

Childbirth related fears and psychological birth trauma in younger and older age adolescents

Childbirth is a common event for the majority of women and once the cascade of labor begins, it cannot be avoided. If childbirth is a natural biological process, is the fear of childbirth a possibility? Anticipating or experiencing an unavoidable, potentially frightening situation can generate increased stress for many women. Specific events in childbirth may increase postpartum fear levels (Fenwick, Gamble, Nathan, Bayes, & Hauck, 2009). Women who experience fear or emotional distress in childbirth may experience psychological birth trauma (PBT). Noted symptoms in postpartum may suggest an acute stress reaction (ASR), traumatic stress response (TSR), (Ayers, 2004) or posttraumatic stress disorder (PTSD) (Melender, 2002; Nilsson, Bondas, & Lundgren, 2010; Sercekus, & Okumus, 2009; Tsui, et al., 2006). The woman's appraisal of the birth experience may also illustrate a fear of childbirth (Waldenstrom, Hildingsson, & Ryding, 2006) and suggest trauma. The fear of childbirth has garnered international attention; however, published studies primarily describe the experiences of adult women residing outside the United States (US), such as Finland, Sweden, Australia, and the United Kingdom. Research exploring the fear of childbirth and PBT among US women, especially adolescents, has largely been overlooked.

Adolescent pregnancies account for approximately 4 to 7% of US births (Center for Disease Control and Prevention (CDC), 2010; Guttmacher Institute, 2010). Adolescents present with different maturity and developmental levels than adults and are likely to perceive or experience childbirth differently than adults. Furthermore, differences related to the childbirth experience emerge between younger and older adolescents (Sauls, 2010). Childbirth fears and PBT among childbearing adolescents are of particular interest. The purpose of this study was to explore the fear of childbirth and PBT following birth among younger (13-16 years) and older (17-19 years) adolescents at one to three days postpartum. A distinction by age in overall childbirth fear and report of selected childbirth fears including fear of dying, limited overall labor support, fear of loss of control, poor pain management, absence of father of the baby at childbirth, and parity (lack of childbirth experience) was explored. Additionally effects of childbirth fears by age upon PBT (measured through birth appraisal and trauma impact) were examined.

Background

Physiology of Fear

On a neuro-chemical level fear is a learned response during which there is activation of glutamate N-methyl-D aspartate (NMDA) receptors. Blocking these receptors can interfere with the ability to end the fear (Jovanovic & Ressler, 2010). The ability to inhibit fear is an important mechanism of the brain. Theories about brain

functions and the ability to inhibit fear include the modulation of the inhibitory neurotransmitter γ -aminobutyric acid (GABA), and the plasticity of the amygdala (Jovanovic & Ressler, 2010). People who are more susceptible to fear will interpret a threat as more intense or magnified than those who are less fear prone (Perkins, Cooper, Abdelall, Smillie & Corr, 2010). A decreased ability to inhibit fear has been shown to characterize patients with PTSD (Jovanovic & Ressler, 2010).

Altered fear responses are factors present prior to the development of PTSD (Pole et al., 2009). Pole et al. found that police cadets who later developed PTSD symptoms were more likely to have the altered fear responses of hypersensitivity to threat, elevated sympathetic nervous system reactivity to threat, and failure to adapt to repeated threatening stimulus. For periods of up to 24 months post active firefighting, firefighter recruits in training were more prone to develop PTSD when they showed a decreased ability to unlearn fear responses (Guthrie, & Bryant, 2006).

Childbirth Fear

Considering the event of childbirth as fear provoking and capable of producing mild to severe consequences such as PTSD has had limited research attention. Yet, particular events at birth that are remembered as emotionally distressing have been associated with the re-experiencing of distressing events and later reports of PTSD symptoms (Harris & Ayers, 2012). These intrapartum “hotspots,” associated with fear and resulting PTSD, were defined as interpersonal events, or mostly concerns of support; events concerning the baby; and obstetric events including pain (Harris & Ayers, 2012). Separate research by Campos, Schetter, Walsh, and Schenker (2007) noted that emotionally distressing events differed between Mexican and Anglo orientation adults. Both Harris and Ayers (2012) and Campos et al. (2007) studies were primarily among adult childbearing women above the age of 19. How “hotspots” associate with fear among ethnically diverse, childbearing adolescents is unknown.

The potential trauma following birth, or PBT, encompasses a range of childbirth consequences. PTSD resulting from a traumatic birth experience is not the norm (Alcorn, O’Donovan, Patrick, Creedy, & Devilly, 2010). Despite great research attention, PTSD will only be experienced by the minority of childbearing women with a prevalence reaching up to 9% (Beck, Gable, Sakala, & Declercq, 2011). More commonly a woman’s initial reactions to childbirth may suggest an acute stress reaction. Symptoms such as appearing dazed, overactive or agitated, withdrawn, anxious, disoriented, or depressed may occur within minutes of birth and dissipate within hours to days (Church & Scanlan, 2002). One in three women may appraise their birth experience as traumatic (Ayers, 2004). A

traumatic appraisal of childbirth by the woman may lead to acute symptoms of re-experiencing, avoidance, arousal, or dissociation within one month of the traumatic event. These symptoms, indicative of an acute stress disorder, can be a potential precursor to PTSD (Ayers, 2004). PTSD may be the diagnosis when symptoms of re-experiencing, avoidance, and arousal persist over one month with significant impairment to one's life. Women experiencing a traumatic stress response may show similar symptoms to actual PTSD but recover during the first three months of the event (Ayers, 2004). Symptoms of traumatic stress including disassociation, disconnection, apathy, anxiety, anger, and grief have been shown to be the result of fear related to a previously frightening childbirth experience (Nilsson, Bondas, & Lundgren, 2010).

Prevalence of Childbirth Fear

Reports documenting a fear of childbirth vary across countries. Between 20% and 74% of women residing in Scandinavian countries and Australia were found to experience a mild to moderate childbirth fear. Approximately 6% to 26% of these women experienced a disabling, or severe, fear of pending labor and birth (Fenwick et al., 2009; Hofberg & Ward, 2003; Melender, 2002; Waldenstrom et al., 2006). The lower prevalence for women of Scandinavian countries was believed to be due to infrequent obstetrical interventions and a universal health care system (Fenwick, et al., 2009).

Reports of women from other countries also show a wide prevalence. All pregnant Chinese women (N=300) interviewed reported some degree of fear (Tsui et al., 2006). Among 650 women residing in British Columbia 54% reported a moderate level of fear with 21% and 25% of women reporting low and high fear levels respectively (Hall et al., 2009). In Western countries approximately one in five pregnant women has been shown to experience considerable fear of childbirth (Salomonsson, Bertero, & Alehagen, 2013). Inconsistencies in prevalence is most likely due to inconsistent use of data collection instruments and a lack of definition for the commonly used categories of fear such as mild, moderate, and severe. Despite inconsistency in the global definition of childbirth fear and cultural, societal, environmental, and medical conditions that differ across countries, reported prevalence shows a concept of interest around the world; and one perhaps, minimized as a research focus in the US.

Risk Factors

Several studies have identified risk factors for the development of fear related to childbirth including lower self-rated health, no social network, unskilled job, vocational education, current smoking, young age, unemployment, depression, anxiety (Laursen, Hedegaard & Johansen, 2008), decreased sleep, fatigue, (Hall, Hauck,

Carty, Hutton, Fenwick, & Stoll, 2009), and nulliparity (Fenwick et al. 2009; Rouhe, Salmela-Aro, Halmesmaki, & Saisto, 2008). Specific study on normal stress responses has indicated that novel situations often lead to greater stress responses (Ayers, 2004), such as with a first pregnancy and birth. Other triggers potentially leading to childbirth related fear may include negative mood, negative stories and television shows, alarming information heard, child-related problems, and previous negative birth experiences (Melender, 2002; Munro, Kornelsen, & Hutton, 2009).

Childbirth fears during pregnancy may intensify in labor when triggered by traumatic intrapartal events. Among Australian women intrapartal events generating increased fear related to concerns over the health of the fetus during childbirth and obstetrical interventions such as caesarean birth, use of forceps, and vacuum assisted birth (Fenwick et al., 2009). Fears reported in one US sample of birthing women related to the distrust of the obstetrical staff, unfriendly staff, being left alone in labor, and having no decision making in labor (Soet, Brack, & Dilorio, 2003). Nulliparous Turkish women reported intrapartal fears such as fear of pain, fear of complications, fear of procedures, fear of panic or losing control, fear of health caregivers, and fear of the maternity ward environment (Sercekus, & Okumus, 2009). Chinese women in labor reported fear of pain, fear of prolonged birth, fear of vaginal tearing, and fear of wellbeing for child and self (Tsui et al., 2006).

Fear due to a past childbirth experience may be an important risk factor to the childbearing decisions of both present and subsequent pregnancies. Childbirth fear during pregnancy has been found to influence one's desire for an elective cesarean birth, desire for future children, and request for increased analgesia in labor, as well as postnatal depression and impaired maternal-infant attachment ((Bryanton, Gagnon, Johnston, & Hatem, 2008; Fenwick et al., 2009; Laursen, Johansen, & Hedegaard, 2009; Pang, Leung, Lau, & Chung, 2008; Waldenstrom et al., 2006). Maintaining a fear of childbirth is a risk factor for a woman's negative birth experience (appraisal) and potentially PTSD following birth (Salomonsson et al., 2013).

The Adolescent Experience

Childbirth fear for the adolescent and resulting PBT is unclear and under researched. Age and development affects the adolescent's self-control, perspective-taking, self-esteem, lifetime adversities, and the effect of exposure to adverse events. Over time if development proceeds as expected, children become less helpless and increasingly skilled in problem solving, self-regulation, goal attainment, and self-awareness (Nader, 2011). Such developmental growth assumes a better ability to manage an unexpected, potentially adverse, event such as childbirth. However,

adolescents develop differently. Maternal age and education have been recognized as influences on the woman's childbirth appraisal for nearly two decades. The classic findings of Mercer (1986) and Nichols (1992) reported differences between adolescents and adults related to birth appraisals and expectations of birth. A seminal, small, quasi experimental study (N=26) conducted by Nichols found laboring adolescents focused on survival. Recent research supports a concern for survival, along with pain management, respect/praise/lack of judgment via caregivers in labor, and emotional support as significant to the adolescent's childbirth experience (Low, Martin, Sampsel, Guthrie, & Oakley, 2003; Sauls, 2004). Among 85 Latina adolescents, marital status, fear of dying, fear of loss of control, and history of partner violence was found to be associated with the verbal appraisal of birth (Anderson & Logan, 2010).

Additionally childbearing adolescents have been shown to differ from non-pregnant adolescents with increased reports of abuse and depression (Hodgkinson, Colantuoni, Roberts, Berg-Cross, & Belcher, 2009). Younger age, abuse and depression have been recognized to associate with PTSD among adult childbearing women (Seng, Low, Sperlich, Ronis, & Liberzon, 2009). Symptoms of PTSD postpartum can occur without a prior history of trauma or depression during pregnancy (Alcorn et al., 2010); however, the prevalence of abuse and depression among adolescents may heighten their vulnerability to PBT, especially PTSD.

Differing developmental aspects and coping abilities among adolescents may also contribute to PBT. Developmentally younger and older adolescents have been found to perceive pregnancy and childbirth differently. Sauls (2004; 2010) used Mercer's (1979) psychosocial developmental stages to explore differences among early adolescents (12-14), middle age adolescents (15-16), and older adolescents (17-adulthood). Findings revealed that older adolescents' priorities centered more on pain control and emotional support while middle age adolescents' concerns included approval, respect, and nurse competency. Early adolescents were not represented in the sample. Identification of previous trauma and depression among younger and older age childbearing adolescents is an essential nursing assessment and important focus of PBT research.

Recognizing the childbearing adolescent's potential for PBT encourages nurses to perform detailed assessments, plan for comprehensive education, and develop and implement fear reduction interventions related to pregnancy, childbirth, and postpartum. Continued research focused on supportive behaviors most helpful to the adolescent perinatally can better assure a positive birth experience and a reduction in symptoms suggesting PBT including the more severe symptoms of PTSD. "Hotspots" described by Harris and Ayers (2012) may be influenced

by culture. Future research may focus specifically upon Hispanic adolescents between the ages of 15 to 19 years old, who currently demonstrate an expected pregnancy increase between 2012 and 2015 (Sayegh, Castrucci, Lewis, & Hobbs-Lopez, 2010).

In summary, research has shown that a fear of childbirth exists in varying degrees for pregnant, laboring, and postpartum women. Numerous fears associated with a fear of childbirth have been identified as risk factors influencing PBT, including PTSD, such as poor pain management, fear of dying, fear of loss of control, parity, and limited overall labor support. However, a focus on childbearing adolescents has been overlooked. For this study adolescents between the ages of 13 and 19 were studied for birth trauma. The concept PBT referred only to the adolescent's birth appraisal (rating of the birth experience) and traumatic stress, which was determined via a screen of symptoms indicating "subjective distress/trauma impact" through the use of the Impact of Event Scale (IES).

The following research questions were identified for the study:

- 1) How do overall fear and selected childbirth fears differ by age group of adolescents?
- 2) Do the outcomes of birth appraisal and IES scores differ by fear levels after controlling for adolescent age?

Methods

Design

This IRB approved cross-sectional study provided information on childbirth fear and PBT. This study is part of a larger comparative study assessing PBT over nine months among an ethnically diverse adolescent sample.

Sample and Setting

The study sample consisted of 201 conveniently selected adolescents. Inclusion criteria for the study were: ability to read and speak English or Spanish, postpartum status within 72 hours, and age between 13 and 19. Due to the limited information in this research area fetal demise was the only identified exclusion criterion. The research setting was a large, county hospital with a yearly admission rate of over 20,000 patients and over 6,000 births annually. Over 10% of births are to adolescents. Approximately 75% of the childbearing adolescents are ages 17 to 19 and Hispanic.

Measures

Data on fear variables included a retrospective, subjective rating of overall childbirth fear measured between 0 ("none") to 5 ("very much") and six individual childbirth items. Childbirth items identified in the literature as associated with the childbirth experience and assumed by the researchers to be potentially fear provoking for the

childbearing adolescent included: fear of dying, limited overall labor support, fear of loss of control, poor pain management, parity (lack of childbirth experience), and father of baby absence at childbirth. Individual questions provided demographic information. PBT was measured via the adolescent's birth appraisal and IES scores. Birth appraisal was determined via a ten point rating scale anchored between 1 (*“great”/non-traumatic*) to 10 (*“awful”/traumatic*). One's appraisal of the childbirth experience has been suggested to be associated with the development of symptoms of traumatic stress and PTSD (Beck, 2004) and therefore, was included with the IES.

The IES (Horowitz, Wilner, & Alvarez., 1979) measures general subjective distress/trauma impact by relating specific actions or feelings such as “had dreams about it,” “tried not to talk about it,” or “tried not to think about it” to a traumatic event. The IES has been applied to the childbirth event and used in obstetric samples to identify traumatic births with good reliability (Anderson, 2011; Ayers, 2004). Adolescents in this study were asked to state the frequency of actions or feelings they experienced since birth from “not at all” to “often.” Reliability of the IES in this study was established to be 0.87. The 15 items of the IES are scored from 0-5 and added together; higher scores reflect more traumatic stress. Horowitz et al. (1979) suggested scores to reflect the following range of trauma symptoms: 0-8 subclinical range; 9 to 25 mild range; 26 to 43 moderate range, and 44 and above severe range. A weak but significant correlation ($p=.008$) between the birth appraisal rating tool and IES scores provided convergent validity for the current study.

Procedures

Upon request, hospital staff, aware of the study parameters, aided researchers in identifying potential subjects matching inclusion-exclusion criteria. The study was explained thoroughly for potential subjects in the preferred language prior to consenting. Consents for minors under the age of 18 included adolescent assent/consent and parental/guardian consent. Older adolescents self-assented and consented. Following explanation and consent (Spanish or English), survey information was obtained by either the principle investigator (PI) or graduate research assistant over approximately a 45 minute period. Community and hospital resources and referrals were provided as needed or at a subject's request.

Data Analysis

Data were analyzed using the Statistical Package for Social Science (SPSS, version, 21: Somers, NY). Descriptive statistics described the adolescents and prevalence of fears. Scale comparisons and differences in fear variables by age were displayed using means, standard deviations, and percentages. T tests were used to compare the

two age groups for differences in IES scores, birth appraisal rating, and overall fear rating. ANCOVAs were computed with Impact of Event Scale and Birth Appraisal as the dependent variables, overall fear and selected childbirth fears as independent variables, and age as the covariate. The level of significance was set at 0.05.

Results

A total of 201 postpartum adolescents were enrolled in the study with a maximum of 10% missing data. Adolescents were between 18-19 years of age (77.7%) and predominately Hispanic (59.5%). Over 75% gave birth vaginally to infants above 36 weeks gestation (87.2%). Adolescents reported between one and four children. Most were unmarried (81.7%) primiparas (75.6%) Table 1 displays sample characteristics for total sample and age group.

Childbirth Fears by Age

We found that regardless of age the majority of adolescents reported some level of fear. The overall fear rating was fairly equal across all categories of fear from “none” to “very much.” While younger age adolescents more likely (45.1%) rated overall fear in the higher category of four to five than older adolescents (35.4%), this difference was not found to be significant. Surprisingly younger age adolescents reported less fear of loss of control and fear of dying than older adolescents; however, these findings were also not significant. Additional childbirth fears failed to significantly differentiate adolescents age groups except for parity, $F=8.325(1), p=.004$. As expected older adolescents reported more children ($p=.000$).

Absence of the father of the baby during labor was not a significant ($p=.068$) differentiator between younger and older age adolescents. For both younger and older adolescents the father of the baby was frequently reported as missing: nearly 50% of the younger adolescents and 30.1% of the older adolescents. Additional exploration noted some interesting findings related to the source of support. All 13 to 16 year old adolescents reported their mothers present in labor. The majority of older adolescents reported a mother, or other support person, but 10% labored alone. Yet, nearly all adolescents (88.8%) felt supported overall in labor. While, younger adolescents overall perceived less labor support, this finding was also not significant. See Table 2. for differences among childbirth fears by total sample and age group.

Psychological Birth Trauma

PBT was measured via birth appraisal (rating scale) and scores on the IES indicative of subjective distress/trauma impact. A small majority (41.8%) of responding adolescents ($N=189$) rated their birth experience between one and three, or “great”. Yet, over one-third of all adolescents rated the birth experience between seven

and ten, or “awful.” A median score of five characterized 25.4% of the adolescents. Interestingly a higher percentage of younger adolescents (50%) than older adolescents (39.8%) rated the experience as “great.” The difference in birth appraisal was not significant.

A total of 181 adolescents fully completed the IES scale with 29.3% responding in the subclinical range of traumatic stress. Mild and moderate levels of traumatic stress each characterized 32% of the adolescents. A small group of adolescents (6.7%) indicated a severe level of traumatic stress. A total mean score equaled 19.67 suggesting mild traumatic stress for adolescents overall. A slightly larger percentage of subclinical distress for younger adolescents and a larger percentage of severe distress for the older adolescents were noted; however, these were not significant distinctions. Approximately an equal number of younger and older adolescents scored in the subclinical, mild, moderate, and severe ranges. Of interest, higher mean scores (indicative of more fear or trauma) on overall fear rating, birth appraisal rating, and IES scores characterized older adolescents more so than younger adolescents. However, differences were not significant. See Table 3 for means, medians, and standard deviations for all scales by total sample and age group. The p values indicate non-significant differences by age between the means for all scales.

Effect of Fears by age on Birth appraisal and IES Scores

We found the effects of overall fear, parity, and absence of the father of the baby in labor to significantly vary by age in regard to influence on birth appraisal. Additional childbirth variables were not significant. The variables of overall fear, parity, and absence of the father of the baby in labor indicated over 18% of the variance. Pain, while not significant ($p=.055$), provided an additional two percent of the variance. The overall fear variable provided the majority of the variance at 10.3%.

For IES scores, only the effects of parity varied by age which explained 4% of the variance. Non-significant variables added little to the model. Table 4 displays p values, confidence intervals, and effect size for all variables. Our additional examination for differences in birth appraisal and IES scores by parity revealed that birth appraisal was significantly impacted by lower parity of one ($p=.032$) or two children ($p=.029$). Yet, IES scores were significantly impacted only by higher parity (four children) ($p=.034$).

Discussion

Fear and PBT characterized younger and older adolescents alike with birth appraisals similar and the majority of fear variables not significant between age groups. Approximately one in three of both age groups

appraised their birth experience as “awful” or traumatic. Report of other studies supports similar findings among generally older childbearing women (Ayers, 2004; White, Matthey, Boyd, & Barnett, 2006). We expected that adolescent childbirth fears influencing birth appraisal may differ by adolescent age. We found the effects of overall fear, absent father of baby in labor, and parity significantly varied by age upon birth appraisal. In combination and in descending order of effect size overall fear, parity, and absent father of baby in labor explained over 18% of the variance. The addition of pain contributed an additional two percent of the variance. While pain was not found to be significant ($p=.055$) in our study, much literature addresses the impact of pain upon birth trauma supporting this as a variable of interest for future research. These identified influences on the adolescent’s birth appraisal are potentially modifiable by the nurse through education or specific nursing actions. As appropriate, education related to family planning, pregnancy, and labor and birth should begin prenatally. In labor general information explaining pain options and monitoring continuously for adequate pain management and explaining the role and involvement of family supporters including the father of the baby, if present, can potentially help reduce overall fears.

Younger adolescents reported less partner support and lower perceived overall labor support than the older adolescents; yet, appraised (rated) their childbirth experience more positively than older adolescents. Sauls (2004) noted that the middle age adolescent in labor focused most on nurse characteristics including competency, giving approval, and showing respect. However, for our younger adolescent group the outcome of the birth experience appeared to be dependent on other things, or other persons, than the caregiver or father of the baby. Therefore, who actually provides support to the adolescent in labor may be critical to the birth appraisal. For our adolescents the typical sources of support included mother and father of the baby. Younger adolescents, attended by the mother in all cases, may have had the support person they needed most. For the older adolescent support sources varied. For older adolescents the relationship between a mother and adolescent may be conflicted. Accepting help from her mother may be perceived by the adolescent as a return to a role of dependency when developmentally she is trying to achieve independence. Relying on an adolescent father of the baby may be difficult as frequently he may lack maturity and economic resources to help in emotional support or stability (Logsdon, Gagne, Hughes, Patterson, & Rakestraw, 2005).

Age did not extinguish the fear of childbirth. Older adolescents were found to be fearful as well. A first birth, birthing alone, a memory of a previous traumatic childbirth, or other previous traumas may have contributed to the fears. Parity was found to be a significant influence on birth appraisal and IES scores. Interestingly, post hoc

analysis revealed the effects of lower parity influenced birth appraisal supporting the novelty theory of a first or second birth. The effects of higher parity (four children) influenced IES scores. Our sample indicated an older age sample of adolescents and older adolescents had more children. The possibility of these adolescents having experienced a previous traumatic birth influencing a higher IES score (trauma impact) with the current pregnancy may be suggested but was unknown. Other life events such as violence, accumulated trauma and current symptoms of PTSD, or racial discrimination may have influenced the study outcomes and were unknown.

Nursing Implications

This study represents one of the few studies to explore US adolescents' childbirth fears and PBT. Specific assessments and interventions for identifying and alleviating childbirth fears and symptomology suggestive of PBT among all age adolescents are encouraged. Detailed assessment of potential risk factors capable of fostering a negative birth appraisal or PBT can begin initially in prenatal clinic. Simple check lists and expanded assessment tools for the clinic and hospital bedside nurse inclusive of information related to family planning, labor and birth knowledge, and current childbirth fears could be developed to help in perinatal identification of at risk adolescents. Others' research support the assessment of past personal traumas (physical and sexual child maltreatment, partner violence, and community violence), past birth traumas (stillbirths, preterm births, and abortions), and depression. Because depression is more common among adolescents than adults, discussion between the nurse and the adolescent related to past and current symptoms of depression is encouraged. Recognized comorbidities for depression and abuse, and for PTSD and depression, encourage a comprehensive assessment and support offering educational materials, or perhaps, counseling at earliest symptoms.

All childbearing women with subsequent pregnancies, especially those requesting an elective cesarean birth, should be assessed prenatally regarding past pregnancies for increased fears and anxieties, a previous, negative birth experience, poor pain management, limited overall labor support, or other identified sources of fear. These childbearing women could be adolescents characterized by rapid repeat pregnancies. Identification of contributing factors to PBT can alert the nurse so that special care can be taken regarding these factors prior to labor and birth. Several factors associated with PBT and often found to over characterize adolescents may include single status, unplanned pregnancy, limited overall labor support, or developmental and age limitations resulting in high anxiety, fear and difficulty coping.

Once in labor attention to three primary concerns have been found to relate to the adolescent's appraisal of labor support: 1) pain management, 2) nonjudgmental nursing care, and 3) emotional support (Sauls, 2004). Provision of education on labor and delivery processes and pain management options and invited level of involvement for the father of the baby can serve to assure a more positive childbearing experience for the adolescent and potentially decrease mental health consequences. Intrapartum risk factors, recognized as associated with PTSD among childbearing adults, and noted as more frequent among adolescent births, include birth complications such as a preterm birth and obstetric interventions including cesarean birth or instrumental birth and should signal a need for postpartum monitoring. Following birth the nurse should provide opportunity for expression of feelings after birth. Of extreme importance is communication between labor and delivery and postpartum nurses regarding an assessment of risk factors for an effective, continuous plan of care in the hospital and post discharge.

Early conversations initiated between the nurse and adolescent prenatally throughout postpartum can provide useful information related to adolescent fears, history of traumas, and expectations of the pending birth experience and beyond. Acute symptoms of stress or depression following birth may be delayed, reappear after resolving, or become chronic well past hospital discharge. Postpartum follow up, especially among vulnerable adolescents, is an ideal goal. Instituting a plan of follow-up after the adolescent is discharged home often requires a change in hospital policy and reshaping of the hospital-based maternal-child nurse's role. Facilitating this change, especially arranging collaboration with a social worker, can provide many benefits to the adolescent and her family.

Limitations

One limitation of this study is the predominantly higher number of older, Hispanic adolescents in the sample, mostly between 17 and 19 years of age. The contribution of ethnic and cultural factors on childbirth fear and PBT is unknown for this population. Because of increased recruitment of adolescents 17 to 19 years of age, younger and middle age adolescents 13 to 16 years of age were combined into one group for comparison purposes. Yet, theoretically this division in ages has been noted in the literature. An additional limitation notes weaknesses of the design including convenience sampling and measurement selections. Other more recently developed screening tools are available to measure traumatic stress. A diagnostic tool would provide additional information over a screening method for future research addressing only the most severe consequence of birth, PTSD. A minimum of significant variables contributing to the IES score suggests the possibility that another measurement tool for assessing childbirth subjective distress/ trauma impact, especially among Hispanic adolescents, may need to be developed. At this time

none exist. Additionally only a one item measure was used to screen for adolescent birth appraisal. Never-the-less the inclusion of a rating scale was considered a study strength. The perception {of an experience} has been described as a better predictor of psychological status than objective indicators (Barrera, 1981). Garthus-Niegel, von Soest, Vollrath, & Eberhard-Gran (2012) noted that one's subjective birth experience strongly influenced the development of PTSD symptoms following birth. Their concluding comments acknowledged the influence of the objective birth experience to potential trauma but "the subjective birth appraisal of a delivery is much more important" (p. 12). Lastly, additional fear(s) prior to childbirth (or pregnancy) due to stress or traumatic events in the adolescents' lives were unrecorded and may have influenced the current fear levels and resulting identified PBT. Other known associates to PBT were not assessed in this study including unplanned pregnancy; infant medical conditions; maternal medical history or pregnancy and birth complications; anxiety level; and childbirth classes which may have influenced the outcome of PBT. Infant gestational age, marital status, and mode of birth were collected to describe the adolescents but were not analyzed for their contribution to PBT. The selected fears of childbirth analyzed in this study have been found to influence adult childbirth fear and PBT and were assumed to potentially provoke some degree of fear for the childbearing adolescent.

Conclusions

This study of childbirth fear and PBT among childbearing adolescents highlights the need for quality prenatal assessment and additional assessment, supportive care, and attention in labor and postpartum follow-up. This extends to the older adolescent as well. Adolescents are not always emotionally, psychologically, or socially mature to give birth and pregnancy can be a situation that creates fear and emotional distress. Nurses are in the unique position to help adolescents through pregnancy and birth and can help reduce the fear of childbirth, PBT, and short and/or long term distress.

Of additional interest was the finding that many adolescents perceived the birth experience as positive, regardless of age. Individual coping skills, support systems, and internal resiliency can exist as positive influences on the birth experience and require assessment. Findings related to demographic and fear effects on PBT are cautionary and require additional research; yet, insights were gained useful to practice and future research efforts.

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