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CORRELATIONAL STUDY BETWEEN PSYCHOLOGICAL BIRTH TRAUMA AND PRENATAL CARE AMONG ADOLESCENT MOTHERS

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by

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ABSTRACT

CORRELATIONAL STUDY BETWEEN PSYCHOLOGICAL
BIRTH TRAUMA AND PRENATAL CARE
AMONG ADOLESCENT MOTHERS

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The University of Texas at Arlington, 2014

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Research findings to be discussed are from a larger, quantitative study exploring psychological birth trauma (PBT) among adolescents. My study examines prenatal care (PNC) and its effect as a contributing factor in PBT, defined as subjective distress. Research was conducted at John Peter Smith County Hospital (JPS). IRB approval was initially approved by the University of Texas at Arlington and is now held by JPS. The sample included 256 multiethnic adolescents, ages 13-19 years. The Impact of Event Scale was used to measure subjective distress.

Little research among adolescents shows the influence of PNC upon PBT. This identified problem statement led me to the following research question: What role does PNC have as a contributing factor in the development of PBT in multiethnic adolescents

13 to 19 years of age? It is hypothesized that the more frequent number of PNC visits a woman obtains, the lower rate of PBT will occur.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

1.1 Prenatal Care and the effects on Psychological Birth Trauma

1.1.1 Problem Statement

Among adolescents little research has been conducted on psychological birth trauma (PBT) and its correlates. One identified correlate with limited attention is prenatal care (PNC).

1.1.2 Research Question

Therefore, this identified problem statement has led me to the following research question: What role does PNC have as a contributing factor in the development of PBT among multiethnic adolescents 13 to 19 years of age? It is hypothesized that the more frequent number of PNC visits a woman obtains, the lower rate of PBT will occur.

1.1.3 Significance of the Research

Numerous studies have been conducted on PBT among adults over the past two decades; however, the information describing the effects of childbearing upon adolescents is limited. PBT is "a stress disorder experienced by the mother as a result of the physical and emotional trauma of giving birth" (Psychology Dictionary). Post-Traumatic Stress Disorder (PTSD) is the most severe form of PBT (Ayers, 2004) and the most focused on in research. One possible correlate of PBT, PNC, has limited attention and is unclear as to its effects in women of all ages.

Adolescents often deny or hide an unplanned pregnancy; therefore, PNC obtained may be minimal or delayed. Young women frequently start having sex in their mid to late teen years. If an adolescent is not using contraception they have a 90% chance of getting pregnant in the first year (Lowdermilk & Perry, 2004). Adolescents usually do not seek routine gynecological care, including birth control information, or pap smears until they are eighteen years of age. This could pose as a risk to an adolescent who is less than eighteen and pregnant because they may not know how to access a physician to obtain PNC. Dependent adolescents usually do not have the financial resources to acquire PNC or birth control measures. They lack the knowledge to avoid teratogens or to judge the need of adequate PNC (Lowdermilk & Perry, 2004). This possible lack or delay of PNC makes them especially vulnerable to physical but also psychological consequences (Cypher, 2013), hence, a possible increased vulnerability to PBT.

A culture's lack of support for the need of routine prenatal care due to normative beliefs of childbearing and extended maternal supports may also limit PNC for some women (Sokoloski, 1995). For the adolescent, an unplanned pregnancy may sever support systems and potentially reduce this buffer against PBT as well as limiting access to PNC, thereby limiting assessments of PBT risk factors and information related to labor and birth (Atuyambe, Mirembe, Johansson, Kirumira & Faxelid, 2005). The severing of family ties is especially true in some cultures where an unplanned pregnancy continues as a major stigma. Lacking PNC, inadequate childbirth information leading potentially to unrealistic expectations of labor and birth (such as length of labor or pain options), and limited access to social supports have all been shown to associate with PBT in adults (Denis, 2011; Lyons, 1998; Modarres, 2012).

Lifestyle behaviors including substance use and abuse, poor diet, or lack of physical fitness and exercise or experience of intimate partner violence, environmental and work place hazards, medical conditions, and stress influence the pregnancy and the infant outcome. Poor infant outcomes including low birth weight and preterm births, especially if admitted to Neonatal Intensive Care Units, have been found to be associated with an increased risk of PBT for the adult mother (Pierrehumbert, Nicole, Muller-Nix, Forcada-Guex, & Ansermet, 2003). Adolescents have an increased rate of many of these lifestyle risks as well as an increased preterm birth rate (Wilsen Van Dijk, Anderko, & Stetzer, 2011; Khashan, Baker & Kenny, 2012); therefore, they may be more vulnerable to resulting PBT. With appropriate PNC modifiable health and lifestyle risks can be reduced (Lowdermilk Perry, 2004) and potentially reduce the risk for PBT.

By conducting this research we would be able to determine the role of PNC as a contributor to PBT, especially in the overlooked adolescent population. It is anticipated that findings of our study can offer support for educating nurses about the importance of assessing for PBT and better clarify the intertwining of prenatal information related to the risk factors for PBT with other important information on a healthy pregnancy, labor and birth and a successful infant outcome for all age childbearing women. Finding an association between PNC and PBT can enhance the need for research.

Nurses can provide information to the prenatal adolescent about the benefits of PNC and risks of PBT by handing out leaflets and by posting information in prenatal clinics. Nurses providing PNC have the opportunity to provide patient education most useful to the vulnerable adolescent prior to labor and birth and reduce the risks of PBT.

Community nurses can also work with schools to provide information to adolescents related to pregnancy, labor and birth, and PBT.

CHAPTER 2

LITERATURE REVIEW

2.1 Prenatal Care

There are several benefits of PNC for women, especially adolescents, since their bodies are still growing. The main benefits of PNC that will be discussed include nutrition, lifestyle behavior modification, management of chronic diseases and earlier identification of possible pregnancy and birth complications. Helping the adolescent to achieve a healthy pregnancy and good infant outcome can potentially reduce the risk for PBT. PNC also includes assessments for violence and depression, which are crucial to identify because rates for violence and depression are higher among adolescents than adults and have been linked to PBT (Wilsen et al., 2011; Parker & McFarlane, 1991).

2.1.1. Nutritional Recommendations for Adequate Prenatal Care

Having a daily intake of adequate vitamins and minerals for the mother and the fetus is essential in keeping the mother and the baby healthy. If the mother and the infant are healthy the chances of postpartum complications are lessened, which reduces one risk factor for PBT. A variety of minerals, nutrients, and vitamins are needed for everyday life, but when a woman is pregnant she needs an increase of these in her daily diet. According to (Sfakianaki) the list of nutrients that need to be increased include: folic acid, omega-3 fatty acids, iron, iodine, calcium, and Vitamins A, C, D, E, B6, B12 (2013).

Folic acid is crucial in the first few weeks of pregnancy. Folic acid aids in the process of metabolizing amino acids, producing red blood cells and synthesizing DNA. It also helps with the growth of the fetus and the placenta. Most importantly, folic acid is needed to help reduce the amount of neural tube defects that can occur in the first 7-8 weeks of pregnancy (Sfakianaki, 2013).

Most women do not know they are pregnant at 7-8 weeks, and over 50% of pregnancies are unplanned; over 80% of adolescent pregnancies are unplanned (Unintended Pregnancy Prevention, 2013). There are many women who do not take supplements, especially those who have less education and are from minority backgrounds (Sfakianaki, 2013). With PNC this information can be given to pregnant adolescents, and proper supplementation can be started (Sfakianaki, 2013) to enhance the chances for a successful infant outcome.

For a successful infant outcome Omega-3 fatty acids are important and help with the neurological development of the fetus. Omega-3 fatty acids are also connected with reducing inflammation and vasodilation. Omega-3 fatty acids are essential during the third trimester of the prenatal period with development of the brain (Sfakianaki, 2013).

The docosahexaenoic acid (DHA) to Optimize Mother Infant Outcome (DOMInO) study was conducted in Australia to see if taking fish oil supplements made a positive difference on the outcome of the infant. Over 2,000 women prior to 21 weeks gestation were part of the study. Some of the participants received fish oil capsules with 800 mg of DHA and some received vegetable oil capsules without DHA until they delivered the infant (Makrides, Gibson, McPhee, Yelland, Quinlivan & Ryan, 2010). The outcome of the study concluded that there were no differences in the infant's cognitive

and language development at age 18 months. Nor was there any difference in the vision ability at four months of age. In examining maternal postpartum depression and use of fish oil supplements, there were no significant findings. However, the study did conclude that there was a lower incidence of preterm birth and low birth weight infants (Makrides et al. 2010). A poor infant outcome has been shown to increase psychological distress (Lynn, 1999) and has been associated with PBT (Pierrehumbert et al., 2003).

Increased iron is needed for the increased need for oxygen requirements that occur with the uteroplacental circulation as well as reducing the risk of anemia for the mother. There have also been associations of maternal depression, low birth weights, preterm delivery and perinatal mortality linked with maternal anemia (Sfakianaki, 2013).

By discussing the importance of Iodine, Calcium, Vitamins A, B, C, D, E, K, B6 and B12 in the PNC routine, better compliance of use by childbearing women and ultimately a reduction of complications such as preeclampsia, cesarean delivery, preterm birth, gestational diabetes, poor bone health, infection and hemorrhage could occur (Lowdermilk & Perry, 2004). Information related to iron, minerals, and vitamins can be provided prenatally and can aid in prevention of poor maternal issues with pregnancy and poor infant outcomes (Sfakianaki, 2013), which could lead to a decrease in the possibility of PBT.

2.1.2. Life Style Modification

A nurse's role prenatally is to focus on health promotion. During PNC visits the nurses can expose the woman to health information related to many modifiable lifestyle risks. This will create a pathway for the woman to have a decreased risk of birth

complications and a resulting positive outcome for the mother and infant (Lowdermilk & Perry, 2004).

There are several resources that the nurse can provide to the mother during PNC visits that can aid in lifestyle modifications. March of Dimes, Baby Your Baby, WIC, and Healthy Start are examples of resources that can be used. These programs offer information regarding health education; reduction of infant mortality; improvement of health and wellbeing for the mother, child and family; aggression prevention; teen pregnancy; adolescent sexuality; sexually transmitted diseases; and contraceptives (Lowdermilk and Perry, 2004). For the sexually risky adolescent who may experience an unplanned repeat pregnancy this information is crucial. For the current pregnancy information related to the labor and birth process is essential, especially for the adolescent. A disparity in expectations of labor and birth held by the pregnant woman due to lack of information or use of erroneous information often resulting from a lack of childbirth classes has been associated with PBT among adults and is therefore important (Denis, A., Parant, O. & Callahan, S, 2011).

Another important area of health promotion is exercise. Exercise is an important lifestyle modification that should be incorporated into one's life. Many women do not understand the importance of exercising on a routine basis before they get pregnant and are often unsure of how to appropriately and effectively exercise during a pregnancy. Some women feel afraid that they will hurt themselves or the fetus if they exercise during the pregnancy. On the other end of the spectrum some women are afraid of gaining too much weight and they overexercise (Duncombe, D., Wertheim, E., Skouteris, H., Paxton,

S. & Kelly, L, 2009). Information received during a PNC visit could help women with their decisions as relates to exercise.

The American College of Obstetricians and Gynecologists (ACOG) and the American College of Sports Medicine (ACSM) suggest that the average pregnant woman who does not have any prior or current health conditions should participate in 30 minutes of moderate exercise a day. Benefits of exercising during pregnancy are: decreased depression, improved self-esteem and body image, and controlling excessive weight gain (Downs & Hausenblas, 2003). A lessening of depression could relate to risk of PBT. Adult women diagnosed with PBT (PTSD specifically) often present with co-morbidities of depression (White, Matthey, Boyd, & Barnett, 2006).

There is little research that shows the psychological benefits of exercise on women, and it suggested that more theoretical research should be performed. The study conducted by Downs used the social-cognitive framework that looks at a person's beliefs about how a particular behavior can influence one's way of thinking and motivation (Downs & Hausenblas, 2003). The study concluded that common behavioral beliefs that encourage exercise during pregnancy were improved health, elevated mood, and controlling weight gain. The study concluded that women exercised more before they were pregnant than when they were pregnant and postpartum. Interestingly women exercised during pregnancy to elevate mood and during the postpartum period to control weight (Downs & Hausenblas, 2003). Additional research needs to be conducted to examine if exercise which leads to a lower depression rate could lessen the risk of PBT for some women.

Research that has been done on exercise has provided some important findings. In a large survey (N=10,000) conducted by Zhang and Savitz (1996) over 60% of women had a sedentary lifestyle, which compared to 30% for the average adult population (Down & Hausenblas, 2003). Some women reported stopping exercising during their pregnancy due to a lack of time or stress (Downs & Hausenblas, 2003). Women who exercise during pregnancy have been shown to have an increased sense of wellbeing, more restful sleep patterns, increased physical fitness and also an increased appetite. Cardiovascularly women showed an increase in cardiac output and stroke volume. Metabolically, glucose levels fell with short term exercise (Lumbers, 2002). If a woman is healthy and does not have health complications they should consider exercising during their pregnancy. This plan of action can be encouraged during PNC visits. The physical and psychological benefits of exercise can help maintain a healthy pregnancy and postpartum for the mother and for the infant. Additional research conducted with exercise is needed to examine the relationship between exercise with pregnancy and lessened PBT.

Another essential area of discussion related to health promotion is violence exposure, which needs to be assessed at each PNC visit. One large study surveyed 4,023 non-childbearing adolescents between ages 12-17 to determine if violence was related to PTSD, substance use, and depression in non-childbearing teens. The study found that depression and PTSD were linked and were identified as comorbid conditions with violence. Of the study adolescents, 6.3% met the criteria for the diagnosis of PTSD and 13.9% for major depressive episode (Kilpatrick et al., 2003). Adolescents who enter into labor and delivery with pre-existing PTSD can have an increased risk of PBT (Alcorn, O'Donovan, Patrick, Creedy & Devilly, 2010).

2.1.3. Early Identification and Management of Chronic Conditions

Medical conditions such as diabetes, urinary tract disorders (UTI), thyroid disease and hypertensive disorders that are present during pregnancy can be detrimental if not controlled. The fetus can be affected and display signs of intrauterine growth restriction, macrosomia, anemia, prematurity, and immaturity or be stillborn (Lowdermilk & Perry, 2004). Maternal hypertensive disorders are associated with decreased placental perfusion, placental abruption, acute renal failure, hepatic rupture, preterm birth, fetal intrauterine growth restriction, fetal non-reassurance, and fetal and maternal death (Lowdermilk & Perry, 2004). Diabetes is associated with hydramnios and results often in fetal macrosomia, shoulder dystocia, and cesarean birth (Lowdermilk & Perry, 2004). Hyperthyroidism causes an increased basal metabolic rate, emotional labiality and low birth weight infants (Lowdermilk & Perry, 2004). UTI's in pregnancy can lead to preterm birth and stillbirths (Lowdermilk & Perry, 2004). When these conditions occur and maternal health is jeopardized, fetal/infant health suffers and poor infant outcomes can develop, and hence the risk for PBT can increase. Prevention and early PNC are the best methods for intervention (Lowdermilk & Perry, 2004).

Identifying conditions early in pregnancy is vital to ensure that the mother and the fetus have the proper healthcare provided to reduce risk of complications. It is also important to get adequate control and management of chronic conditions that may exist so they do not worsen throughout the pregnancy and contribute to harm of the mother or fetus (Ben-Joseph, 2014). If needed medical management in labor necessitates a threatening situation and the woman perceives harm to herself or to her baby the possibility of PBT increases (Beck, 2004).

To summarize, the importance of PNC is within the education and monitoring of pregnant women to achieve and maintain a healthy pregnancy and healthy infant outcome. Eating well, exercising, preventing or reducing symptoms of depression and signs of violence, and managing chronic conditions improved physical and mental health can occur, with positive maternal and infant outcomes. With a successful pregnancy, healthy infant, and positive birth experience the risk of PBT can be reduced. Additionally, a reduction of PBT can be accomplished by screening at PNC visits for pre-existing PTSD and obtaining information of any trauma history related to past violence or traumatic births, expectations of pregnancy and birth, and social supports.

2.2 Psychological Birth Trauma

There is endless information on PNC and the benefits that arise from it. There is far less research about the influence of PNC on PBT. PBT is "a stress disorder experienced by the mother as a result of the physical and emotional trauma of giving birth" (*Psychology Dictionary*). One study that explored the prevalence of PBT with birth appraisals presented important prenatal nursing implications (Soet, Brack & Dilorio, 2003). Over 1/3 or 34% of women (N=103) surveyed felt that the childbirth was traumatic. Study findings supported the need to implement screening in PNC appointments for trauma history, labor and birth expectations and available social support as potential risk factors for birth trauma. A second study by Beck (2004) explored the most severe of symptoms originating from birth trauma, that of PTSD. A prevalence of PTSD among adult mothers was noted to be between 1.5% to 6% (Beck, 2004). Beck's study was qualitative and conducted via the internet with 38 women from New Zealand, the United States, Australia, and the United Kingdom. Some symptoms women reported

included anger, depression, anxiety, and isolation. Beck concluded that mothers with PTSD symptoms are an overlooked population and more research needs to be conducted (Beck, 2004).

Reynolds (1997) also discussed the phenomenon of PTSD among women and childbirth. Pain and a sense of loss of control were factors that Reynolds felt attributed to the PTSD. Information presented prenatally about pain options is especially important to adolescents who fear birth. Adolescents have been shown to rate their birth experience by the amount of pain endured (Sauls, 2004). Different approaches that health care professionals should implement include having good communication and achieving pain control during birth. Allowing some decision-making as to pain management by the adolescent can prevent a major loss of control during birth and help reduce PBT (Lyons, 2007). In postpartum there should be discussion of the birth experience and postpartum depression or PBT should be ruled out (Reynolds 1997).

Some women express feelings of psychological distress postpartum. Possible contributing factors to this psychological distress could be from the interventions that took place during the birthing process, interventions that occurred, and the way the woman was treated during the experience (Elmir, Schmied, Lesley, & Jackson, 2010). Specifically, some of these numerous factors that occur in labor and delivery and have been shown to contribute to PBT among adults include (lack of) pain management, caregiver kindness and competency, support from partner and family and manner of birth (vaginal, instrumental or cesarean) (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993). If the adolescent is aware of different birth options and possible cesarean delivery, then their expectations of the actual birth might not be too overwhelming. When the birth

expectations were not met or a different outcome occurred, there could be an increased risk of developing PBT (Ryding, Wijma, & Wijma, 1998). PNC can be used as an educational moment to educate the adolescent about the labor and delivery process and the possible method of birth and infant outcomes to help reduce PBT.

If PBT is present in postpartum the feelings that are associated with it may include helplessness, fear, terror, flashbacks, nightmares, and irritability (Elmir et al., 2010). Elmir's qualitative study identified six themes including: feeling invisible and out of control, not treated humanely and feeling trapped to having reoccurring nightmares of the childbirth experience, having a roller coaster of emotions and having disrupted relationships. Additionally, a strength of purpose stated as a way to succeed as a mother was also identified. The women who did experience PBT identified a significant personal impact. It was recommended that healthcare providers recognize the women's need to be involved in their healthcare decisions and be informed about the labor and delivery process. (Elmir et al, 2010).

It has been suggested that to provide education during PNC can lead to the empowerment of women before birth. If the adolescent mother can feel empowered prenatally, she may have less probability of experiencing PBT. Additional research is needed to determine if this is a contribution of PNC for childbearing women, especially adolescents.

2.3 Correlation between Prenatal Care and Psychological Birth Trauma

There have been few studies conducted with women of any age that are associated with PNC and PBT; however, information is extremely limited among adolescents. One study of 745 prenatal women including adolescents and adults

concluded that women over the age of 25 were two times as likely to develop PTSD compared to the women under the age of 25. The women under the age of 25 were two groups joined together: one group ages 20-25 and another group under the age of 20. Less than 1/3 (30.2%) of the sample was under the age of 20. The individual adolescent ages and the amount of adolescents per each age group were not included in this study (Kim, Harrison, Godecker & Muzyka, 2013). A second study explored PTSD and PNC among pregnant, nulliparous women (N=1,581) and concluded that PTSD rates were higher in the perinatal samples of younger age women with greater social disadvantage (Seng, Kane Low, Sperlich, Ronis & Liberzon, 2011).

Research suggests potential relationships between PNC and PTSD for adults, but most studies do not focus on the adolescent population, or focus solely on the variable of PNC. Limited information on this population and their lack or delay in receiving PNC create a heightened vulnerability to risk factors leading to PBT. This justifies the need to conduct research exploring the correlation between PNC and PBT within the adolescent population.

CHAPTER 3

METHODOLOGY

3.1 Design

This is a quantitative study exploring PBT among adolescents. My study examines the contributing factor of PNC and its effect on PBT, defined in this study as subjective distress/a traumatic stress reaction per the Impact of Event Scale.

3.2 Setting

The adolescents were interviewed at Tarrant County Hospital, John Peter Smith, on the 2 north and south postpartum units and the labor and delivery unit. The interviews took place between July 2006 and October 2014. The setting was not randomly selected; the hospital is an approved hospital for conducting research and this study has IRB approval to conduct research on site.

3.3 Sample

The convenience sample consisted of 256 adolescents ages 13-19 years ranging from 1 day to 3 days post-partum. The sample included four ethnic-racial groups: African American, Caucasian, Hispanic/Latino and Other. Exclusion criteria consisted of ages under 13 and over 19. When the adolescents were approached to participate there was a 95% acceptance rate.

3.4 Measures

The independent variable is PNC and the dependent variable is PBT. The independent variable PNC was measured as a question identifying how many PNC visits

they received before birth in the Descriptive Questionnaire Survey. PNC consisted of four categories: over nine visits, five to nine visits, one to four visits, and no prenatal care visits. Greater than nine was the highest category. Nine was selected because the minimum recommendation of prenatal care visits to obtain is nine visits according to the women's health fact sheet (Schmitt, 2012).

PNC is recommend once a month from the fourth week of pregnancy to the twenty eighth week of pregnancy. Twice a month from 28 weeks to 36 weeks and once a week after 36 weeks. If a woman goes to full term she will be anywhere from 38 weeks to 42 weeks. If the mother started receiving PNC from the beginning at four weeks and reached full term this could be up to 18 PNC visits (Schmitt, 2012).

The Impact of Event Scale (IES) was used to measure the dependent variable PBT. The IES is used as a self-reporting tool that can be used to measure subjective distress/traumatic stress reaction for any specific life event. The IES has shown validity through use in the childbirth population as a screening tool. The reliability of the IES has been established at .86 per Cronbach alpha (Horowitz, Wilner & William, 1979).

The IES provides a series of comments that reaction to a stressful life event and has been used to assess the trauma of childbirth (Ayers & Pickering, 2002). The adolescents were asked to measure how frequently each comment was true for them in terms of only the actual birthing process and not to think of previous traumatic events that occurred before. The IES scores include a subclinical trauma score of 0-8, mild trauma score of 9-25, moderate trauma score of 26-43, severe trauma score of greater than 44.

3.5 Data Collection

The adolescents were interviewed and surveyed by the Principle Investigator (PI) and research assistants (RA).The RA's are interviewing and collecting data for the ongoing study that is being conducted by Dr. Cheryl Anderson at the University of Texas at Arlington. The adolescents were asked several questions concerning their pregnancy and labor and delivery process. They were also informed that the interview information would be kept confidential. Resources were also given to the adolescents at the end of the interviews.

The interviews took place between July 2006 and October 2014. The interviews were held in the adolescent's hospital room and took approximately 45 minutes to complete. The adolescents were informed on what the study was about and steps they needed to take to participate, and consent forms were obtained. Each question was asked and the adolescent was provided with adequate time that she needed to respond. The interviews were done in private, especially for questions related to violence, but the mother of the adolescent or the partner would stay in the room for the majority of the questions. The questions that were asked are attached in the appendix section. Adolescents over 17 consented for themselves; however, adolescents under 18 assented and consented with parent or guardian.

CHAPTER 4

RESULTS

4.1 Data Analysis

Statistical analysis was conducted by using the Descriptive Questionnaire Survey, as developed by this researcher. The sample was described by the descriptive statistics including percentages and frequencies. The level of significance or alpha was set at the standard value of .05. We collapsed the dependent variable of PBT scores to a nominal level of measurement because the parameters for linear regression were not met and used logistic regression to determine the contribution of PNC to PBT.

4.2 Descriptive Statistics

Demographic variables included for the descriptive analysis included, age, gravidity, parity, ethnicity/race, marital status, and number of PNC visits. There were three thirteen year olds, four fourteen year olds, 14 fifteen year olds, 16 sixteen year olds, 19 seventeen year olds, 85 eighteen year olds and 107 nineteen year olds. The mean age was 17.9 years (N=248).

Gravidity and parity ranged between one and four. The distribution of Gravida was 175 gravida of one, 55 gravida of two, 14 gravida of three, and three gravida four (N=247). The distribution of Parity was 183 parity of one, 53 parity of two, six parity of three and three parity of four (N=245).

The ethnic-racial distribution of the total sample was 60 African Americans, 30 Caucasians, 152 Hispanic/Latinos and 3 others (N=245). Marital status included 41 married, 204 single and 1 divorced or other (N=246). The distribution of PNC visits revealed that almost 50% of adolescents that did not receive the standard of 9 PNC visits. See Table 1.1.

Table 1.1 Descriptive Statistics for Adolescents

Demographic Variable	M/SD/MD	Number	Percent
	M/SD= 17.9/1.35		
Age	Mdn=18	(N=248)	
13		3	1.2
14		4	1.6
15		14	5.6
16		16	6.5
17		19	7.7
18		85	34.3
19		107	43.1
Gravidity		(N=247)	
1		175	70.9
2		55	22.3
3		14	5.7
4		2	1.2
Parity		(N=245)	
1		183	74.7
2		53	21.6
3		6	2.4
4		3	1.2

Ethnicity-Race	(N=245)	
Hispanic/Latina	152	62
African American	60	24.5
Caucasian	30	12.2
Other	3	1.2
Marital Status	(N=246)	
Married	41	16.7
Single	204	82.9
Other	1	0.4
PNC Visits	(N=244)	
>9	138	53.9
5-9	66	25.8
1-4	36	14.1
0	4	1.6

4.3 Findings

Of the (N=236) adolescents that were interviewed 88 or 37.2% were concluded to have moderate to severe symptoms of PBT. Over a quarter, or 66 (27.9%) adolescents had subclinical or no symptoms of PBT, 81 (34.4%) adolescents had mild symptoms, 72 (30.5%) adolescents had moderate symptoms, 17 (7.2%) adolescents had severe symptoms of PBT.

Of the mothers that had PBT 32 out of 60 (53.3%) were African American, 15 out of 30 (50%) were Caucasian, 39 out of 141 (27.7%) were Hispanic/Latino and two out of two (100%) were other. Logistic regression showed that PNC was not a significant contributor to PBT (p=.27). The confidence intervals ranged between .863 to 1.689, therefore we failed to reject the null hypothesis. See Table 1.2

Table 1.2 Variables in the Equation

	Sig.	Exp(B)	95% C.I. Lower	95% C.I. Upper
Step 1[a] var8	.272	1.207	.83	1.689
Constant	.022	.481		

CHAPTER 5

DISCUSSION

The results of this study show an early examination of the effects of prenatal care on PBT. Numerous factors noted to be part of the focus of prenatal care and education include information related to nutrition and exercise, information on pregnancy and the birth process, poor lifestyle choices, and chronic medical diseases. Each of these factors singularly or jointly could potentially disrupt a healthy pregnancy, lead to a poor infant outcome, and directly or indirectly contribute to PBT. While PNC was not found to contribute to PBT among this sample of adolescents, over 1/3 of the sample reported moderate to severe symptoms of PBT (via the IES). Over 1/2 of the adolescents reporting symptoms were African American (AA).

In this study African American adolescents appeared to be the most vulnerable population. African American adolescents have been found to have a higher rate of sexually risky behavior, unplanned pregnancies, and more sexual abuse in their lives (Seng et al, 2011). It is unclear how ethnic racial distribution contributes to PBT. AA adolescents in this study may have had symptoms of PTSD prior to pregnancy or birth which reflects the higher IES scores for PBT. A past history of PTSD or traumatic births was unknown to the researchers.

Our study consisted of more Hispanic adolescents; however, they showed the least frequency of PBT. It should be investigated more as to why the Hispanic population had

a much lower prevalence of PBT. This could be because they have a different perspective on childbirth from other ethnicities and races. For many Hispanics an extended family may offer an abundance of familial support and aid in providing the information related to labor and birth. Childbearing has been considered a normative event in the Hispanic culture. (Dehlendorf, Marchi, Vittinghoff & Braveman, 2009).

Fewer adolescents in the study were Caucasian; however, 50% displayed moderate to severe symptoms of PBT. Perhaps this is because there was less familial support during the pregnancy for these adolescents. This is a population that needs further investigation with a larger sample size to see why there was such high percentage that displayed symptoms of PBT.

Additionally, our sample showed a higher rate of older adolescents than younger adolescents. This could be because the older adolescents are more sexually active, more often in a relationship and desiring a pregnancy, or because it was easier to obtain consent from the older adolescents.

Results for gravida and parity were disparate in numbers suggesting one to believe that several of the adolescents had experienced spontaneous or therapeutic abortions. CDC data notes ethnic distinctions for therapeutic and spontaneous abortions (CDC, 2013). Additionally the sample results showed that there were adolescents with repeat pregnancies. The literature has shown that a subsequent pregnancy will occur in 10.6 -50% of adolescents within 12-24 months following a previous pregnancy (Pfitzner, Hoff, & McElligott, 2003).

Most adolescents in the study were single, which is not an unexpected finding, as many adolescent pregnancies occur in unmarried couples and are unplanned (Maynard,

1996). Married adolescents could have a higher rate of social support and possibly have a lower rate of PBT and suggested further research needs to examine this. I would hypothesize that there would be a lower rate of PBT among those married because they would have a higher rate of social support and desire a pregnancy. Several of our adolescents may have lived within a cohabitation relationship and reported a common law marriage, which is somewhat common among Hispanics, our most prevalent ethnic group.

An important finding was that only a small number over 50% of the adolescents reported receiving the minimal number of PNC visits. This is not an unexpected finding because many adolescents hide their pregnancies and delay PNC. Additionally, this result may reflect the cultural majority of our sample which were Hispanics. It is suggested that nurses should increase further education to adolescent women to obtain more PNC earlier and more consistently in the pregnancy so the adolescent receives greater than nine PNC appointments. This sharing of information could begin in the school.

PNC did not show a significant contribution to PBT. However, this is not totally an unexpected finding, because there are several contributing factors within the variable of PNC that could in combination result in PBT directly or indirectly and need researched. Yet, this information is important to study because this variable has limited examination. It is recommended that more research be conducted looking at all the contributing factors, how they relate to one another, and how they correlate to PBT.

5.1 Limitations

It was difficult obtaining information from the adolescents at times. This was due to state laws that require that consent must be obtained from an adult as well as subject if

under 18 years of age. At other times a subject was willing to participate but did not speak English or Spanish and there was not a RA available to translate. The IES may not have been the correct tool to measure PBT. This is because the IES is considered a screening tool and not necessarily a diagnostic tool. With the mandated use of the DSM 5 in practice coming in 2015, diagnostic tools available may change and offer better measurement for this variable. The measure for PNC was based on only the number of visits and other operational definitions may have been a better measurement of PNC.

5.2 Future Research

In future research it would be interesting to look at the adolescent population divided into 13-16 years and 17-19 to see if there is a greater prevalence of PBT in the older adolescents or in the younger adolescents. It would interesting to conduct further research to look at the correlation of the married adolescents and the prevalence of PBT compared to non-married adolescents.

More research and focus should be implemented in the AA population as they were the ethnic group that displayed the highest symptoms of PBT. The sample was ethnically skewed but not by AA, but with a higher rate of Hispanics. Also there should be a continuation of this study to obtain more information of the Caucasian population with larger samples to determine their PBT rates as compared to other ethnic groups. Ethnic racial distinctions related to PBT in general are unclear and should be further investigated in future research. The lack by almost 50% of adolescents to not have received PNC is a research and practice issue.

CHAPTER 6

CONCLUSION

Dissemination of this information can help nurses recognize what PBT is and how PNC information and monitoring can potentially increase maternal and fetal health outcomes, which may help reduce PBT. Along with comprehensive assessments of violence and depression and implemented interventions prior to birth, PNC offers much for all childbearing women. Recommended future research suggests examining a combination of factors tied to PNC that contribute to PBT.

6.1 Clinical Recommendations

Encouraging adolescents to receive numerous PNC visits for information on nutrition, exercise, labor and birth, and health promotion can help decrease the risk for PBT. Self-care techniques that lead to healthy lifestyles and healthy women and infants include; getting plenty of sleep, going to be early and letting friends know when it is and is not a god idea to visit, relaxation techniques, do something for yourself, planning a day out of the house, talking to someone close to your partner or someone close to you about how you feel, and using community resources (Lowdermilk & Perry, 2004).

Additional qualitative research could show what adolescents get from PNC. We can better customize the care of our adolescents in labor and delivery and work toward better ways to encourage them to get PNC before labor and delivery. We can do this by coming into the schools and educating adolescents on pregnancy and birth control, PNC and what PBT is, and how to maintain healthy lifestyle behaviors so they can lower the

risk of becoming pregnant in adolescence and experiencing either physical or mental consequences.

APPENDIX A

IMPACT OF EVENT SCALE

Impact of Event Scale

	Not at all	Rarely	Sometimes	Often
I thought about it when I didn't mean to				
I avoided letting myself get upset when I thought about it or was reminded of it				
I tried to remove it from my memory				
I has trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind				
I had waves of strong feelings about it				
I had dreams about it				
I stayed away from reminders of it				
I felt as if it hadn't happened or wasn't real				
I tried not to talk about it				
Pictures about it popped into my mind				
Other things kept making me think about it				
I was aware that I still had a lot of feelings about it, but I didn't deal with them				
I tried not to think about it				
Any reminder brought back feelings about it				
My feelings about it were kind of numb				

APPENDEX B

QUESTIONNAIRE AND SURVEY

QUESTIONAIRE AND SURVEY

INITIAL visit with teens (hospital or clinic)

(General guideline for information from teen either prenatal or postpartum use)
Contact #_____ (matched to data sheet)
Teen (name)_____ Date_____
Parent (name) _____

Primary language spoken in home_____ Are you bilingual? Yes No
(Ask teen/mother which language for consent: Spanish or English)
Place of Birth _____ Years in the USA _____

Consent signed by both [arties if under 18 years of age Yes No
Duplicate to parent.guardian Yes No
Return to Dr. Anderson with signatures within a week

Number of hours/days postpartum_____ If prenatal: EDC _____

List of phone numbers with name of contact person and an address to reach teen for follow-up interviews (supply ***three numbers)***
_____
_____
_____
Where can we TEXT you for reminders of follow-up?_____

I. Childbirth information: Ask teen following questions (mother may be there)

Mode of delivery: vaginal Cesarean (why?) _____

How long was labor prior to delivery? _____

Number of prenatal visits? _____

Were childbirth classes taken? Yes No

What is the gestational age of infant at delivery? _____ Infant weight _____

Method of pain management during labor and delivery _____

Planned pregnancy Yes No

Complications—with pregnancy? Yes No-- with birth? Yes No--- with newborn Yes No

Who attended labor and delivery with you? Mother? _____ Father of Baby?_____ Other_____
Did you feel supported by family/friends? Yes No

Did you feel supported by the caregiver in labor and delivery? Yes No
Was the caregiver **unkind?** Yes No

Did you feel the pain was adequately managed? Yes No

Did you feel you had some input into any decisions regarding your care in L&D? Yes No

Were you afraid you would lose control during L&D? Yes No
Did you feel you might die in labor? Yes No

On a scale of 1-10 how would you rank the trauma of your labor and delivery experience?
1 2 3 4 5 6 7 8 9 10 (10= extremely traumatic)

Ask teen to describe her childbirth experience. (Tell me more…..to get additional data)
(Please write on back page as needed) Was it as you expected? **Why or why not??**

On a scale of 0-5 how would you rank your feelings of fear or panic during L&D?
0 1 2 3 4 5 (5=lots of fear)

On a scale of 0-5 how would you rank your feelings of anxiety during L&D?
0 1 2 3 4 5 (5=lots of anxiety)

On a scale of 0-5 how would you rank your feelings of anxiety during you pregnancy?
0 1 2 3 4 5 (5= lots of anxiety)

Demographics:
Age_____
Ethnic-racial background _____
Married Yes No
Gravida_____ Para_____
Education (grade)_____ (indicate if graduated or dropped out of school if applicable)

II. Abuse:

Do Not ask these questions with others present. Make sure to let teen know possibility of reporting to staff nurse for resources etc……as needed.

Have you ever been harmed emotionally, physically or sexually by any member of the family, friend or partner?
Yes No Who?_____ (optional)

Has there been any past traumatic experience in your life (Non-family related e.g. witness to fire, shooting, natural disaster…?)
Yes No Describe
event_____
Reaction to this trauma: (0-5) Not painful 0 1 2 3 4 5 Very painful

Is there any current OR past use of substances? Yes No

Depression:

1. Before your pregnancy how did you feel? (self-rating 1-5):

Usually happy sometimes happy sometimes sad usually sad always sad

How would you rate your happiness the past two weeks prior to delivery? (self-rating 1-5):

Usually happy sometimes happy sometimes sad usually sad always sad

2. During the past two weeks have you had little interest or pleasure in doing things?

   Yes No

3. How would you rate you happiness today? (self-rating 1-5)

   Usually happy sometimes happy sometimes sad usually sad always sad

III. FOR RESEARCHER

Administer and indicate score of measurement tools:

EPDS score:_____ CES-D score:_____ IES score: _____ CTI score:_____ ARSMA score:_____

IV. Provide resource packet (abuse/depression) as needed

***If scores>10 EPDS or >19 IES resources needed or verbal contact information

IV. Any additional comments by teen or family include here.

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BIOGRAPHICAL INFORMATION

Brittani Rahn de Vu is a member of Sigma Theta Tau, the International Society of Nursing. She has also earned several honors including Tau Sigma, Latin Honors/Cum Laude, Phi Theta Kappa, and has been on the Dean's List several semesters. Brittani has won the Nursing Clinical Excellence Award 3 times and has also won several scholarships. She is very involved with the University of Texas at Arlington (UTA) campus and student events. She is currently an active member of the Arlington Nursing Students' Association and has served as a Peer Mentor for Junior 2 and Senior 1 semester courses.

Prior to her college career she served as a member of AmeriCorps National Civilian Community Corps (NCCC) and was a member of the American Red Cross Disaster Response Team. During her service in AmeriCorps NCCC she earned the Presidential Congressional Award for completing over 1800 hours of volunteer community service.

Brittani is extremely driven and motivated to accomplish her goals, however she has not always been successful in her past. She has had many hardships and challenges to overcome in her life. Her husband, Giang Vu, was the one who inspired her to believe in herself and take on the challenge of nursing school. Kylee and June, her daughters, kept her motivated to finish nursing school and honors college with their positive and innocent outlook on life. Brittani's perspective on life is: It does not matter where you come from or where you have been, but what truly matters is what you do with your life now and with your future.