OUTCOMES FOLLOWING ABUSE DURING PREGNANCY AND CONCEPTION RAPE: A COMPARATIVE ANALYSIS OF MOTHER AND CHILD PAIRS

A DISSERTATION

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DEDICATION

I dedicate this body of work to my family who have supported me throughout my nursing career and at every level of my education. It is because of you I am blessed to have had the opportunity to challenge myself and achieve my goal.

To my loving husband, Emilio, my first proof-reader, thank you for your continued support, your humor during the difficult times, being flexible, and for being by my side every step of the way. It is because of you I was able to meet my deadlines, give all I have to my studies, and leave my home to travel to Houston on a regular basis. You are my strength and I will be forever grateful.

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ABSTRACT

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OUTCOMES FOLLOWING ABUSE DURING PREGNANCY AND CONCEPTION RAPE: A COMPARATIVE ANALYSIS OF MOTHER AND CHILD PAIRS

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Purpose: Approximately 50% of female rapes are by an intimate partner, of those, up to 5% result in pregnancy. Abuse during pregnancy may compromise the mother and child relationship and child behavioral functioning. This study compared outcomes at birth for 284 mothers within three subgroups of abused women. The three subgroups of abused women are: (1) abused women who report conception rape (n=13), (2) abused women who report abuse during pregnancy (n=67), and (3) abused women who report no abuse during pregnancy (n=204).

Procedure: Two hundred and eighty-four abused women responded to questions about abuse during pregnancy, conception rape, birth outcomes, abuse during the first six months post delivery, screening for abuse during pregnancy, and questions related to child behavioral functioning.

Data Sources: An investigator derived ten-item questionnaire was constructed to investigate birth outcomes that included: mode of birth, infant birth weight, presence of putting the baby to breast to feed before hospital discharge, and the mother child relationship. The Achenback Child Behavior Checklist was used to provide a parental

report of child behavioral problems. Research questions were analyzed using non-parametric analyses.

Results: The relationship between the abuse during pregnancy group and abuse during the first six months post delivery was significant ($p < .001$). Significant findings related to child behavior functioning in the abuse during pregnancy group were found for internalizing behaviors (*(p* .002), externalizing problems ($p < .001$), and total problems *(p* <.001). No significant associations were measured between abuse groups and delivery method, birth weight, breastfeeding, effects of abuse on the mother child relationship, and whether or not safety plan information was given. Most women (76%) in the study were not screened for abuse during pregnancy.

Conclusions: Women abused during pregnancy are at greater risk for abuse following pregnancy and there appears to be an intergenerational effect whereby women abused during pregnancy are more likely to have children with compromised functioning. Abuse screening programs for all pregnant women are urgently needed.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

Intimate partner violence includes physical violence, sexual violence, the threat of physical or sexual violence, and psychological/emotional abuse by a current or former spouse or partner (Saltzman, Fanslow, McMahon, & Shelly, 2002). Intimate partner violence against women affects the health and safety of the woman, and has captured the attention of many national and international agencies in an effort to reduce the negative health consequences that women experience because of abuse. For example, the World Health Organization (WHO) reports that intimate partner violence is a global public health problem, and documents that 35% of women worldwide have experienced physical or sexual violence (WHO, 2013). The U.S. Preventive Services Task Force (USPSTF) in 2012 has changed their recommendation to a B recommendation. The new recommendation is that all health care providers should screen women between the ages of 14 and 46 for intimate partner violence and provide referrals to services that offer support to abused women (USPSTF, 2013). The Committee on Health Care for Underserved Women of the American College of Obstetricians and Gynecologists (ACOG) in 2012 recommended that screening during obstetric care take place at the initial visit. Screenings should also occur at least once per trimester to increase the opportunity for disclosure (ACOG, 2012). In August 2012, the Affordable Care Act was amended to include abuse screening coverage for all women and adolescent girls (James & Schaeffer, 2012). Collaborations between health care professionals and policy makers

are needed to develop evidence-based models of care that adequately improve the health and safety of abused women.

The reported prevalence rates of partner violence during pregnancy are high, and may be seen as a predictive factor for the risk of future abuse (Shadigian & Bauer, 2004). It is estimated that 324,000 pregnant women experience partner violence each year (Tjaden & Thoennes, 2006). Intimate partner violence may escalate during pregnancy (Martin et al., 2004). Abused pregnant women are more likely to experience all forms of violence, including physical assault (Catalano, 2013), sexual assault (WHO, 2011), and psychological aggression (Martin, et al., 2004). Violence during pregnancy may be more severe (Brownridge, Tailieu, Tyler, Tiwari, & Ling, 2011) and more frequent (Martin et al., 2004), which poses a health risk to both the mother and the fetus. Women exposed to partner violence during pregnancy have an increased number of low infant birth weight (Shah & Shah, 2010) and preterm births (Silverman, Decker, Reed, & Raj, 2006) compared to women not exposed to partner violence during pregnancy. Physical violence during pregnancy has also been associated with an increased risk of antepartum hemorrhage (Watson & Taft, 2013), intrauterine growth restriction (Janssen et al., 2003), and perinatal death (El Kady, Gilbert, Xing, & Smith, 2005).

Rape is defined as "any completed unwanted vaginal (for women), oral, or anal penetration through the use of physical force (such as being pinned or held down, or by the use of violence) or threats to physically harm, and includes times when the victim is drunk, high, drugged, or passed out and unable to consent." (Walters, Chen, & Breiding, 2013, p. 17). The sequelae of rape refers to the consequences of rape that potentially

affect women' s mental health outcomes (Campbell, Dworkin, & Cabral, 2009), such as depression (Valentine, Rodriquez, Lapeyrouse, & Zhang, 2001), post-traumatic stress disorder (Stewart, Gagnon, Merry, & Dennis, 2012), increased use of alcohol (Lukasse, Henriksen, Vangen, & Schel, 2013), drugs (WHO, 2011), and even suicide attempts (Campbell et al., 2009), all of which may have adverse consequences extending far beyond the pregnancy (McFarlane et al., 2014). Conception rape can be defined as a rape-related pregnancy (Holmes, 1996), and may lead to an unintended pregnancy (ACOG, 2012). The 2010 United States National Intimate Partner and Sexual Violence Survey reports that approximately 50% of female rapes are by an intimate partner. Of that number, up to 5% result in pregnancy (Black et al., 2011). The same prevalence (5%) of rape related pregnancies was reported in 1996 in the National Women's Study conducted by Holmes et al., which identified that the majority of rapes occurred by a known perpetrator and that only 11.7% of the women received immediate medical attention following the rape. Sexual assault that results in a pregnancy places physical and mental burdens on the woman, and her sexual and reproductive self-determination is violated.

Problem of Study/Statement of Purpose

Acts of violence such as abuse during pregnancy and conception rape are targeted towards a whole class of people, women, and affect women of all ages, races, ethnic backgrounds, religions, educational levels, and economical levels (WHO, 2013). The consequence of conception rape is that the women are re-victimized physically, psychologically, emotionally, socially, and economically (Campbell et al., 2009). Identifying the prevalence and consequences of conception rape may facilitate the

formation of legislation to promote funding for programs that support women who have experienced abuse during pregnancy and/or conception rape.

The purpose of this study was to compare outcomes at birth among three subgroups of abused women: (1) abused women who report conception rape with or without abuse during pregnancy, or (2) abused women who report abuse during pregnancy, or (3) abused women who report no abuse during pregnancy in order to extend current knowledge and to better promote the safety, health, and wellbeing of pregnant women who report abuse at conception and/or during pregnancy. Outcomes at birth included mode of birth (vaginal or cesarean section), infant birth weight, presence of breastfeeding at time of hospital discharge, and the mother-infant relationship as measured by the mothers' reports. This study examined the prevalence of abuse during the first six months following birth and health provider care offered during the antenatal period, such as screening for abuse and the offering of referral services when abuse was reported. Lastly, the behavior of children born to abused women reporting conception rape with or with out abuse during pregnancy or reporting abuse during pregnancy, or no abuse during pregnancy was investigated.

Rationale for the Study

Intimate partner violence is a global problem (WHO, 2013), and provisions must be made to identify women abused during pregnancy to minimize negative birth outcomes. More investigation is needed on conception rape, as this places additional burdens on women's mental health, eliminates women's control over their reproductive life, and exposes them to the additional responsibilities that accompany unintended

pregnancies. If health care providers are to respond proactively to enhance women's health, more understanding is needed on the prevalence and consequences of abuse during pregnancy. Additionally, information is needed on the behavioral outcomes of children born to women who report abuse during pregnancy compared to women not reporting abuse during pregnancy. There is an urgent need to implement polices that will ensure that all pregnant women are screened for partner abuse and to ensure that women reporting abuse receive safe care and are offered guided referral as well as follow-up care for themselves and their children. This study offers evidence that may support effective screening and supportive care programs for abused women and their children.

Theoretical Framework

Bronfenbrenner's Ecological Model guided this study. The premise of this ecological model is that human development occurs through evolving interactions between individuals and their multiple interconnected environmental contexts (Bronfenbrenner, 1977). This model describes the interactive and reciprocal interactions within different levels of environmental systems. The abused woman is impacted at each level of the environmental system, and the connections between levels may be seen as bidirectional. Connections at each level of the ecological model have an impact in each direction: toward the abused woman and away from the abused woman (Bronfenbrenner, 1977). For example, the intimate partner may affect the woman's behaviors. This results in poor mental health such as symptoms of depression and post-traumatic stress disorder, which compromise functioning in the maternal role of caring for the newborn. On the other hand, the abused woman may affect the family relationship and their social support

networks by being unable to fulfill her role functions as a mother, sister, daughter, employee, and community member, such as in faith and civic communities. There are four interacting levels (see Figure 1). The microsystem is the relationship of the developing person to an immediate setting (home, school) where the person has particular activities, roles (mother, sister, daughter), processes, and modes of interaction. Abuse at the microsystem environmental level may effect her ability to function in her roles. The mesosystem is a system of microsystems, or interrelations among major settings that involve the person at a particular point in their life. Small microsystems consist of the relationship of the individual to her partner, her family, or her peer groups. Abuse may leave her isolated from familiar support systems. The exosystem is the setting where the person is found, such as work, neighborhood, mass media, government agencies, goods and services, communication, and informal social networks. Intimate partner violence during pregnancy may effect her performance at work and may effect her access to prenatal care and opportunities for screening in health clinics. The macrosystem is the overarching institutional pattern of culture such as economic, social, and legal. It can be viewed as the blue print of the legal and political systems, as it is the carrier of information and ideology. Macrosystems may be explicit and implicit, and may endow meaning to particular agencies, social networks, roles, and their interrelations which may influence how the abused woman and her child are treated within the larger systems.

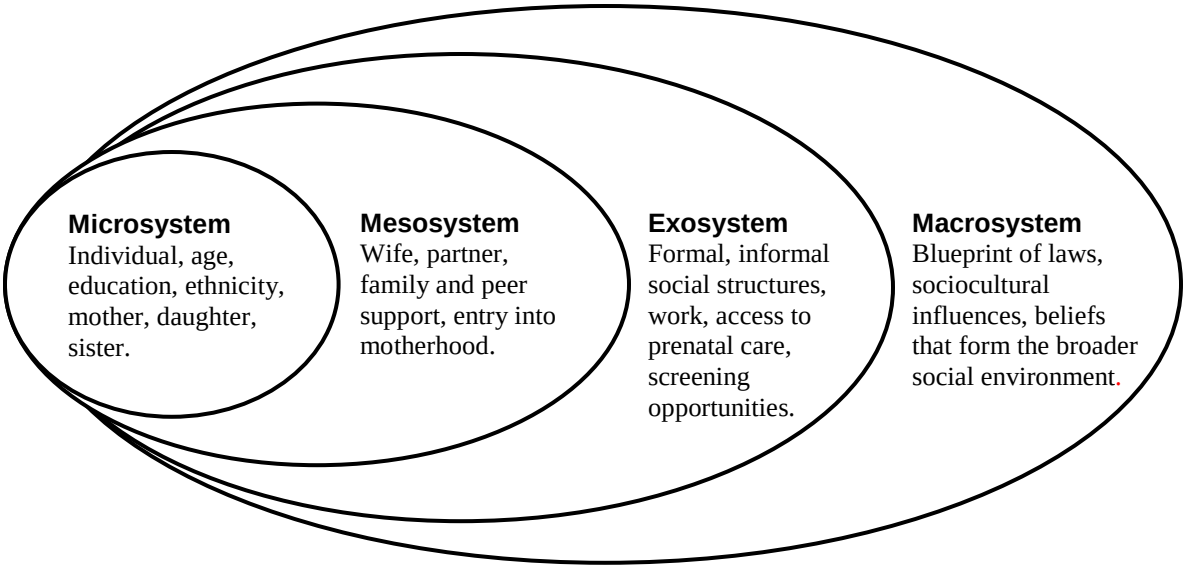

Figure 1: Bronfenbrenner's Ecological Model with Current Study Variables

Assumptions

The following assumptions are relevant to this research:

1. Humans develop through ever changing interactions between multiple levels of the environmental system and the interconnection between each level.
2. Individuals are impacted by a reciprocal relationship that exists between the individual and each level within the environmental system.
3. Roles and activities of the individual are defined by their immediate setting, and influence interaction within and between these settings.
4. The individual is part of and is influenced by the formal and informal social structures, and the interconnections within these social structures can influence human health and functioning.

Research Questions

The following research questions are asked: Among three groups of abused women who report (1) a conception rape with or without abuse during pregnancy, (2) abuse during pregnancy, or (3) no abuse during pregnancy:

1. What percentage of women in each group report vaginal compared to cesarean section delivery?
2. What is the mean birth weight of infants born to women in each group?
3. What percentage of women in each group report putting their baby to breast to feed before hospital discharge?
4. What is the prevalence of abuse during the first six months post delivery for women in each group?
5. What percentage of women in each group reports a negative or protective relationship with their infant?
6. What percentage of women in each group report being screened for partner violence during antenatal care and in the hospital post birth?
7. Among women who screened positive for abuse, what percentage report receiving safety information?
8. What percentage of women in each group report Normative, Borderline, or Clinical levels of their child's behavioral functioning on the Child Behavior Checklist?

Definition of Terms

Abuse during and Following Pregnancy

conceptual definition: Abuse during or following pregnancy can be defined as a woman who experiences physical violence, sexual violence, the threat of physical or sexual violence, and psychological/emotional abuse by a current or former spouse or partner (Saltzman et al., 2002).

operational definition: In this study, abuse during and following pregnancy was measured by the mother's report of being physically or sexually abused during her pregnancy and/or during the six months following her pregnancy within two categories: yes or no.

Conception Rape

conceptual definition: Conception rape can be defined as a rape-related pregnancy (Holmes et al., 1996)

operational definition: In this study, conception rape is defined as a pregnancy that resulted from forced sex by an intimate partner, and was measured by mothers report within two categories: yes or no.

Birth Outcomes

conceptual definition: Birth outcomes can be defined as categories of measures that describe health at birth; for example, low infant birth weight represents an infant's current and future morbidity or whether an infant has a healthy start. It serves as a health outcome related to maternal health risk. (Robert Wood Johnson Foundation, n.d.)

operational definition: Birth outcome categories used in this study included mode of birth (vaginal or cesarean section), and was measured by the mother responding yes or no to either vaginal birth or cesarean section. Infant birth weight was measured by the mother's report, and the weight was collapsed into two categories: birth weight under 2500 grams or birth weight above 2500 grams.

Mother and Child Relationship

conceptual definition: The mother and child relationship focuses on both the mother and her child, as one may influence the other. It can also be defined as the relationship or tie between the mother and her child, which may serve as a prototype for all future relationships (Spinner, 1978). The relationship is reciprocal, as each respond to the other's cues and behaviors.

operational definition: In this study, mothers reporting abuse during pregnancy were asked one question: "If yes to abuse, HOW do you think the abuse affected your relationship with (name of child ___)?" Responses were coded into three categories of impact: negative (the abuse during pregnancy compromised the mother child relationship), protective (the abuse during pregnancy increased protective behaviors of the child), or no effect on the relationship.

Child Behavioral Functioning

conceptual definition: Child behavioral functioning can be defined as the internalizing and externalizing behaviors exhibited by the child. Internalizing behaviors include anxiety, depression, withdrawal behaviors, and even somatic complaints such a

stomach aches. Externalizing behaviors include aggression, hostility, and delinquency (Binder, McFarlane, Maddoux, Nava, & Gilroy, 2013).

operational definition: In this study, child functioning was defined as internalizing and externalizing behaviors reflected by scores on the Child Behavior Checklist. The behaviors fall into three categories: normative, borderline, or clinical. This instrument was orally administered to the mother. The mother rated the presence and frequency of behaviors on a 3-point scale (0=not true, 1=somewhat or sometimes true, and 2=very true or often true).

Limitations

Sample selection is a limitation of the study. Participants were recruited from only two sites, the District Attorney's Office and community shelters offering safe refuge in only one large urban community. The sample included only first time users of these agencies, and not repeat users seeking assistance. Abused women accessing other community services such as counseling services, faith based services, or homeless shelters would have been missed as well as abused women who may have requested a protection order with a private lawyer. Participants were limited to only English an Spanish speakers. Another limitation included the validation of an investigator derived 10-item questionnaire. The mother's self-report of her child's behavior was also viewed as a limitation of the study, as there was no outside observation of the child’s behavior prior to the mother reporting it on the Child Behavior Checklist.

Summary

Intimate partner violence during pregnancy can have negative effects on birth outcomes, and may negatively impact child behavior functioning. The intergenerational effects of abuse during pregnancy warrant further investigation. The exploration of effective screening programs will serve to improve birth outcomes for women who are at risk for abuse during pregnancy. This study explored the differential outcomes at birth of three subgroups of abused women which include: (1) abused women who report conception rape with or without abuse during pregnancy, (2) abused women who report abuse during pregnancy, and (3) abused women who report no abuse during pregnancy, as well as the behavioral outcomes for their children.

CHAPTER II

REVIEW OF LITERATURE

Intimate partner violence is a global public health problem affecting 35% of women worldwide (WHO, 2013). In the United States, 24.3% of women experience intimate partner violence (Breiding, Chen, & Black, 2014). Approximately 20% of females experience rape at some time in their lives, with half (50%) of these rapes being perpetrated by an intimate partner (Black, et al., 2011). The U. S. Department of Justice reports that 28% to 36% of females experience serious partner violence that involves a weapon, physical injury, rape or sexual assault, and aggravated assault (Catalano, 2013).

One in four women are victims of intimate partner violence, and 324,000 pregnant women experience partner violence each year (Tjaden & Thoennes 2006). Women abused during pregnancy are more likely to be choked (Brownridge et al., 2011) and hit in the abdomen (WHO, 2011). Intimate partner violence during pregnancy may place additional burdens, as abused women are less likely to begin prenatal care in the first trimester than women who are not abused during pregnancy (Bailey & Daugherty, 2007). Unfortunately, late entry into prenatal care decreases the chance of identifying negative health behaviors such as smoking (Chambliss, 2008) and the use alcohol (WHO, 2011). It is not uncommon for abusive behaviors to escalate during pregnancy. Martin et al., (2004) reported that psychological aggression during pregnancy increased by 3.95 behaviors per month and that sexual coercion during pregnancy increased by 0.83 behaviors per month. The increasing frequency of 10 or more assaults during pregnancy

has been associated with perinatal death (Coker, Sanderson, & Dong, 2004). Abuse during pregnancy can also be a strong predictor of physical abuse during the post-partum period extending up to one year after birth (Charles & Perreira, 2007).). Daoud et al. (2012) identified women who were abused before and during pregnancy were abused after the pregnancy.

The pregnancy may also begin with rape. Conception rape has been linked to unintended pregnancies (ACOG, 2012) and risky health behaviors such as the use of alcohol (Lukasse et al., 2012), drugs (WHO, 2011), and even suicide attempts (Campbell et al., 2009), and may have adverse consequences for the woman that extends beyond her pregnancy such as chronic pelvic pain (Garcia-Moreno, Guedues, & Knar, 2012) and post-partum depression (Stewart et al., 2012). A history of sexual assault has been associated with increased negative birth outcomes such as a longer second stage of labor (Nerum et al., 2009) and an increased risk of caesarean section (Boy & Salihu, 2004).

Abuse during pregnancy may also have an intergenerational effect, compromising the mother and child relationship by weakening the maternal-fetal bond. This may carry over to the post-partum period, making it more difficult to establish and strengthen the maternal-infant bond (Zeitlin, Dhanjal, Colmsee, 1999). A compromised mother-child relationship may also affect child functioning such as infant temperament (Burke, Lee, & O'Campo, 2008), aggressive behaviors (Durand, Schrailber, Franca-Junior, & Barros, 2011), and conduct problems (Flach et al., 2011). Early identification through abuse screening during pregnancy may thwart the negative health squealae that abuse has on pregnant women. Effective screening programs that identify abuse during pregnancy

have the potential to promote the pregnant woman's health and wellbeing for the remainder of their pregnancy, and may prevent negative health effects such as depression (McMahon, Huang, Boxer, & Postmus, 2011), post traumatic stress disorder (Stewart et al., 2012), and migraines (WHO, 2012) that may extend beyond the pregnancy. The intersection of abuse during pregnancy, conception rape, and possible negative effects on the mother-child relationship and poor child functioning warrants further attention.

Search Methods

Nursing and non-nursing databases were systemically searched to identify relevant articles for this literature review. Databases included: the Cumulative Index to Nursing and Allied Health Literature, PsychoINFO, PubMed, SciDirect, Scopus, and Google Scholar. Primary sources in peer reviewed journals within medical and nursing disciplines were searched for relevant articles. Keywords used in the search included: intimate partner violence, pregnancy outcomes, abuse during pregnancy, conception rape, mother-child relationship, child behaviors, and child functioning. When keywords were paired using truncation, the yielded results were decreased. The inclusion criteria included scientific research studies using a variety of designs such as descriptive studies, meta-analysis, and correlational and comparative studies with random and non random sampling. All of the selected studies included women who have experienced intimate partner violence during pregnancy. Subgroups such as unintended pregnancy, late entry into prenatal care, and unsafe abortions were found to be associated with abuse during pregnancy and conception rape. The articles are not evenly distributed among subgroups, yet multiple combinations of variables are addressed in many of the research studies.

Intimate Partner Violence during Pregnancy and Poor Health Outcomes

Maternal Health Outcomes

Poor maternal physical health during the antepartum and post-partum periods has been associated with abuse during pregnancy. Depression (Valentine et al., 2001), placental abruption (El Kady et al., 2005), preterm labor (Sharps, Laughon, & Giangranda, 2007), and the increased risk of having an operative delivery (Boy & Salihu, 2004) are associated with intimate partner violence during pregnancy. Physical violence during pregnancy has been associated with kidney infections (Silverman et al.,2006), maternal death (El Kady et al., 2005), preterm labor (Silverman et al., 2006), and preterm birth (Shah & Shah 2010). Watson and Tafts (2013) found that a precipitating cause of preterm birth was associated with hemorrhage in women who experienced intimate partner violence during pregnancy.

The utilization of prenatal care throughout the pregnancy is essential for promoting optimum maternal and neonatal health. Pregnant women typically have between twelve to thirteen prenatal visits, with 96% of women receiving prenatal care (CDC, 2009). It is not uncommon for abused women to have late entry into prenatal care (Huth-Bocks, Levendosky, & Bogat, 2002), which may compound the health risk to both the mother and the fetus. Unfortunately, late entry into prenatal care has been associated with abuse during pregnancy, and decreases the woman's opportunity for early education, screening, and interventions. Stewart et al. (2012) studied 774 migrant women, and identified that abused pregnant migrant women were significantly less likely to engage in prenatal care prior to the second semester of pregnancy. Bailey and Daugherty (2007)

found a significant association between physical abuse during pregnancy and late entry into prenatal care. This study also found an association between physical abuse during pregnancy and increased rates of smoking, as well as increased use of alcohol, marijuana, and illicit drugs around the time of conception. Coker et al., (2004) also identified that negative maternal coping behaviors such as smoking, alcohol use, and the use of illicit drugs have an indirect association to adverse pregnancy outcomes such as low infant birth weight, preterm birth, and neonatal death. Risk taking behaviors and adverse pregnancy outcomes of abused pregnant women may be thwarted with the early identification of abuse during pregnancy and early entry into prenatal care, thereby affording them the opportunity for education, screening, and interventions.

Infant Health Outcomes

Negative infant health outcomes have been associated with intimate partner violence such as low infant birth weight (Coker et al., 2004), an increased need for care in the neonatal intensive care unit (Silverman et al., 2006), and intrauterine growth restriction (Jenssen et al., 2003). Abuse during pregnancy was significantly associated with an increase risk of fetal death (El Kady et al., 2005). Two meta-analyses were conducted investigating infant birth. In both meta-analyses, low birth weight was defined as birth weight < 2500 grams. Murphy, Schei, Nyhr, and DuMont (2001) conducted a meta-analysis that included the review of fourteen studies. They identified eight studies, and found women who experienced physical, sexual, or emotional abuse during pregnancy delivered an infant with a low birth weight with a 95% confidence interval. Shah and Shah (2010) found similar results to the study conducted by Murphy et al.

(2001), as their meta-analysis identified 30 studies showing a risk for low infant birth weight with a confidence interval of 95%. Twenty-two studies reported unadjusted comparative data having a statistically significant increase in the risk for infant low birth weight, and twelve studies reported adjusted estimates for low birth weight in women exposed to abuse during pregnancy (Shah & Shah, 2010).

Conception Rape

The United States Department of Justice 2005 National Crime Victimization Survey reports that 64,080 women were raped, resulting in 3,202 pregnancies, or a 5% pregnancy rate. In 2010, the National Intimate Partner and Sexual Violence Survey reports of 9,080 women found that approximately 50% of female rapes are by an intimate partner, and that up to 227 (5%) pregnancies resulted from a conception rape (Black et al., 2011). These national rape-related pregnancy rates appear not to have changed from the National Women's Study conducted in 1996 by Holmes et al., which identified that 5% of rapes resulted in pregnancy. This would be equivalent to around 32,000 pregnancies resulting from conception rape each year.

Conception rape has been studied in multiple countries, and the consequences have devastating effects on women. The World Health Organization conducted a multi-country study, and found a prevalence of physical violence in pregnancy ranging between 1% and 28%. (WHO, 2011). Thirty eight percent of the pregnancies from this study were unintended pregnancies (Pallitto et al., 2013). Stewart et al. (2012) investigated 774 pregnant migrant workers in Canada and identified 59 women who reported violence during pregnancy. Of these, sixteen (27.1%) became pregnant as a result of forced sex.

de Haas , Berlo, & Vanwesenbeeck (2012) investigated the prevalence of rape of leading to pregnancy in the Netherlands, and found a prevalence rate of 7%. Following conception rape, many women are burdened with the decisions of whether to carry their pregnancy to term (deHaas et al., 2012), give the infant up for adoption (deHaas et al., 2012), or have an elective abortion, which in many cases sets up a scenario for unsafe abortions (Pallitto et al., 2013).

Clearly, sexual violence and pregnancy resulting from rape is a global issue and warrants more attention. Sexual violence and conception rape run the risk of being under reported. Under reporting of sexual violence makes it more difficult to determine prevalence rates, and makes it more difficult to provide supportive services to those women who suffer the consequences of conception rape in silence.

Mother Child Relationship

The mother-child relationship has the potential to begin the moment after birth when the mother and her infant have their first encounter. In 1976, Klaus and Kennel introduced the theory of maternal infant bonding, and explained that the moments right after birth are crucial to the infant's ultimate development. Every effort must be made to allow mothers and their infants early and extended contact immediately following birth. These are believed to be the moments where a positive bond can be established. These moments set the stage for positive mothering (Klaus and Kennel, 1976). In 1969, John Bowlby developed the Attachment Theory, which builds on concepts from ethology and developmental psychology. Benoit (2004) explains that Bowlby's theory focuses on

attachment as just one specific and circumscribed aspect in the relationship between mother and child, and centers around making the child safe, secure, and protected.

Establishing a mother-child relationship may be difficult when the mother has experienced intimate partner violence during pregnancy, potentially leaving her emotionally and physically unavailable to her child at the time following birth through the post-partum period. Kendall-Thackett (2007) reports that women who are abused during pregnancy are more likely to experience postpartum depression. This can in turn affect their relationship with their infant. Depressive symptoms in the mother have a large impact on her ability to bond with her infant (Figueiredo, Costa, Pacheco, & Pais, 2009). Impaired bonding may affect the child's ability to form meaningful relationships (Perry, 2001). Zeitlin et al. (1999) investigated the impact domestic violence has on the maternal-fetal bond and the maternal-infant bond using the Edinburgh Postpartum Depression Scale, Abuse Assessment Scale, Birmingham Postnatal Bonding Questionnaire, and Arbeit's “Differentiation" Scale. The researchers suggest that exposure to domestic violence decreases the maternal fetal bond, and may make it more difficult to strengthen this bond in the post-partum period. This was evident in the results, as there was a positive correlation between the maternal-fetal bond and mother-infant bond, positive correlation between the maternal-fetal bond with Abuse Assessment Scale scores, and a positive correlation between the mother-infant bond with Abuse Assessment Scale scores. Failure to establish a mother-child relationship due to maternal depression following abuse during pregnancy can lead to a negative mother-child bonding

relationship lasting up to 14 months after birth (Moehler, Brunner, Wiebel, Reck, & Resch, 2006).

Intimate Partner Violence and Child Functioning

Burke et al. (2008) explored the relationship between maternal intimate partner violence experiences and infant general health and temperament at one year of age. The findings indicated that infant temperament was found to be significantly associated with any maternal abuse at baseline and follow-up. Maternal experiences of physical abuse were significantly associated with infant's general health.

Durand et al. (2001) analyzed the relationship between the severity of intimate partner violence and children's behavior and school problems. The sample population included 790 mothers living with their children. The children's ages ranged between five years and twelve years of age. Study results showed that children whose mothers were exposed to severe intimate partner violence exhibited symptoms of aggressive behaviors, had school problems, and had behavioral dysfunction in general. The researchers identified that maternal mental health was a mediating factor between intimate partner violence exposure and dysfunctional behavior, and that it was especially related to aggressive behaviors in the children.

Flach et al. (2011) investigated whether antenatal domestic violence was associated with adverse child development, as well as whether it is mediated by maternal depressive symptoms. The study findings indicated that antenatal and postnatal domestic violence are associated with behavioral problems of the child at 42 months of age, and is mediated by increased levels of maternal antenatal depressive symptoms.

Quinlavin and Evans (2005) explored maternal attachment and infant temperament in women subjected to abuse, and found overall reduced attachment scores and more difficult infants on the Short Temperament Scale. Overall attachment scores were reduced. The researchers suggest that it is likely that poor maternal attachment is a consequence of being exposed to domestic violence. However, breastfeeding mothers in the study showed higher attachment scores.

Intimate Partner Violence Screening during Pregnancy

In order to potentially interrupt the negative impact of abuse on maternal and infant health, mother and infant bonding, and child behavioral functioning, identification of abuse during pregnancy is essential. Four percent of women who participated in a screening intervention were less likely to have a low birth weight infant, compared to 10.3% of women who did not participate in a screening intervention (Coker et al., 2012). Keeling and Mason (2010) found that women who were abused one year prior to pregnancy were more likely to disclosure physical abuse (8.5%) early in pregnancy, compared to disclosure rates at the first appointment (2.4%) or postnatally (5.8%).

The American College of Obstetricians and Gynecologist Committee on Health Care for Underserved Women (2012) recommends screening at the initial prenatal visit and at least once per trimester. The U.S. Preventive Services Task Force (2013) has changed their recommendation to a B recommendation. The new recommendation is that all health care providers should screen women between the ages of 14 and 46 for intimate partner violence and provide referrals to services that offer support to abused women (USPSTF, 2013).

Written protocols will facilitate routine screening, and screening should be conducted in a private and safe area. Regular training should be provided to staff, and a relationship must be cultivated with community resources for referrals (ACOG, 2012). In a literature review conducted by O'Reilly, Beale, & Gillies (2012), the use of screening tools such as the Abuse Assessment Screen and the Severity of Violence Against Women Scale in the prenatal setting was found to increase the disclosure of abuse during pregnancy. Failure to adequately screen all pregnant women during the safety of prenatal visits denies them the opportunity for referrals to supportive agencies, and could be detrimental to their health and safety. Policies and protocols must be developed to ensure that all women are screened. All staff members should be provided with the training, time, space, and resources needed not only to inquire about abuse, but also to be equipped to respond to each pregnant woman's specific needs.

Summary

This literature review identified the effects that intimate partner violence has on abused mothers and their infants, and the possible long lasting effects that may continue well into childhood. Intimate partner violence during pregnancy has been the focus of national surveys and professional organizations have made provisions to increase awareness and offer services to women who disclose abuse during pregnancy. Research studies have suggested that abuse during pregnancy may be more severe than what is reported, and may frequently lead to late entry into prenatal care. It may also result in an increasing risk of negative outcomes for the woman and her child such as an increased risk of hemorrhage, perinatal death, preterm birth, and low infant birth weight.

Conception rape may lead to unintended pregnancy, placing an additional burden on the woman. Studies that further explore the impact that intimate partner violence during pregnancy and conception rape have on birth outcomes, the mother-child relationship, and child functioning are needed to develop programs that support the needs of abused pregnant women as they begin their journey into motherhood. Such studies are necessary to ensure that they are able to provide a safe and secure environment for their child.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This study is a non-experimental descriptive design comparing three subgroups of abused women who reach out to services of safe shelter or justice assistance for the first time. The three subgroups of abused women are: (1) abused women who report conception rape with or without abuse during pregnancy, (2) abused women who report abuse during pregnancy, and (3) abused women who report no abuse during pregnancy.

Setting

This study takes place in a large urban community in the United States, where 150 abused women were recruited from five shelters offering safe refuge and 150 abused women were recruited from the District Attorney's Office for processing protection orders.

Population and Sample

The target population for this study included women who were first time users of safe shelters, who have not applied for a protection order, or who were first time applicants of a protection order who have not used safe shelters. The women were English or Spanish speaking**,** age 18 years to 52 years and had at least one child ranging from 18 months to 16 years. Two hundred and eighty-four abused women responded to the questions about abuse during pregnancy, conception rape, birth outcomes, abuse during the first six months post delivery, screening offered during the antenatal period or before hospital discharge, and completed the Child Behavior Checklist on one of their children. If the woman had more than one child then a child was selected at random, this child is referred to as the

index child. In this sample of abused women the largest ethnic group was 57.7% Spanish or Hispanic (n=165), followed by 25.2% Black (n=72), 10.8% White (n=31), 0.3% American Indian/Native Alaskan (n=1) 4.5% Bi/Multi-racial (n=13), and 1.4% Asian or Pacific Islander (n=4). Their education level included 96.5% who completed grades 1-8 (n=275), 85.9 percent who complete grades 9-11 (n=244), 67.3 % who graduated from high school or received a GED (n=191), 51.4% who completed 1-3 years of college (n=146), and only 6.3% who completed 4 or more years of college (n=18). Sixty-four percent were born in the United States, and 35.9% were immigrants. Children's gender included 50.3% male (n=114) and 49.7% female (n=142) (APPENDIX A).

Protection of Human Subjects

This is a secondary data analysis of a prospective study. Approval was received from the Texas Woman's University Institutional Review Board. Data utilized for this secondary data analysis was collected from the original study.

Instruments

An investigator derived ten-item questionnaire (APPENDIX B) was constructed to investigate abuse during pregnancy, conception rape, outcomes following birth, screening and safety information among the abused women in the study. To evaluate the internalizing and externalizing child behaviors of the children of the women in the study, the Achenback Child Behavior Checklist (2000, 2001) was used (Appendix C). This instrument provides a standardized parental report of child behavioral problems, with a form for children 18 months to 5 years and a form for youth 6 to 18 years (Achenback, 2000, 2001). The Child Behavior Checklist is orally administered to the parent, who rates

the presence and frequency of certain behaviors on a three-point scale (0=not true, 1=somewhat or sometimes true, and 2=very true or often true). Examples of behaviors for younger children include “physically attacks people” and “doesn’t want to sleep alone”. Examples of behaviors for older children behaviors include “bully behavior”, “vandalism”, and “prefers being with older children”. The Child Behavior Checklist consists of two broadband factors of behavioral problems: internalizing and externalizing, and includes mean scale scores for national normative samples as well as clinically referred, borderline clinical, and non-referred samples of children. The coefficient alpha for youth ages 18 months to 5 years was 0.81, 0.92, and 0.84 for Internalizing, Externalizing, and total Behavior Problems, respectively. The coefficient alpha for children ages 6 years to 18 years was 0.77, 0.77, and 0.88, for Internalizing, Externalizing, and Total Behavior Problems, respectively.

Data Collection

Standard forward and backward translation from English to Spanish and back to English was conducted on each instrument. The data collectors were bilingual. The database of the participants’ responses to the ten interview questions and to the Child Behavior Checklist were extracted using an electronic file obtained from the statistician who is a team member for the approved study. The database used the participants’ code number.

Treatment of Data

Data were confidentially encoded and entered into a secure database using SPSS version 19 in the research office at Texas Woman's University, Houston, Texas. Exploratory analyses were conducted to obtain the frequencies of demographics of each subgroup of women abused during pregnancy, as well as to examine the assumptions of parametric analyses. These preliminary analyses revealed low observations across subgroups and violations of normality, and, as such, the primary research questions were analyzed using non-parametric analyses. This study utilized a variety of non-parametric analyses, including crosstabualtions with Pearson's chi square with Cramer's *V*. In instances in which observed sample size across cells was insufficient for the parameters Non-parametric of Pearson's chi square, exact tests were utilized to test for significant differences in proportions.

Crosstabulations with Fisher's Exact test was conducted to test for differences in number of rapes with abuse during pregnancy and the number of rapes with no abuse during pregnancy. Fisher's exact test examines statistically significant differences in observed proportions across two categorical variables. Fisher's exact was chosen, because it can handle low numbers of observations, including no observations across particular combinations of categorical variables, which is likely to occur with the current data set. Additional crosstabulations using Fishes Exact test were conducted to test for differences between abuse during pregnancy and other key variables (i.e., mode of birth, breastfeeding while in the hospital, abused during the first six months post delivery,

relationship with the infant, screened for domestic violence during pregnancy, given safety or agency information among the subgroups of women abused during pregnancy).

In order to test for differences among the three subgroups of abused women (1.) abused women who report conception rape with or without abuse during pregnancy, (2.) abused women who report abuse during pregnancy, and (3.) abused women who report no abuse during pregnancy), with internalizing and externalizing problems of child functioning with mean scale scores for normative and borderline/clinical by the Child Behavior Checklist, a series of crosstabulations with Pearson's Chi-square test were conducted.

CHAPTER IV

ANALYSIS OF DATA

The primary purpose of this study was to investigate the impact of abuse during pregnancy and conception rape on maternal and child outcomes among a sample of abused women experiencing intimate partner violence. More specifically, this study aimed to investigated differences in outcomes as a function of whether abused women reported conception rape with or without abuse during pregnancy (n = 13), abuse during pregnancy (n = 67), or no abuse during pregnancy (n = 204).

Prior to conducting the primary analyses, a series of preliminary analyses were conducted to investigate the state of the obtained data, test the statistical assumptions of parametric analysis, and to provide descriptives of the final sample. Due to unequal group sizes of reported abuse during pregnancy, parametric analyses could not be conducted on the current dataset, and, as such, this study utilized a variety of non-parametric analyses, including crosstabualtions with Pearson's chi square with Cramer's *V*. In instances in which observed sample size across cells was insufficient for the parameters of Pearson's chi square, exact tests were utilized to test for significant differences in proportions.

This chapter provides a description of the sample, outlines the findings from this study, and provides a summary of the results. All analyses were conducted in SPSS v. 19. Significance for all analyses was set at .05.

Description of the Sample

The final sample consisted of 284 mother child pairs. The 284 abused women were first time users of safe shelters, who have not applied for a protection order, or who were first time applicants of a protection order who have not used safe shelters. Included in the final sample are 284 children. If the abused woman had more than one child ranging in age from 18 months to 16 years then a child was selected at random to be followed in the study, this child is referred to as the index child. The frequencies and percentages of the categorical demographic variables are shown in APPENDIX A. As shown, 165 of the participants were Spanish or Hispanic (57.5%), followed by 25.2% Black (n=72), 10.8% White (n=31), 0.3% American Indian/Native Alaskan (n=1), 4.5% Bi/Multi-racial (n=13), and 1.4% Asian or Pacific Islander (n=4). Their education level included 96.5% who completed grades 1-8 (n=275), 85.9 percent who complete grades 9-11 (n=244), 67.3 % who graduated from high school or received a GED (n=191), 51.4% who completed 1-3 years of college (n=146), and only 6.3% who completed 4 or more years of college (n=18). Sixty-four percent were born in the United States, and 35.9% were immigrants. Children's gender included 50.3% male (n=114) and 49.7% female (n=142). The means and standard deviations of the continuous demographic variables (APPENDIX D) indicated participants' ages at entry ranged from 18 to 52 years, with an average age of 31 years (M = 30.76, SD = 7.69). The number of children reported by participants ranged from 1 to 7, with an average of 2 children (M = 1.94, SD = 1.09). Child ages ranged from approximately 1.5 to 16 years, with an average age of 7 years (M = 6.90, SD = 4.24). The frequencies and percentages for the three subgroups of abused

women (APPENDIX E) indicated most of the participants (71.3%) reported no abuse during pregnancy (n=204), 23.5% reported experiencing abuse during pregnancy (n=67), and 4.5% reported experiencing conception rape with or without abuse during pregnancy (n=13).

Findings

The frequencies and percentages of pregnancy abuse questions and child behavioral functioning questions are reported in APPENDIX F. Most abused women (62.2%) delivered the child vaginally (n=178) although it is clinically significant that 37% of the abused women in this study had a cesarean section which is slightly higher then the national average for cesarean deliveries. Most of the abused women in the current study (87.1%) reported giving birth to an infant of normal birth weight (greater than 2500 grams). This too is clinically significant as 92% of women in the general population give birth to infants weighing more than 2500 grams. Most abused women (68.9%) put their baby to breast to feed while in the hospital (n=197). The majority of abused women (65%) reported no abuse during the first six months post delivery (n=186). However, of those reporting abuse (n=54), more abused women thought it had no effect on their child (49.5%) compared to 30.3% who thought it had a negative (n=33), or 20.2% of abused women thought it had a protective effect on their child (n=22). Seventy six percent of the abused women were not asked about domestic violence during the pregnancy or before they left the hospital (n=218). Of the women asked (55.1%), slightly more received safety information (n=43), compared to 44% of the women who did not receive safety information (n=35). The age at which the child was first exposed to

domestic violence was fairly evenly split between less than 2 years old (n=138), and 2 or more years old (n=148). Most women (75.2%) reported normative functioning for their child in the areas of internalizing problems (n=215), 70.3% reported externalizing problems (n=201), and total problems of 70.3% (n=201).

In order to test the research questions, a series of crosstabulations with Pearson's chi square were conducted to test for significant differences in observed proportions across two categorical variables. The measure of effect size associated with this test is Cramer's *V*, which can be interpreted as 0-.01 no association, .1-.3 as low association, .3-.5 as a moderate association, and > .5 as a strong association. Crosstab analyses using Pearson's chi-square and Cramer's *V* tests were conducted to examine the relationships of maternal outcomes and abuse groups (APPENDIX G) indicated the relationship between abuse group and abuse during the first six months post delivery was significant, χ^2 (2) = 132.19, $p < .001$, Cramer's $V = .68$. A greater proportion of abused women who experienced conception rape (92.3%) or abuse during pregnancy (85.1%) also experienced abuse during the first six months post delivery compared to women who did not experience conception rape or abuse (14.2%). There was also a trend toward a greater proportion of abused women who were abused during pregnancy (34.4%) were asked about domestic violence compared to abused women who experienced conception rape (15.4%) or reported no abuse during pregnancy (20.1%), χ^2 (2) = 6.20, $p = .045$, Cramer's $V = .148$. There was not a significant association between abuse group and delivery method, infant birth weight, putting baby to breast to feed before hospital discharge, effect of abuse on child, and whether or not safety plan information was given, all

ps < .05, indicating that there were similar proportions of responses across outcomes regardless of abuse group.

Crosstab analyses using Pearson's chi-square and Cramer's *V* tests were conducted to examine the relationships among abuse groups and the child functioning variables (APPENDIX H). The relationship between abuse group and internalizing problems was significant, χ^2 (2) = 12.89, *p* = .002, Cramer's *V* = .214. A greater proportion of children whose mothers reported conception rape were in the borderline/clinical range of functioning (61.5%) compared to children whose mothers reported no abuse (20.2%). The relationship between abuse group and externalizing problems was also significant, χ^2 (2) = 22.79, *p* < .001, Cramer's *V* = .284. A greater proportion of abused women who experienced no abuse during pregnancy (77.3%) reported normative functioning in their child compared to abused women who experienced conception rape (23.1%) or abuse during pregnancy (59.1%). Finally, the relationship between abuse group and total problems was significant, χ^2 (2) = 28.40, *p* < .001, Cramer's *V* = .32. A greater proportion of abused women who experienced no abuse during pregnancy (77.8%) reported normative functioning in their child compared to women who experienced conception rape (15.4%).

Summary of the Findings

This chapter provided a comparative analysis of three subgroups of abused women for birth outcomes, conception rape with or without abuse during pregnancy, and child behaviors. A description of the sample demographics were provided. Frequencies and percentages of birth outcomes and conception rape with or without abuse during

pregnancy were presented along with test for differences among the three subgroups of abused women for birth outcomes and child behaviors.

Within the full sample of abused women the majority of women reported no abuse during pregnancy, although approximately 23% of the sample reported being abused during pregnancy and approximately five percent of the abused women in the study reported a conception rape. Most abused women in the study delivered vaginally with the infant's birth weight above 2500 grams, put their baby to breast to feed before leaving the hospital, reported that abuse during pregnancy had no effect on the mother-child relationship, and reported no abuse during the first six months post delivery. However most abused women reported not being screened for intimate partner violence during the antenatal period or in the hospital post birth. The results also revealed that most abused women reported normative functioning for internalizing and externalizing behaviors on the Child Behavior Checklist.

Significant findings in this study revealed abused women in the abuse during pregnancy subgroup experienced abuse during the first six months post delivery indicating the abuse continued after the woman gave birth. This significant finding was also identified in the subgroup for conception rape with or without abuse during pregnancy as more abused women in this subgroup experienced abuse during the first six months post delivery.

Abused women reporting abuse during pregnancy had statistically significant higher scores for internalizing and externalizing problems and abused women in the conception rape with or without abuse during pregnancy had scores in the borderline /

clinical range of functioning on the Child Behavior Checklist. Significant findings were also identified within the abuse during pregnancy subgroup of abused women for total problems on the Child Behavior Checklist. Abused women in the no abuse during pregnancy subgroup reported normative functioning in their child compared to abused women in the abuse during pregnancy or conception rape with or without abuse during pregnancy subgroup.

CHAPTER V

SUMMARY OF THE STUDY

Abuse towards women is a global public health problem where more than one third of women worldwide have been victims of physical or sexual abuse. Pregnancy is not a protected time from physical or sexual abuse. Intimate partner violence during pregnancy may impact outcomes at birth with the possibility of continuing long after the pregnancy and the post partum period. Five to seven percent of all pregnancies result from conception rape. Conception rape also places women at risk for negative birth outcomes. Abuse during pregnancy and conception rape not only effects the health and wellbeing of the woman but may also jeopardize the mother-child relationship. Abuse during pregnancy and conception rape may also have an intergenerational affect leading to increased behavioral problems continuing into early childhood. To thwart the negative health consequences of abuse during pregnancy and conception rape screening all pregnant women during the antenatal period has the potential to promote the health and wellbeing of the pregnant woman and her child.

This study compared outcomes following abuse during pregnancy and conception rape of abused women and her child. The theoretical framework selected for this study was Bronfenbernner's Ecological Model. This framework was used to connect the evolving interactions between the abused woman and the interactions between the different levels of her environmental systems and the interconnections between

individuals, for example her child. In this chapter, conclusions are presented from the findings and the relevance of the theoretical framework will be re-examined. This chapter closes by offering recommendations for successful screening programs that will support women abused during pregnancy and serve to improve the woman's health and well being and her child during pregnancy and beyond.

Summary

This study utilized two instruments, an investigator derived ten-item questionnaire and the Child Behavior Checklist to investigate the birth outcomes and child behavioral functioning for 284 abused women who are first time users of safe shelters, who have not applied for a protection order, or who are first time applicants of a protection order who have not used safe shelters. Each abused woman completed a ten-item questionnaire responding to abuse during pregnancy, conception rape, birth outcomes, abuse during the first six months post delivery, relationship towards their child, screening for abuse during the antenatal period and in the hospital post birth to include being offered safety information, and mother's self-report of her child's behavior. Frequencies and percentages were collected for abuse during pregnancy, conception rape, and birth outcomes to answer the research questions. Three subgroups of abused women emerged: (1) abused women who report conception rape with or without abuse during pregnancy, or (2) abused women who report abuse during pregnancy or, (3) abused women who report no abuse during pregnancy. To provide a comparative analysis and to test the research questions statistical test were conducted to test for differences among the three subgroups of abused women. The frequencies and percentages from the ten-item questionnaire and

Child Behavior Checklist provided information on the prevalence of abuse during pregnancy, conception rape, birth outcomes and child behavioral functioning. Differences among groups were tested and results are reported.

Discussion of the Findings

Abuse during pregnancy places women at risk for continued abuse extending well into the post partum period. Findings in this study indicated a strong association between abused women who reported abuse during pregnancy or reported conception rape and abused women who experience continued abuse six months post delivery. This finding is consistent with current literature. Charles and Perreira (2007) suggest that abuse during pregnancy can be a strong predictor of abuse up to one year after the pregnancy. Daoud et al. (2012) found that women who were abused prior to pregnancy and during pregnancy were also abused following pregnancy. The sample in this study included all abused women with approximately 23% reporting abuse during pregnancy and within this group of women abused during pregnancy the majority report being abused during the first six months post birth.

There appears to be an intergenerational effect related to women who are abused during pregnancy or experience conception rape. Significant findings in this study identified increased internalizing and externalizing behaviors on the Child Behavior Checklist although a greater proportion of children whose mothers reported conception rape were in the borderline/clinical range of functioning for internalizing problems. Additionally, there was significant findings in total problems on the Child Behavior Checklist for children whose mothers reported abuse during pregnancy. Similar findings

were identified in the literature. McFarlane et al. (2014) identified children of mothers who were abused during pregnancy had increasing internalizing problems at 24 months of age within the borderline and clinical range. The mean age for the children in McFarlane et al. (2014) study was 5.4 years. In this study the mean age for the children was 6.9 years indicating that children continue to exhibit internalizing problems in the borderline and clinical range at an older age. Flach et al. (2012) found children at 42 months of age exhibited behavioral problems (i.e. conduct problems) when the mother was exposed to abuse during the antenatal period. Durand et al. (2011) found children between the ages of five and twelve years old whose mothers were exposed to intimate partner violence exhibited symptoms of aggressive behaviors, school problems, and behavioral dysfunction which supports the findings in this study related to negative externalizing behaviors of child whose mothers were abused.

This study did not identify any association between abuse during pregnancy or conception rape with birth outcomes for mode of birth as most women delivered vaginally compared to a cesarean delivery. Current literature reports an association between abuse during pregnancy and cesarean delivery when comparing abused women to non-abused women. In this study all of the women were abused therefore it may different when comparing mode of birth to non-abused women in the general population. Boy and Salihu (2004) identified an association between abuse during pregnancy and women having an increased risk for an operative delivery when they compared abused women to non-abused women. Birth weight of infants born to women abused during pregnancy did not show a statistically significance as a majority of infants were born

weighing greater than 2500 grams. Although there was a clinical significance for low infant birth weight in this study as the infant birth weight was 13% compared to the national average for infants at birth weighing below 2500 grams is approximately eight percent (Martin, Hamilton, Osterman, Curtin, & Mathews, 2013). Negative infant health outcomes have been associated with intimate partner violence such as low infant birth weight (Coker et al., 2004) compared to women not abused. Two meta-analyses investigating birth weights of infants whose mothers were exposed to abuse during pregnancy. Murphy et al. (2001) and Shah and Shah (2010) identified mothers who were abused during pregnancy delivered infants with a low birth weight (<2500 grams) compared to mothers not abused.

Most women in this study felt their abuse during pregnancy did not have an effect on their relationship with their child. This may be reflective of the mother's ability to maintain her role as a mother within the microsystem within Bronfenbrenner's Ecological Model and focus her interpersonal interactions towards her child. One contributing factor to establishing a relationship with their child may have been putting their baby to breast to feed before hospital discharge which the majority of abused women in this study reported. Bronfenbrenner's Ecological Model suggests that individuals are impacted at each level of the environmental system and within the microsystem individuals have particular activities and roles and modes of interactions, one being developing a relationship with their child. Although this might explain why the women reported no effect on the mother-child relationship the literature suggest women who experience abuse may have difficulty establishing a mother-child relationship as the abuse may leave

the mother emotionally and physically unavailable to care for her child following birth and into the post partum period. Failure to establish a mother-child relationship, especially if the mother exhibits depressive symptoms in the post partum period, may lead to a negative mother-child relationship lasting up to 14 months after birth (Moehler, Brunner, Wiebel, Reck, & Resch, 2006).

Identification of abuse during pregnancy is paramount. Routine inquiry for abuse during pregnancy can increase the rate of detection (Bacchus, Mezey, Bewley, & Haworth, 2004; Ramsden, & Bonner, 2002; O'Reilly, Beale, & Gilles, 2012) in clinical settings. Evidence from the literature supports potential for improved maternal and infant outcomes when screening for partner abuse is conducted. A majority of abused women in this study (>75%) reported they were not screened for abuse. This may not be uncommon as many barriers to routine screening exist among health care professionals. Within Bronfenbrenner's Ecological Model the exosystem is where an individual connects with larger systems such as neighborhoods and government agencies for goods and services, for example routine screening for abuse in clinical setting. Abused women who are not screened for abuse during pregnancy or abuse during the post partum period may not be afforded the use of these goods and services offered to abused women. Literature reports women who participated in a screening program had fewer low birth weight infants compared to women who did not participate in a screening intervention (Coker et al., 2012). Disclosure of physical abuse in women abused one year prior to pregnancy are more likely to disclose abuse early in pregnancy when screened (Keeling & Mason, 2010).

Conclusions and Implications

Clearly, women are abused during pregnancy. This study found rates of abuse during pregnancy and conception rape similar to national prevalence rates. Unfortunately women abused during pregnancy may also experience continued abuse during the postpartum period which was evident in this study. This scenario may lead to child behavior problems extending beyond early childhood. For the women in this study this was true as evidence indicated their children had more increased internalizing and externalizing problems then women who did not experience abuse during pregnancy.

It must remain clear that all women in this study experienced abuse. Therefore all women should be afforded the opportunity to participate in effective screening programs. Unfortunately in this study more than 75% of the participants were not screened during pregnancy or before they left the hospital. Failure to adequately screen all pregnant women during the safety of prenatal visits denies them the opportunity for referrals to supportive agencies and could be detrimental to their health and the health of their child.

Implications from this study suggest a sustainable screening program is vital. Abuse during pregnancy and conception rape can no longer be ignored. Formalized written protocols offers validation for the screening process and taking a "top-down, bottom-up approach" (p.35) encourages ownership (Ramsden & Bonner, 2002). Training, attention to time constraints, privacy areas for screening, knowledge of resources, and education on screening tools are factors that must be taken into consideration when developing a screening program as they have all been identified as barriers to screening (Yonaka, Yoder, Darrow, Sherck, 2007; Ramsden & Bonner, 2002;

BMC Public Health, 2012; WHO, 2012). An effective screening program may help decrease continued abuse beyond the pregnancy and support can be offered to assist women to transition into motherhood with a positive relationship with their infant that may serve to improve child behavior functioning. To this end, policies and protocols must be developed to ensure all women are screened and all staff members are afforded the training, time, space, and resources needed to not only inquire about abuse but be equipped to respond to each pregnant woman's specific needs. Provisions must be made to ensure that screening programs remain effective and encourage 100% compliance for screening all pregnant women.

Recommendations for Further Study

Further study that investigates the impact of abuse during pregnancy and prevention of continued abuse into the postpartum period and beyond is needed. More attention is also needed on the intergenerational transmission of violence. To improve outcomes in abused women and prevent continued abuse into pregnancy and beyond, there is an urgent need to develop effective screening programs that will achieve 100% compliance among health care professionals so all women are offered the opportunity for screening and referral services. Barriers to screening exist despite recommendations from the American College of Obstetricians and Gynecologists, United States Preventive Services Task Force, and the World Health Organization in 2013 for screening all pregnancy women for intimate partner violence. The most cited barrier is lack of time. Other barriers indentified that contributed to low screening rates included lack of training, lack of privacy and language barriers, lack of resources, partner presence, and

health care professionals' discomfort with the topic of abuse. Nurses are in the ideal position to advocate for abused women and their children and the nurse scientist must provide the evidence through rigorous research studies that will support future funding for interventions and programs that serve to improve the health and well being of abused mothers and their children.

The following recommendations for further study includes:

- Investigation into effective home visit interventions conducted by nurses for women abused during pregnancy with continued home visits on a regular schedule during the first year following birth is needed. Identifying the best methods for conducting home visits may serve to support the new mother, assist with her safety needs, and promote a positive mother child relationship.
- Investigation on the intersection of abuse during pregnancy, the mother child relationship, and child behavioral functioning is warranted. This investigation would offer increased understanding on abused during pregnancy and how it mediates the mother child relationship and child behavioral functioning.
- Investigation for best methods that offer support to children of mothers abused during pregnancy that will promote normal child functioning behavior is needed. When abuse continues beyond pregnancy the child is exposed to a violent environment that may impact child behaviors.
- Inquiry into effective training programs for health care providers that offers essential tools to conduct screenings for women is vital. Effective training programs will build confidence in the health care provider not only to inquire

about abuse but to respond in a manner that will meet the abused woman's health and safety needs.

These recommendations for further study stem from the findings in this study. The recommended studies are intended to better equip nurses with the best evidence to formulate effective interventions and develop policies and guidelines in all clinics and hospital settings that better serve the health and safety needs of women abused during pregnancy and their children. These recommendations will also provide evidence to encourage policy makers to seek increased funding for programs on a state or national level.

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APPENDIX A

Frequencies and Percentages of Categorical Demographics Variables

Frequencies and Percentages of Categorical Demographic Variables

	n	%
Ethnicity		
White	31	10.8
Black	72	25.2
Asian	4	1.4
American Indian/ Native Alaskan	1	.3
Spanish or Hispanic	165	57.7
Bi-/Multi-Racial	13	4.5
Child's gender		
Male	114	50.3
Female	142	49.7
Level of Education		
Completed 1-8 grade	274	96.5
Completed 9-11 grade	244	85.9
Graduated from High School or GED	191	67.3
Completed 1-3 years of College	146	51.4
Completed 4 or more years of College	18	6.3
Immigration Status		
United States Born	182	64.1
Immigrant	102	35.9

APPENDIX B

Ten-Item Questionnaire

Ten-Item Questionnaire

Thinking about your pregnancy with (name of child_____)

PQ1e	Did the pregnancy result from forced sex?
PQ2e	Were you physically or sexually abused during the pregnancy?
PQ3e	Were you physically or sexually abused during the first 6 months of child's life?
PQ4e	If yes to abuse, HOW do you think the abuse affected your relationship with (name of child _____)? Ask for one example.
PQ5e	How much did (name of child_____) weigh at birth? Record as grams
PQ6e	Was (name of child _____) born natural (vaginal) or taken C-Section?
PQ7e	Did you put (name of child) to your breast (chest) to feed while in the hospital?
PQ8e	Did anyone ask you about domestic violence during the pregnancy with (name of child _____) or before you left the hospital?
PQ9e	If YES to ask about DV, were you given safety or agency information?
PQ10e	Thinking about (name of child ___), what age was she/he first exposed to DV?

APPENDIX C

Child Behavior Checklist

Please print. **CHILD BEHAVIOR CHECKLIST FOR AGES 1½-5**

For office use only
ID #

CHILD'S FULL NAME: First Middle Last

CHILD'S GENDER ☐ Boy ☐ Girl

CHILD'S AGE

CHILD'S ETHNIC GROUP OR RACE

TODAY'S DATE Mo.____ Day____ Year____

CHILD'S BIRTHDATE Mo.____ Day____ Year____

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. ***Be sure to answer all items.***

PARENTS' USUAL TYPE OF WORK, even if not working now. *Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.*

FATHER'S TYPE OF WORK _____

MOTHER'S TYPE OF WORK _____

THIS FORM FILLED OUT BY: (print your full name)

_____

Your relationship to child:

☐ Mother ☐ Father ☐ Other (specify):

Below is a list of items that describe children. For each item that describes the child ***now or within the past 2 months***, please circle the ***2*** if the item is ***very true or often true*** of the child. Circle the ***1*** if the item is ***somewhat or sometimes true*** of the child. If the item is ***not true*** of the child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 1. Aches or pains (without medical cause; *do not* include stomach or headaches)
0 1 2 2. Acts too young for age
0 1 2 3. Afraid to try new things
0 1 2 4. Avoids looking others in the eye
0 1 2 5. Can't concentrate, can't pay attention for long
0 1 2 6. Can't sit still, restless, or hyperactive
0 1 2 7. Can't stand having things out of place
0 1 2 8. Can't stand waiting; wants everything now
0 1 2 9. Chews on things that aren't edible
0 1 2 10. Clings to adults or too dependent
0 1 2 11. Constantly seeks help
0 1 2 12. Constipated, doesn't move bowels (when not sick)
0 1 2 13. Cries a lot
0 1 2 14. Cruel to animals
0 1 2 15. Defiant
0 1 2 16. Demands must be met immediately
0 1 2 17. Destroys his/her own things
0 1 2 18. Destroys things belonging to his/her family or other children
0 1 2 19. Diarrhea or loose bowels (when not sick)
0 1 2 20. Disobedient
0 1 2 21. Disturbed by any change in routine
0 1 2 22. Doesn't want to sleep alone
0 1 2 23. Doesn't answer when people talk to him/her
0 1 2 24. Doesn't eat well (describe): _____
0 1 2 25. Doesn't get along with other children
0 1 2 26. Doesn't know how to have fun; acts like a little adult
0 1 2 27. Doesn't seem to feel guilty after misbehaving
0 1 2 28. Doesn't want to go out of home
0 1 2 29. Easily frustrated
0 1 2 30. Easily jealous
0 1 2 31. Eats or drinks things that are not food—*don't* include sweets (describe): _____
0 1 2 32. Fears certain animals, situations, or places (describe): _____
0 1 2 33. Feelings are easily hurt
0 1 2 34. Gets hurt a lot, accident-prone
0 1 2 35. Gets in many fights
0 1 2 36. Gets into everything
0 1 2 37. Gets too upset when separated from parents
0 1 2 38. Has trouble getting to sleep
0 1 2 39. Headaches (without medical cause)
0 1 2 40. Hits others
0 1 2 41. Holds his/her breath
0 1 2 42. Hurts animals or people without meaning to
0 1 2 43. Looks unhappy without good reason
0 1 2 44. Angry moods
0 1 2 45. Nausea, feels sick (without medical cause)
0 1 2 46. Nervous movements or twitching (describe): _____
0 1 2 47. Nervous, highstrung, or tense
0 1 2 48. Nightmares
0 1 2 49. Overeating
0 1 2 50. Overtired
0 1 2 51. Shows panic for no good reason
0 1 2 52. Painful bowel movements (without medical cause)
0 1 2 53. Physically attacks people
0 1 2 54. Picks nose, skin, or other parts of body (describe): _____

Be sure you answered all items. Then see other side.

7-28-00 Edition-601

Please print your answers. Be sure to answer all items.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 55. Plays with own sex parts too much
0 1 2 56. Poorly coordinated or clumsy
0 1 2 57. Problems with eyes (without medical cause) (describe): _____
0 1 2 58. Punishment doesn't change his/her behavior
0 1 2 59. Quickly shifts from one activity to another
0 1 2 60. Rashes or other skin problems (without medical cause)
0 1 2 61. Refuses to eat
0 1 2 62. Refuses to play active games
0 1 2 63. Repeatedly rocks head or body
0 1 2 64. Resists going to bed at night
0 1 2 65. Resists toilet training (describe): _____
0 1 2 66. Screams a lot
0 1 2 67. Seems unresponsive to affection
0 1 2 68. Self-conscious or easily embarrassed
0 1 2 69. Selfish or won't share
0 1 2 70. Shows little affection toward people
0 1 2 71. Shows little interest in things around him/her
0 1 2 72. Shows too little fear of getting hurt
0 1 2 73. Too shy or timid
0 1 2 74. Sleeps less than most kids during day and/or night (describe): _____
0 1 2 75. Smears or plays with bowel movements
0 1 2 76. Speech problem (describe): _____
0 1 2 77. Stares into space or seems preoccupied
0 1 2 78. Stomachaches or cramps (without medical cause)
0 1 2 79. Rapid shifts between sadness and excitement
0 1 2 80. Strange behavior (describe): _____
0 1 2 81. Stubborn, sullen, or irritable
0 1 2 82. Sudden changes in mood or feelings
0 1 2 83. Sulks a lot
0 1 2 84. Talks or cries out in sleep
0 1 2 85. Temper tantrums or hot temper
0 1 2 86. Too concerned with neatness or cleanliness
0 1 2 87. Too fearful or anxious
0 1 2 88. Uncooperative
0 1 2 89. Underactive, slow moving, or lacks energy
0 1 2 90. Unhappy, sad, or depressed
0 1 2 91. Unusually loud
0 1 2 92. Upset by new people or situations (describe): _____
0 1 2 93. Vomiting, throwing up (without medical cause)
0 1 2 94. Wakes up often at night
0 1 2 95. Wanders away
0 1 2 96. Wants a lot of attention
0 1 2 97. Whining
0 1 2 98. Withdrawn, doesn't get involved with others
0 1 2 99. Worries
0 1 2 100. Please write in any problems the child has that were not listed above.
0 1 2 _____
0 1 2 _____
0 1 2 _____

Please be sure you have answered all items. Underline any you are concerned about.

Does the child have any illness or disability (either physical or mental)? ☐ **No** ☐ **Yes—Please describe:**

What concerns you most about the child?

Please describe the best things about the child:

Please print. Be sure to answer all items. 6-18 YRS

Below is a list of items that describe children and youths. For each item that describes your child ***now or within the past 6 months***, please circle the ***2*** if the item is ***very true or often true*** of your child. Circle the ***1*** if the item is ***somewhat or sometimes true*** of your child. If the item is ***not true*** of your child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 1. Acts too young for his/her age
0 1 2 2. Drinks alcohol without parents' approval (describe):_____
0 1 2 3. Argues a lot
0 1 2 4. Fails to finish things he/she starts
0 1 2 5. There is very little he/she enjoys
0 1 2 6. Bowel movements outside toilet
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe):_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Cruel to animals
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Daydreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys things belonging to his/her family or others
0 1 2 22. Disobedient at home
0 1 2 23. Disobedient at school
0 1 2 24. Doesn't eat well
0 1 2 25. Doesn't get along with other kids
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Breaks rules at home, school, or elsewhere
0 1 2 29. Fears certain animals, situations, or places, other than school (describe):_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe):_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe):_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other kids
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy or lightheaded
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired without good reason
0 1 2 55. Overweight
56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (***not*** stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (***not*** if corrected by glasses) (describe):_____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe):_____

 Be sure you answered all items. Then see other side.

Please print. Be sure to answer all items.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
_____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older kids
0 1 2 64. Prefers being with younger kids
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____
_____
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe): _____
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe): _____
_____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Too shy or timid
0 1 2 76. Sleeps less than most kids
0 1 2 77. Sleeps more than most kids during day and/or night (describe): _____
_____
0 1 2 78. Inattentive or easily distracted
0 1 2 79. Speech problem (describe): _____
_____
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up too many things he/she doesn't need (describe): _____
_____
_____
0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe): _____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe): _____
_____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Smokes, chews, or sniffs tobacco
0 1 2 100. Trouble sleeping (describe): _____
_____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses drugs for nonmedical purposes (*don't* include alcohol or tobacco) (describe): _____
_____
_____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries
113. Please write in any problems your child has that were not listed above:
0 1 2 _____
0 1 2 _____
0 1 2 _____

Please be sure you answered all items.

APPENDIX D

Means and Standard Deviations of Continuous Demographic Variables

Means and Standard Deviations of Continuous Demographic Variables

	n	*M*	*SD*	Min	Max
Woman's age	286	30.76	7.69	18.00	52.00
Number of children	286	1.94	1.09	1.00	7.00
Child's age	284	6.90	4.24	1.50	16.42

APPENDIX E

Frequencies and Percentages of Abuse Groups

Frequencies and Percentages of Abuse Groups

	n	%
Abuse group		
Conception rape with and with abuse during pregnancy	13	4.5
Abuse during pregnancy	67	23.4
No abuse during pregnancy	204	71.3

APPENDIX F

Frequencies and Percentages of Pregnancy Abuse Questions and Child Functioning

Frequencies and Percentages of Pregnancy Abuse Questions and Child Functioning

	n	%
Delivery method		
Vaginal	178	62.2
Cesarean Section	105	36.7
Birth Weight		
2500+ g	249	87.1
Less than 2500g	37	12.9
Baby to breast to feed		
No	87	30.4
Yes	197	68.9
Abuse during first 6 months post delivery		
No	186	65.0
Yes	98	34.3
How abuse affected child		
None	54	49.5
Protective	22	20.2
Negative	33	30.3
Asked about domestic violence		
No	218	76.2
Yes	66	23.1
Safety information given		
No	35	44.9
Yes	43	55.1
Internalizing problems		
Normative	215	75.2
Borderline/Clinical	69	24.1

	n	%
Externalizing problems		
Normative	201	70.3
Borderline/Clinical	83	29.0
Total problems		
Normative	201	70.3
Borderline/Clinical	83	29.0
Age child was exposed to domestic violence		
Less than 2 years	138	48.3
2+ years	148	51.7

APPENDIX G

Frequencies and Percentages of Maternal Outcomes by Abuse Groups

Frequencies and Percentages of Maternal Outcomes by Abuse Groups

	Conception rape with or without abuse during pregnancy		Abuse during pregnancy		No abuse during pregnancy				
	n	%	*n*	%	*n*	%	x^2	*p*	Cramer's *V*
Delivery method							.07	.967	.015
Vaginal	8	61.5	43	64.2	127	62.6			
C-section	5	38.5	24	35.8	76	37.4			
Birth weight							1.33	.514	.069
2500+ g	12	92.3	61	91	176	86.3			
Less than 2500g	1	7.7	6	9	28	13.7			
Breastfeeding							4.07	.130	.120
No	1	7.7	24	35.8	62	30.4			
Yes	12	92.3	43	64.2	142	69.6			
Abuse after pregnancy							132.19	< .001	.682
No	1	7.7	10	14.9	175	85.8			
Yes	12	92.3	57	85.1	29	14.2			

	Conception rape with or without abuse during pregnancy		Abuse during pregnancy		No abuse during pregnancy				
	n	%	*n*	%	*n*	%	x^2	*p*	Cramer's *V*
How abuse affected child[Ψ]							5.84	.211	.164
None	4	33.3	33	49.3	17	56.7			
Protect	4	33.3	16	23.9	2	6.7			
Negative	4	33.3	18	26.9	11	36.7			
Asked about domestic violence							6.20	.045	.148
No	11	84.6	44	65.7	163	79.9			
Yes	2	15.4	23	34.3	41	20.1			
Safety information given							4.19	.123	.232
No	3	100	11	47.8	21	40.4			
Yes	0	0	12	52.2	31	59.6			

Note. [Ψ] Due to limited number of cases, chi square test was confirmed using Fisher's exact test, $p > .05$

APPENDIX H

Frequencies and Percentages of Child Outcomes by Abuse Groups

Frequencies and Percentages of Child Outcomes by Abuse Groups

	Conception rape with or without abuse during pregnancy			Abuse during pregnancy			No abuse during pregnancy					
	n	%		*n*	%		*n*	%		x^2	*p*	Cramer's *V*
Internalizing problems										12.89	.002	.214
Normative	5	38.5	a	46	69.7	a,b	162	79.8	b			
Borderline/Clinical	8	61.5	a	20	30.3	a,b	41	20.2	b			
Externalizing problems										22.79	< .001	.284
Normative	3	23.1	a	39	59.1	a	157	77.3	b			
Borderline/Clinical	10	76.9	a	27	40.9	a	46	22.7	b			
Total problems										28.40	< .001	.317
Normative	2	15.4	a	39	59.1	a,b	158	77.8	b			
Borderline/Clinical	11	84.6	a	27	40.9	a,b	45	22.2	b			

Note. Proportions with differing superscripts differed significantly, $p < .05$.

APPENDIX I

IRB Approval Letter

TWU
TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON

Office of Research
6700 Fannin Street
Houston, TX 77030-2343
713-794-2480 Fax 713-794-2488

October 2, 2013

Ms. Ann L. Bianchi
College of Nursing
6700 Fannin Street
Houston, TX 77030

Dear Ms. Bianchi:

Re: Abuse during Pregnancy and selected outcomes for Mothers and Children (Protocol #: 17450)

Your application to the IRB has been reviewed and approved.

This approval lasts for one (1) year. The study may not continue after the approval period without additional IRB review and approval for continuation. It is your responsibility to assure that this study is not conducted beyond the expiration date.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any unanticipated incidents. If you have any questions, please contact the TWU IRB.

The signed consent forms, as applicable, must be filed with the request to close a study file at the completion of the study.

Sincerely,

Jan Foster

Jan Foster, PhD, APRN, CNS
Institutional Review Board - Houston

cc. Dr. Karen Lyon, College of Nursing - Houston
Judith McFarlane, DrPH, FAAN, College of Nursing - Houston
Graduate School

Appendix H

IRB Modification Letter

INSTITUTIONAL REVIEW BOARD

940-898-3378 (Denton & Dallas)
713-794-2480 (Houston)

http://www.twu.edu/research/irb.asp

STUDY MODIFICATION REQUEST

Principal Investigator: Bianchi, Ann **Protocol #:** 17450 **Campus:** Houston

Title of Study:
Abuse during Pregnancy and Selected Outcomes For Mothers and Children

Description of Modification Requested:

The modification is for a title change only. The new title is: Outcomes Following Abuse During Pregnancy and Conception Rape: A Comparative Analysis of Mother and Child Pairs

List of Attachments:

No Attachments