonatal outcomes. Our understanding of the association between chronic stress exposure and dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis is largely from research conducted in animals (Mosavat, Ooi, & Mohamed, 2014; Naef, Gratton, & Walker, 2013; Takahashi, Turner, & Kalin, 1998; Taliaz et al., 2011). This dysregulation has been found to decrease utero-placental perfusion via vasoconstriction in response to HPA activation. It has been hypothesized that stress imparts its action via inflammatory pathways involving maternal cortisol to precipitate labor (Wadhwa et al., 2004). However, these mechanisms are less studied in pregnant women and warrant further investigation, particularly among women at greater risk for poor birth outcomes.

Additionally, an enhanced understanding of the way pregnant women cope with IPV and its accompanying stressors is needed. In our sample, many of the women described difficulties maintaining healthy diets due to the stress they were experiencing. Specifically, the majority of women noted difficulty gaining weight. Psychological stress is associated with poor health behaviors though our understanding of the stressor of IPV, in particular, and its influence on health behaviors among women is quite limited. It is largely unknown how different types of violence may contribute to health behaviors as well as how the timing and

severity of IPV may influence a woman's ability to engage in healthy behaviors during pregnancy.

Implications for Nursing Practice—IPV during pregnancy is of paramount concern given its association with poor maternal mental and physical health, and adverse neonatal and childhood outcomes. Routine screening for IPV during the perinatal period is critical for identifying women at risk of or experiencing IPV. A sizeable body of research findings support the benefit of screening due to the high prevalence of IPV and documented adverse outcomes, the acceptability of screening among pregnant women, the availability of reliable and valid screening instruments, and the opportunity to intervene in those women screening positive (Coker et al., 2007; Phelan, 2007; Rabin, Jennings, Campbell, & Bair-Merritt, 2009; Rodriguez, Bauer, McLoughlin, & Grumbach, 1999).

An enhanced assessment of how women experiencing IPV are coping with IPV and its related stressors is an important recommendation based upon study findings. An improved understanding of nutritional intake, gestational weight gain, and maternal concerns regarding weight gain may help elucidate the bio-psychosocial mechanisms underlying the effect of IPV on adverse pregnancy outcomes.

Finally, health care providers are urged to discuss concerns of fetal movement and growth with women experiencing IPV. Each women in our study expressed concerns about fetal growth and these concerns were not fully discussed with health care providers. Prenatal care provides a unique window of opportunity in which health care providers, particularly nurses, can foster trusting relationships with women thereby facilitating the disclosure of IPV and related maternal and fetal concerns. For many women, especially low-income women, the perinatal period is the only time they maintain regular contact with health care providers thus the formation of a trusting patient-provider relationship is critical (McFarlane, Groff, O'Brien, & Watson, 2006).

Limitations

This study was a secondary analysis, which limited our ability to follow-up, probe, or clarify participant responses specific to the study question. The participants were selected purposively and had similar demographic profiles. Replication of our study in a larger and more demographically diverse sample may yield different results.

Conclusions

We described how pregnant women experiencing IPV during pregnancy felt the violence affected their unborn children. There is a growing appreciation of the need to better understand how the experience of IPV may contribute to poor maternal and neonatal outcomes. Several mechanisms linking the experience of IPV to adverse maternal and neonatal outcomes have been put forth, including direct effects, mental health effects, behavioral effects, and biological effects. Each of these pathways offers health care providers an opportunity to intervene. In this study women described taking measures to protect their unborn children with the majority of women reporting deliberate attempts to mitigate the violence in their relationships. Despite attempts to avoid violence, each woman

had concerns about fetal well-being. Health care providers are urged to assess for violence in all pregnant women. Further, this assessment must include an assessment of how women are coping with the violence, and what supports are needed to optimize maternal and fetal outcomes.

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Callouts

1. Understanding women's concerns about how intimate partner violence may affect their unborn children could assist health care professionals in tailoring clinical care and education.
2. Participants expressed concerns that violence affected fetal growth through poor maternal nutrition, including inadequate weight gain.
3. Prenatal care provides a unique window of opportunity in which nurses can foster trusting relationships with women to facilitate the disclosure of intimate partner violence.