The Association Between Physical and Sexual Abuse and Use of Intrapartum Epidural Anesthesia

By

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Abstract

Title: The Association Between Physical and Sexual Abuse and Use of Intrapartum Epidural Anesthesia

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This retrospective, correlational study is a secondary data analysis of a prospective study of 1400 pregnant women who attended prenatal care clinics in the Portland metropolitan area. The current study explored the association between physical and sexual abuse and the use of epidural anesthesia use, and analyzed the effects of sociodemographic variables on that association.

Study participants were interviewed twice during their pregnancy. Time one was as close to the initial prenatal visit as possible, and time two always occurred between the 24th and 28th week of pregnancy. Data collection instruments included an initial demographic form, the Prenatal Psychosocial Profile (PPP), and three questions from the Abuse Assessment Screen (AAS). Outcome data were retrieved from medical records. Sociodemographic variables examined include age, race, marital status, and parity, all of which have been described in the literature as having an effect on epidural use. Abuse was measured in four ways: a) history of physical abuse in the year prior to pregnancy; b) physical abuse during pregnancy; c) sexual abuse in the year prior to pregnancy; and d) stress related to current physical, emotional, and/or sexual abuse. Statistical analyses included *t*-tests, chi-square analysis, and stepwise multiple regression.

In this primarily Caucasian, high-school educated, partnered sample of 1129 women; 274 (24.9 %) participants reported physical abuse in the last year. Physical abuse since pregnancy was reported by 112 women (10.2 %). Fifty-three women (4.8 %) reported experiencing forced sexual activity in the past year. Sexual or physical abuse was experienced by 288 women (26.2 %). As measured by the PPP, stress related to current abuse was reported by 155 women (13.8 %) at time one, and by 44 women (8.0 %) at time two. Epidural anesthesia was used in the labors of 601 women (53.2 %). Statistically significant associations were found between women's report of physical abuse in the past year ($\chi^2 = 6.626$, df = 1, $p < 0.01$), physical or sexual abuse in the past year ($\chi^2 = 4.847$, df = 1, $p < 0.05$), and physical abuse since pregnancy ($\chi^2 = 5.497$, df = 1, $p < 0.05$), and epidural anesthesia use intrapartally. Multiple regression analysis used a model incorporating the independent variables of site, race, parity, physical or sexual abuse in the last year, and physical abuse in pregnancy with the dependent variable of epidural anesthesia use. In a model combining all sites, multiparity ($p < 0.0000$) and clinic Site Two ($p < 0.0001$) had a significant negative association with epidural use. In two separate models, main effects for abuse (physical/ sexual abuse in last year [$p < 0.05$]) were only found at Site Two, for the other clinic sites, multiparity ($p < 0.001$) and African American race ($p < 0.03$) were more significantly negatively associated with epidural use.

Several limitations to the generalizability of these results can be identified. First, except for the assessment for stress related to current abuse, abuse assessment was conducted at only one time. Second, assessment was done by a research assistant who was most likely, unknown to the study participants. Both of these may result in

underreporting of actual abuse prevalence as previously described. Another limitation of this study is the lack of specific information on where the women delivered and who assisted with their delivery, as well as the inability to discern whose decision it was to use epidural anesthesia--the patient's, care provider's, or nurse's. Finally, although there were significant variations in abuse prevalence among ethnic groups, the small subsample sizes of the Native American, Asian, Hispanic, and other women make generalization difficult.

Abuse affects numerous women in multiple ways, influencing their experiences, perceptions, and choices. Nurses and other health care providers must understand the dynamics of the abusive relationship and the myriad effects it has on women to provide compassionate, individualized patient care. Understanding the effects of an epidural on childbirth, combined with an awareness of why abused women may or may not desire an epidural is important to the battered woman and her health care providers. Through this, better patient education, improved nursing care, and an increased sensitivity to women's needs in childbirth can be accomplished. In addition, this descriptive research study may provide useful information for further development and nursing research in the broad area of woman abuse as well as in the specific area of the relationship between abuse experience and its relationship to women's pregnancy and birth experiences.

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CHAPTER ONE

Numerous women are subjected to physical or sexual abuse by their intimate male partner--estimates of woman abuse occurrence in the United States range from one to 12 million incidents each year (Bohn, 1990). A patriarchal society that devalues and objectifies women, minimizes their power, and views them as property supports and promotes violence against women (Sampselle, 1991; Sampselle, Bernhard, Kerr, Opie, Perley, & Pitzer, 1992). The relationship between woman abuse and pregnancy was first described by Gelles (1975) during a study of domestic abuse incidence between spouses. Before that time, abuse and pregnancy were either not conceptualized as being related or else abuse was considered private "family business." Most likely, however, is a combination of both of these reasons. Physical abuse is common during pregnancy. Between eight and 36 percent of pregnant women are victims of some form of physical abuse during pregnancy (Bullock, McFarlane, Bateman, & Miller, 1989; Campbell, Oliver, & Bullock, 1993; Helton, McFarlane, & Anderson, 1987a; 1987b; O'Campo, Gielen, Faden, & Kass, 1994; Parker, 1993; Parker, McFarlane, Soeken, Torres, & Campbell, 1993).

Women who are physically or sexually abused are affected by the abuse in many ways. In addition to the physical injuries and trauma, these women often experience social isolation, emotional trauma, and fear. The experience of abuse is something that shapes perceptions of and responses to their environment and experiences. Therefore, it is likely that a history of abuse will also affect the experiences and choices associated with pregnancy and childbirth.

Many facets of abuse and pregnancy have been examined. Previous nursing research has focused on the occurrence of abuse during pregnancy, women's perceptions of reasons for abuse, and compared abuse incidence, prevalence, and severity with pregnancy outcomes (i.e., the incidence of low birthweight and preterm birth) in various groups of pregnant women (Bohn, 1990; Bullock & McFarlane, 1989; Bullock et al., 1989; Campbell et al., 1993; Gelles, 1975; 1988; Helton et al., 1987a; 1987b; O'Campo et al, 1994). Recently, the effects of childhood sexual abuse on women's birth experience have begun to be explored and described (Heritage, 1995; Rhodes & Hutchinson, 1994; Rose, 1992). In contrast, research on the effects of current sexual and physical abuse on women's childbirth experiences has been neglected. A review of the literature did not reveal any published research that examined with the relationship between a woman's experience of physical or sexual abuse and the experience of childbearing. Previous experience as a volunteer in domestic violence shelters for abused women, combined with clinical experience as a nurse educator in an outpatient women's center and as an emergency room nurse has led this researcher to question the effect of abuse on women's decision making with regard to health care choices.

This retrospective, correlational study examined the relationship between a woman's experience of physical or sexual abuse in the year prior to or during pregnancy and the use of epidural anesthesia in labor. These women were compared to women classified as nonabused and their use of epidural anesthesia in labor. Although childhood sexual abuse, emotional and verbal abuse are all serious forms of abuse, their relationship to women's use of epidural intrapartum anesthesia was not explored.

CHAPTER TWO

The purpose of this chapter is to review pertinent literature on woman abuse and intrapartum epidural anesthesia use, to summarize findings of previous research, identify significant gaps, and provide a foundation for the research questions examined in this study. The topics included in the abuse literature will include incidence, effects of abuse on pregnancy outcomes, correlates of abuse, and severity and frequency of abuse in pregnancy. Topics covered in the epidural anesthesia literature will include adverse physical and emotional effects and correlates of intrapartum epidural anesthesia use. In addition, the conceptual framework, Landenburger's process of entrapment in and recovery from an abusive relationship, will be described (1989, 1993).

Review of Literature

Incidence of Abuse Among Women

The incidence of intimate violence against women is a relative enigma. It is a crime that often goes unreported. Reluctance of women to report abuse may be due to fear of social recriminations, lack of law enforcement support, economic dependence on the abuser or numerous other factors. In addition, inadequate assessment for woman abuse by health care providers combined with the use of flawed screening instruments also contributes to the underreporting of woman abuse (Koss, Heise, & Russo, 1994; McFarlane, Parker, Soeken, & Bullock, 1992; Sampselle, Bernhard, et al., 1992). In a retrospective study of women seeking primary care (n = 793), researchers found that 8.2 percent (one out of twelve women) identified themselves as victims of physical abuse by interview questions from the Abuse Assessment Screen (AAS). Women who were

physically abused tended to be older and described their marital status as never married or other (i.e., divorced or separated). There were no statistically significant differences in racial or ethnic group between women who were battered and those who were not (Bullock et al., 1989).

The true incidence of domestic violence occurring during pregnancy is also unknown. Prospective and retrospective studies indicate that eight to 34 percent of pregnant women are battered during pregnancy. Of battered women, 40-100 percent report continued abuse during pregnancy (Bohn, 1990; Bullock et al., 1989; Campbell et al., 1993; Drake, 1982; Helton et al., 1987a; McFarlane, 1989; O'Campo et al., 1994; Walker, 1984).

In a descriptive study of a national probability sample of 6002 households, the rates of violence in homes with pregnant women and homes without pregnant women were compared (Gelles, 1988). Pregnant women had a 23.8 percent greater risk of minor violence (i.e., pushing, shoving, and slapping), a 60.6 percent risk of severe violence (i.e., kicking, hitting, and using a weapon), and a 35.6 percent higher risk for any form of violence when compared with non-pregnant women. Risk of violence was higher for pregnant than non-pregnant women. However, when pregnancy and age were controlled, no statistically significant relationship was found. Although not statistically significant, this association has clinical significance. Data collection methods (phone interviews of both males and females), use of the Conflicts Tactics Scale (CTS) and researcher bias may have affected the validity of the data.

Helton et al. (1987a; 1987b), conducted a study of pregnant women at private and public prenatal clinics. Using a 19 item questionnaire (that incorporated the AAS) in an interview format, eight percent of the 290 women reported abuse during their pregnancy, while another 15 percent reported battering before their current pregnancy. No differences in the demographic variables of race, ethnicity, age, employment status, marital status, or level of education were found between women who were and those who were not abused. Of those women physically abused during pregnancy, 87.5 percent had experienced violence prior to pregnancy. Therefore, previous abuse was predictive of abuse during pregnancy. Twenty-nine percent of the women reported the abuse had increased after they had become pregnant. One-third of those battered during pregnancy sought medical care for injuries; however, none of the women reporting abuse had been identified as battered in medical records by their health care providers, nor had any of the women been provided with resource information for victims of abuse.

In a stratified, prospective, cohort analysis of 691 pregnant, low-income Hispanic, African-American, and white women, McFarlane et al. (1992), found a 17 percent rate of physical or sexual abuse prevalence during pregnancy. These women had been assessed using the Abuse Assessment Screen (AAS), the Conflict Tactics Scale (CTS), the Index of Spouse Abuse (ISA) and the Danger Assessment Screen (DAS) at a point in each trimester of pregnancy. Recurrent abuse was common, with greater than 60 percent of the abused women reporting two or more episodes of abuse during pregnancy. In contrast to the findings of previous studies (Helton et al., 1987a; 1987b), this study found significant differences in abuse frequency, severity, and homicide risk between racial/ethnic groups.

Abuse frequency, severity, and homicide risk were significantly worse for white women compared to African American and Hispanic women. Abused women were twice as likely to enter prenatal care during the third trimester. Although the abuse prevalence was higher than other studies with pregnant women, reassessment for abuse in each trimester may have uncovered abuse that was not reported in the first interview or that started later in the pregnancy. Further, assessment for abuse via interview by a health care provider known to the woman may also have facilitated disclosure of abuse.

In a secondary analysis of survey data from 940 antenatal patients in private CNM and MD practices, Sampselle, Petersen, Murtland, and Oakley (1992), described the prevalence of past and current abuse of pregnant patients. The researchers used two items on a written questionnaire to assess for past or current abuse. Participants were asked, "Have you ever been physically, emotionally, or sexually abused or mistreated?" And, "Are you currently being abused or mistreated in any of these ways?" Of the women answering the first question, 9.7 percent reported a history of sexual, physical, or emotional abuse. Six of the women did not answer that question. Eight women (0.9 percent) reported current abuse, while two did not answer the question. Current abuse was more prevalent among lower income and less educated women. A positive history of abuse was associated with lower educational levels for women. Lower prevalence rates may be related to the use of a written questionnaire versus a verbal interview as supported by previous research (McFarlane, Cristoffel, Bateman, Miller, & Bullock, 1991). In addition, the grouping together of physical, sexual, and emotional abuse limits the descriptions of specific forms of abuse.

The reported incidence and prevalence rates of abuse among pregnant and non-pregnant women are varied. Significantly, these rates may be different due to various methods of assessment for abuse. Use of a written questionnaire instead of a verbal assessment; interviews by an unknown person/researcher versus a known health care provider with an established relationship; use of an untested assessment instrument instead of a sound, valid and reliable assessment; and a single versus repeated assessment for abuse may all result in falsely low rates of abuse (McFarlane et al., 1991). It is, therefore, often difficult to compare prevalence among studies with any reasonable confidence. What is known, is that violence affects women of all races from all socioeconomic classes. In addition, researchers often fail to utilize a standard definition of abuse or to explicate their methods of abuse assessment and often use abuse terminology interchangeably.

Pregnancy Outcomes Associated with Abuse

Several studies dealing with pregnancy and abuse have focused on pregnancy outcomes. In a retrospective study on the relationship between physical abuse and low birthweight outcomes, Bullock and McFarlane (1989) interviewed a sample of 589 women. Battering was defined as physical assault by a woman's male partner, either during or before pregnancy within the current relationship. Four undescribed questions assessed the women's history of battering, presence of verbal abuse, and threats of physical abuse. A positive response to any of the four questions classified the participant as abused. Of the sample, 20.4 percent had been battered either before or during pregnancy. A statistically significant correlation was found between battering and low birthweight (LBW), when a stepwise partial correlation was conducted (controlling

separately and simultaneously for the variables of race, smoking, alcohol consumption, prenatal care, prior abortions, maternal complications, and specific hospitals). Overall, women who were battered were two times more likely to give birth to LBW infants. In private hospitals, battered women were four times more likely to have LBW infants. No statistically significant difference was found between abuse during pregnancy and LBW for women at public hospitals, however, battered women in both settings delivered more premature LBW infants. An important limitation of this study is the lack of description of the specific abuse assessment questions.

Lia-Hoagberg, Knoll, Swaney, Carlson, and Mullett (1988) conducted a retrospective study to determine differences in psychosocial and medical risk factors among 65 matched pairs of low-income women with LBW infants and normal birth weight (NBW) infants. Data collection included a retrospective record review using a 40 item psychosocial assessment instrument developed by the investigators and categorization of eight risk factors related to low birthweight (LBW) in the population (age less than 20, education less than 12 years, out-of-wedlock pregnancy, age less than 18 at first pregnancy, underweight at conception, cigarette smoking during pregnancy, history of previous LBW infant, and spacing since last pregnancy less than 6 or 12 months). An analysis of the 40 psychosocial factors indicated that only hospitalization and street drug use during pregnancy were significantly related to LBW. Emotional abuse was experienced by approximately 20 percent of women in both groups, while ten percent of the women described physical abuse by family members or the father of the baby. However, neither emotional nor physical abuse were significantly related to LBW.

In a prospective study of 358 predominantly African-American, low-income women, O'Campo et al. (1994), found that 65 percent had experienced verbal or physical abuse during pregnancy as categorized by an interview using the CTS. Twenty percent of the women experienced moderate or severe violence during their pregnancy. Moderate violence included the following acts: "throw something at you," "push, grab, or shove you" or "slap you." It also may have included the experience of negative verbal interaction. Severe violence included the following: "kick, bite, or hit you with a fist," "hit or try to hit you with something;" or "use a knife or fire a gun." Women who experienced severe violence may also have experienced moderate violence and/or negative verbal interactions (p. 32). Perpetrators of the abuse were primarily male partners; however, family and friends had also abused some of the women. No relationship between abuse (physical or verbal) and low birthweight or preterm birth was found. In addition, abuse trajectory information, and information about severity of abuse at individual battering episodes was not collected.

Schei, Samuelsen, and Bakketeig (1991), examined the relationship between women living in a physically abusive relationship and adverse outcome of pregnancy in a retrospective, cohort study by interviewing a sample of 180 women. The abuse assessment questions were not described. The 36 battered women reported a higher incidence of spontaneous abortions and LBW infants. Of all women with completed pregnancies, 27 percent reported being battered. The mean birth weight of women who experienced abuse during pregnancy was 3219 g compared with 3482 g for women who were not abused in pregnancy. The complications of preeclampsia, hemorrhage,

premature labor, and hospital admission and the proportion of LBW were more common among women abused during pregnancy, but the differences were not statistically significant. Education, primiparity, and addiction history had a statistically significant influence on infant birth weight. Violence during pregnancy had an impact close to statistical significance. When educational level, history of addiction, primiparity, and violence during pregnancy were controlled for in a regression model incorporating those variables, currently living in a physically abusive relationship had no significant impact on infant birth weight. Information on smoking during pregnancy, which may also negatively affect pregnancy outcomes, was not collected.

In another prospective study, researchers conducted interviews with 364 low-income women to examine the impact of violence on birth outcomes (Dye, Tolliver, Lee, & Kenney, 1995). Results from the structured interviews then were compared with perinatal records, birth and death information. Abuse was assessed for with two questions. The first, "Since you were pregnant, were you involved in a physical fight?" Secondly, "Since you were pregnant did someone physically hurt you?" A positive answer to either question, or a clinician's documentation of abuse in a participant's chart classified the participant as abused. In this sample, 15.9 percent of the women were abused during pregnancy. Teenagers, women whose partners were teenagers, and primigravidas were more likely to be abused during pregnancy. Abused women were more likely to smoke and use alcohol during their pregnancy. Women involved in violence during pregnancy were more likely to have had fetal distress or fetal death than other women. No significant differences were found in the incidence of LBW and preterm delivery, although the mean

birthweight was 165 g less in abused women, and this was statistically significant. Infants born to women who were abused in pregnancy were significantly more likely to not be to be discharged from the hospital when their mothers were.

To determine the incidence of physical and sexual abuse in a sample of pregnant women and the effect of abuse on pregnancy, Parker, McFarlane, and Soeken (1994) studied 1203 low-income women. Using the AAS, ISA, and DAS at their first prenatal visit, 24 percent (293 women) reported physical or sexual abuse within the past year. During interviews later in pregnancy, five percent of the nonabused women reported abuse that began in the second or third trimester. The incidence rate for abuse during pregnancy was established as 20.6 percent for teens and 14.2 percent for adults. Overall, abused women entered prenatal care later in the pregnancy than nonabused women. Adult women scored higher on the severity of physical and non-physical abuse using the ISA. Of the sample, 9.5 percent delivered an infant weighing less than 2500 g. Abuse during pregnancy was a significant risk factor for LBW and numerous maternal complications (low weight gain, infections, anemia, smoking, and alcohol or drug use). In this study, since almost all the participants were low income, the effects of poverty were controlled.

In a review of the research on abuse of pregnant women and adverse birth outcomes, Newberger, Barkan, Lieberman, McCormick, Yllo, Gary, and Schecter (1992) describe numerous methodological problems. Small sample sizes and nonrandom sampling techniques used in studies have limited the generalizability of research findings. There have been limited descriptions of actual abuse incurred by women and of the interventions provided for their injuries. There has been a lack of corroboration with

infant findings, multiple confounding variables, and possible recall bias with retrospective designs. Inadequate validity and reliability of study instruments and potential statistical error due to inadequate power are limitations. However, the limited funding of research on abuse has prevented the institution of large scale studies. Recommendations of the authors include interviewing women to assess for abuse, and linking medical services to those services provided by the battered women's movement.

Overall, research suggests that there is an increase in maternal, fetal, and neonatal morbidity for women who are physically abused in pregnancy. The research findings of several studies, however, fail to show a significant association between abuse and LBW infants among women of low socioeconomic status (Bullock & McFarlane, 1989; Dye et al., 1995; Lia-Hoagberg, et al., 1988; O'Campo et al., 1994). Those findings support the idea that women of low socioeconomic status who are abused may have multiple intervening variables (i.e., sociodemographic or psychosocial variables) that may have a stronger effect on pregnancy outcomes. Research suggests that women who are abused in pregnancy give birth to lower weight infants, and more LBW infants than do comparable women who are not abused (Bullock & McFarlane, 1989; Dye et al., 1995; Parker et al., 1994). Numerous maternal and fetal complications have been found more frequently in abused women. Since these complications have not been consistently found, measured, or defined, further analysis is warranted.

Correlates of Abuse

Research has been conducted to examine psychosocial and sociodemographic factors that may be correlated with abuse. In her 1984 research, Walker studied a sample

of 400 self-identified battered women who lived in a six state region with the broad purpose of learning about domestic violence from the battered woman's perspective. A woman was considered eligible to participate if she reported that she was battered at least two times by a male partner. Physical abuse was defined as any form of a coercive physical act with or without resultant injury. The majority of the sample were white, married or living with the batterer, with a mean age of 32.2 years. Almost half of the participants were unemployed and forty percent had some college education. Data collection included interviews, use of a 200 page questionnaire, and the Center for Epidemiological Studies-Depression Scale (CES-D), Locus of Control Scale, and The Attitude Toward Women Scale. For this sample, the violence always escalated in severity and frequency over time. Battered women held attitudes toward women's roles that were more liberal than most of the population. Two-thirds of the battered women, four-fifths of batterers, and one-quarter of nonbatterers, witnessed battering in their childhood homes. One-half of the battered women reported being sexually molested or abused as children. Overall, women in this sample were at high risk to be battered during pregnancy. Non-random sampling limits the generalizability of the study findings.

Campbell, Poland, Waller, and Ager (1992), conducted research with a convenience sample of 488 low-income women in an effort to describe the factors that correlated with violence in pregnancy. Fifty-six (11.2 percent) of the women reported physical abuse at some time during their relationship. Of the sample, 35 women (7 percent) reported abuse during pregnancy; while 21 women (4.2 percent) were battered by their partner only before their pregnancy. Ten of the 35 women battered during pregnancy

reported an increase in violence during pregnancy. The AAS, the Kessner Index (used to measure the adequacy of prenatal care), and chart reviews were used. No significant correlations were found with demographic variables and abuse, except those women battered during pregnancy were more likely to have less household possessions, and were the most likely to have housing problems. Women battered during pregnancy were also most likely to be depressed and anxious, and least likely to have adequate prenatal care or social support. Significant correlations were also found with substance abuse. The lower prevalence rate of abuse among women battered before pregnancy is possibly due to racial differences in this predominantly African American sample.

Additional research on the correlates of abuse during pregnancy was conducted by Amaro, Fried, Cabral, and Zuckerman (1990). In their prospective study, the researchers interviewed 1243 low-income, primarily African-American, primagravidas in the prenatal and post partum period in order to describe the following: 1) the prevalence and patterns of abuse during pregnancy; 2) the association between demographic and psychosocial characteristics and substance use/abuse and violence in pregnancy; and 3) to explore the association between the experience of violence in pregnancy and newborn outcomes. Instruments utilized include the Life Experiences Survey (LES), the CES-D, a modified CTS, DAS, urine drug analysis, and a forced choice questionnaire for sociodemographic characteristics. Participants who experienced violence were identified by a positive response to the CTS that reflected physical and sexual abuse by an intimate partner. Of the sample, seven percent (n = 92) of the women reported physical or sexual violence during pregnancy, and three percent (n = 37) reported violence three months before

pregnancy but not during the pregnancy. Less than one percent of the total sample, but 12 percent of the abused women (n = 11) reported violence occurring three months before pregnancy and continuing into the pregnancy. Women reporting abuse were more likely to be white, born in the United States, and single. They were also more likely to be on Medicaid, have a history of sexually transmitted diseases, and to have had an elective abortion. Battered women were more likely to be unhappy about the pregnancy, perceived their partner or family as unhappy about the pregnancy, and to have had a history of depression or attempted suicide. Abused women also reported more depressive symptoms and negative life events in the past year. Abused women were at greater risk of being heavy users of alcohol and illicit drugs and of having a male partner who used marijuana and/or cocaine. Weak positive associations were found with the experience of violence in pregnancy and negative birth outcomes. Homogenous, non-random sampling limits generalizability of the research results. In addition, assessment for abuse was not done by a health care provider nor did researchers use a standardized screening tool.

Research examining self-reported maternal reasons for delayed entry into prenatal care was undertaken by Young, McMahan, Bowman, and Thompson (1989). A sample of 201 women who entered prenatal care in a county health system in the third trimester was interviewed. These women were more likely to be single, under 20 years old, a member of a minority group, not to be high school graduates, and to be unemployed. Twenty-three percent of the sample was less than 18 years old, and less than 19 percent of the women over age 20 were primagravidas. Greater than 15 percent of the women entered prenatal care during the 36th week of gestation or later; and almost half of those

women smoked during pregnancy and had a child less than two years of age. Almost one-third of the sample reported less than 15 pounds weight gain during pregnancy. Adult women attributed delayed entry to prenatal care to numerous social problems including unemployment, single parenthood, stress, family crises, and interpersonal conflicts with the father of the baby. Although family crises and conflicts with the father of the baby were described by the women as barriers to prenatal care, the researchers failed to explore the details of the crisis and conflicts. Based on the research of Campbell et al. (1992) and Amaro et al. (1990), it might be hypothesized that the some of the conflicts and crisis in these women's lives were related to abuse.

Gazamararian et al.(1995) explored the relationship between pregnancy intendedness and physical violence, along with mediating factors. Using a fourteen page mailed questionnaire, researchers surveyed a stratified random sample of 12,612 new mothers in four states, three to six months after the birth of their infant. Most of the women in the sample were older than 24 years of age, white, had 12 or more years of education, were married, had entered prenatal care in the first trimester, did not receive WIC benefits during pregnancy, and were not living in crowded conditions. Physical violence was determined by asking each participant if her "husband or partner physically hurt (her)" during the year before delivery. Women were classified as being physically hurt or not physically hurt. Prevalence of being physically hurt by a partner or husband during the 12 months preceding delivery ranged from 3.8 percent in Maine to 6.9 percent in Oklahoma. Women who reported physical abuse were more likely to have completed less than 12 years of education, were single, a race other than white, lived in crowded

conditions, had participated in WIC during pregnancy, and delayed or had no prenatal care. Pregnancy intendedness was categorized as unwanted, mistimed, or intended. An unintended pregnancy was reported by nearly 43 percent of the women (11.6 percent unwanted, 31.1 percent mistimed). Prevalence rates for physical abuse were highest for women with an unwanted pregnancy, and lowest for women with an intended pregnancy. Nearly 70 percent of the women reporting physical abuse had unwanted or mistimed pregnancies. Information regarding the severity, frequency, timing, and trajectory of the violence was not collected. In addition, prevalence rates of abuse reported may be lower due to the data collection method. Finally, women who had spontaneous abortions or fetal demises due to abuse or other causes would not have been sampled since the researchers sampled women with live births. This also may have led to underreporting of the prevalence of abuse.

Gielen, O'Campo, Faden, Kass, and Xue (1994), in an expansion of previous work (O'Campo et al., 1994), examined the frequency and severity of interpersonal conflict and violence during prenatal and postpartum periods along with psychosocial correlates of moderate and severe violence. A sample of 275 women was interviewed at their first and second prenatal visits, at a third trimester appointment, and at a six month postpartum visit. Researchers examined the variables of social support, conflict, locus of control, drug use by partner, as well as demographic variables. The majority of the sample were African-American women between 18-24 years of age, who had completed 12 or more years of education, were single, had annual incomes below $15000, and were unemployed. Thirty-six percent were primagravidas. Seventy-five percent of the sample reported

conflict or physical violence (as determined by use of the CTS) during the childbearing year. Moderate or severe violence occurred among 19 percent of the sample prenatally and 25 percent in the postpartum period. Forty-one percent of the women who experienced moderate or severe violence instituted by their male partner prenatally continued to experience this level of violence in the postpartum period. Women who experienced violence by their intimate partner were more likely to be younger, have less social support, and to report that a sexual partner had shot drugs. Women who experienced violence by a perpetrator other than their partner were more likely to have less education, and report not having a confidant. For violence perpetrated by a partner, being better educated or having a sex partner who shot drugs was associated with an increased risk of violence. Being older, having a confident (other than the partner), and having social support were protective mechanisms. For women experiencing violence by other perpetrators, none of the demographic variables were significant; however, the presence of a confident was protective. Use of the CTS may have underrepresented women who were abused as may have using interviewers other than the women's health care providers.

Severity and Frequency of Physical Abuse During Pregnancy

Other research has focused on the differences in the severity and frequency of abuse during pregnancy. Campbell et al. (1993), in a convenience sample of 79 women, found that women who were abused during pregnancy were battered more severely and at a greater frequency than women who were abused prior to, but not during pregnancy. Battered women were identified as such by their answers on the CTS. Fifty-three percent

of those pregnant by their abusive partner (n = 27) were battered during pregnancy by their partner. Forty-seven percent (n = 24) of the women who had been pregnant by the abuser, were not battered during pregnancy. Thirty-five percent (n = 28) of the women were never pregnant by this partner and were removed from the sample. There were no demographic differences in women battered before pregnancy and those battered during pregnancy.

The researchers also explored the reasons women used to explain their experiences of violence from their husbands or partners during pregnancy. Often, women have been identified as blaming themselves as the cause of the abuse, instead of their abuser. In this study, however, women identified their abuser as being responsible for the abuse instead of blaming themselves for the abuse. In addition to use of the CTS, the DAS and open-ended interview questions were also used. Maternal complications during labor, onset of prenatal care, number of previous abortions, and whether the woman was a public or private patient were other variables studied. Qualitative analysis of the responses to the open-ended interview questions explaining abuse illustrated four basic themes: 1) jealousy of the unborn child; 2) pregnancy-specific violence that was not directed toward the unborn child; 3) anger toward the unborn child; and 4) anger against the woman or "business as usual." Women battered during pregnancy experienced greater severity and frequency of abuse and also had more severe injuries. Women viewed the batterers as being responsible for the abuse rather than blaming themselves. The small sample size in an unknown setting limits generalizability. The study evaluated women's perception versus the batterers actual motivation to abuse, and therefore, may or may not actually be

the reasons men batter. The results of this study indicate that women who are abused prior to pregnancy may or may not be abused during pregnancy. Although the women did not report self-blame for the abuse, the retrospective nature may have modified this. In addition, nearly one-fourth of the participants were from shelters for abused women. As such, they might have been exposed to group or individual therapy that may have influenced their perception of the abuse experience. Finally, this study emphasizes the need to assess and reassess for domestic abuse, because the pregnancy may alter the pattern, frequency, or severity of abuse.

Psychological Effects of Woman Abuse

Research findings on the psychological effects of woman abuse are somewhat contradictory. According to research by Walker (1984), battered women rated themselves high on a self-esteem measure and high on depression indices. More recent research studies have reported altered self-concept, decreased levels of self-esteem, and higher levels of depression among battered women (Campbell, 1989a; 1989b; Landenburger, 1989; 1993; Trimpey, 1989; Ullrich, 1993). To determine to what extent physically and emotionally abused women in a support group experienced high anxiety and low self-esteem, Trimpey (1989) studied 36 primarily low-income women. At the end of the first group session, women were given the State-Trait Anxiety Inventory and the Culture-Free Self-Esteem Inventories for Adults. Self-esteem inventory scores for the women ranged form 6-30 with a possible score of 32. The mean score of 16.12 is in the 11th percentile rank for women. The majority of the women scored in the low to very low range. Mean state-trait anxiety scores were higher than for normed comparison groups. Significant

differences were found in the mean anxiety scores of abused women and non-abused, working women; abused women and non-abused, college women; and abused women and men with anxiety reactions. The majority of the sample resided in a shelter for abused women. This may skew the results and limit the generalizability to the sample, as may the small size and non-random sampling.

Landenburger (1989) also used a nonprobability sample of 30 women to describe the experience of being abused within the context of a significant relationship, and to explain how the nature of the relationship influences the choices a woman makes. Using a triangulated design with a descriptive-correlational method and a phenomenological qualitative method she studied women who were current or previous victims of domestic abuse as determined by self-report. The mean age of the predominantly white sample was 23 years. The majority had completed some college, and almost half of the participants were employed full time (n = 13). Twenty percent of the sample were single for the duration of the relationship. The mean duration of all the relationships was 7.6 years (range from 0.5 to 19 years). For 23 women, the relationship was the first time in an abusive relationship with a significant male partner; and for the majority of the sample (63 percent), abuse was a daily occurrence. Cross-tabulation between the duration of the abusive relationship and history of abuse as a child showed a significant relationship between the two variables. When one variable was held constant, Kendall's Tau coefficients showed no significant relationship between any two of the following three variables: severity of physical or non-physical abuse; abuse duration; or frequency. The process of entrapment in and recovery from an abusive relationship contains four phases:

binding, enduring, disengaging, and recovering. Incorporated into each phase is the cycle of abuse as described by Walker (1979). A woman's feelings about her "self," a perception that the degradation of her role as a woman is a socially acceptable and expected norm, and a lack of support by others from whom she has sought help all contribute to a woman's responses to abuse. The study is limited in generalizability to white women. The self-selection of the sample also limits generalizability, while the retrospective design may bias recall.

Campbell (1989a) compared the responses of battered women (n = 97) with those of women experiencing serious problems but not battered in their intimate relationships (n = 96). The majority were well educated, younger than 35 years old, employed or full-time students with mid-range incomes. Approximately 35 percent were legally married. Data collection employed a combination of interviews and standardized measurement tools (CTS, Tennessee Self-Concept Scale [TSCS], Beck Depression Index [BDI], Denyes Self-Care Agency Instrument [DSCAI], SCL-90, and the DAS). In this sample, battered women were significantly younger, poorer, had a shorter duration of relationship with their abuser, and were more likely to be a race other than white. Battered women scored higher on instruments measuring depression and had increased frequency and severity in symptoms of stress and grief.

In an extension of the previous study, Campbell (1989b) examined the effects of sexual abuse in intimate relationships, with women who were battered but not sexually abused. Ninety-seven women (50.2 percent) reported physical abuse in their relationship. Of the battered women, 44.3 percent were also being sexually abused. Women who were

sexually abused were more likely to experience greater severity and frequency of physical abuse, and were also more likely to experience physical abuse during pregnancy. Sexually abused battered women scored lower on scales measuring body image and levels of self-esteem. There were no demographic differences between women sexually abused and those physically but not sexually abused.

Ulrich (1993) describes leaving an abusive relationship as a complex process associated with socioeconomic factors, relationship factors, and changes in self-concept. Changes in awareness of the situation and availability of social support have been described as helping women leave. Affirmation and recognition of women's strengths are needed to help women in their process of leaving.

Limitations Of Previous Research On Woman Abuse

In general, research on woman abuse has been complicated by lack of consistent definitions of abuse and consistent use of terminology. Researchers have often minimized the reality of woman abuse by using such terms as domestic violence, spousal abuse, and intimate violence, indicating that men are as often the recipients of violent acts as are women. According to Campbell, "Men commit at least ninety percent of the assaults between couples, and women are the most frequently and severely injured" (1993, p. 507). In addition, discrepancies among researchers regarding classifications, terminology, and measurement of abuse and violence against women make direct clinical and research applications difficult. Small convenience samples drawn from shelters for abused women--especially common in early research--have limited the generalizability of studies' findings. The retrospective design of many of the studies has also limited generalizability, and has

led to questions regarding the accuracy of participants' reports and the possibility of recall bias.

Instruments useful in research settings are often impractical in clinical settings. Use of valid and reliable measurement instruments promote generalizability of study findings and commonality in communication of study results (Polit & Hungler, 1995). The CTS, DAS, ISA, and the AAS have all been used in the measurement of abuse against women (Campbell, 1986; Hudson & McIntosh, 1981; McFarlane et al., 1992; Strauss, 1979). However, variations in administration of instruments, ease of use, privacy, patients' literacy, and patients' willingness to disclose, all impact the reported prevalence, and other measurements obtained. Recently, the most widely used instrument in research on abuse, the CTS, has been criticized for measuring the frequency and severity of tactics used in conflicts. By omitting the severity of injury, self-defense, sexual assault, and emotional degradation, the female partner's behavior is often scored as highly as the male partner's (Campbell & Parker, 1992).

Research has begun to be inclusive of varying socioeconomic and educational levels, races and ethnicity, ages, and marital status; however, much of the early research focused on white women (Bohn, 1990; Bullock & McFarlane, 1989; Campbell & Parker, 1992; Campbell et al., 1993; Gelles, 1988; Helton et al., 1987). The reflection of society's androcentric bias is often seen in research on woman abuse. As alluded to earlier, terminology has distorted and minimized the reality of abuse in women's lives. Specific to abuse in pregnancy, research has focused on abuse prevalence and on infant outcomes, but has not specifically examined the effect of current physical or sexual abuse on the

woman's experience of pregnancy. By examining the effects of abuse on infant outcomes, the focus of the research is the infant, while women's experiences are minimized or dismissed. As articulated by Sampselle, "Ethical questions surrounding...ownership of the birth experience are less thorny if the initial premise is that the recipient of that health care is devalued as a human being" (1991, p. 484). Although research has begun to look at the effect of abuse on pregnancy outcomes, no published research has examined the relationship between abuse and women's experiences in labor. Since the experience of abuse affects numerous aspects of women's lives, it is likely that the experience of abuse would also affect women's experiences and choices in labor. One factor associated with battered women's intrapartum experience may be the choice of analgesic.

Adverse Physical Effects of Intrapartum Epidural Anesthesia

According to Bonica and McDonald, "Epidural analgesia/anesthesia is one of the most frequently used techniques for the relief of pain of childbirth" (1995, p. 344). It is described as a low-risk, effective form of analgesia. Although epidurals often provide significant pain relief during labor, pain free labor does not necessarily correlate with a positive birth experience for the mother. Researchers have recently begun to focus on the potential adverse outcomes associated with epidurals. Epidural use has been found to be significantly associated with cesarean section delivery primarily for labor dystocia in women who were having their first child. It also has been associated with the prolongation of the first and second stages of labor in numerous studies (Diro & Beydoun, 1985; Chestnut, Vandewalker, Owen, Bates, & Choi, 1987; Johnson & Rosenfeld, 1995; Morton, Williams, Keeler, Gambone, & Kahn, 1994; Stoddart, Nicholson, & Popham,

1994; Thorp, Parisi, Boylan, & Johnston, 1989; Thorp et al. 1993; Thorp, Meyer, Cohen, Yeast, & Hu, 1994).

Research suggests that the use of intrapartum epidural anesthesia in labor may not be as benign as previously thought. Besides women's experience of deprivation (the phenomenon of feeling deprived of the experience of birth), epidural anesthesia use in nulliparous labors may lead to increased dystocia resulting in cesarean section. Diro and Beydoun (1985) were the first researchers to publish research on the negative effects of epidural use in labor. In their retrospective, matched control study of 43 women (35 primigravidas and eight multigravidas), thirty-seven of the women who received epidurals experienced significant prolongation of the first and second stages, as well as the total duration of labor, when compared with the control group. Thirty-two (74.4 percent) of the study group compared with 13 (30.2 percent) of the control group required oxytocin administration for augmentation of labor. Seven of the study group received a cesarean delivery for failure to progress. Eleven (25.6 percent) of the epidural group and four (9.3 percent) of the control group experienced forceps deliveries. All the forceps deliveries were on primagravidas. Neonatal outcomes, reflected by Apgar scores, were similar for both groups. Although this study reported a fairly low rate of forceps deliveries, this was the first study to suggest a possible association between intrapartum epidural anesthesia use and cesarean deliveries. Also, although the researchers stated that the decision to use an epidural was made mutually by the anesthesia and the obstetric staff, it was given at random depending on the availability of the anesthesia personnel. In effect, this limited the

control over or even participation in the selection of anesthesia or analgesia the study participants had.

Thorp et al. (1989) also conducted a retrospective study on the effects of epidural analgesia [sic] on nulliparous labor. In a sample of 711 nulliparous women, 142 (20 percent) received no intrapartum analgesia, 122 (17 percent) received a narcotic analgesic alone, 378 (53 percent) received an epidural only, and 69 (10 percent) received an epidural along with a narcotic analgesic. The epidural group, therefore, consisted of the 378 women who received an epidural only combined with the 69 women who also used a narcotic analgesic in combination with an epidural. The remaining group constituted the nonepidural group. Both groups were demographically similar. Seventy-three percent of the epidural group required oxytocin augmentation compared to 27 percent of the nonepidural group. The duration of oxytocin use, dose, duration of labor, and birth weights were significantly greater in the epidural group. Incidence of cesarean section for dystocia was significantly higher in the epidural group (10.3 percent) versus the nonepidural group (3.8 percent), while both groups had similar cesarean section incidence for fetal distress. Limitations of both studies include their retrospective design, and the lack of control for selection bias.

In a randomized, controlled, prospective study, a sample of nulliparous women who received intravenous narcotic analgesia for labor was compared with a sample of women who received epidural analgesic [sic] (Thorp et al., 1993). Epidural analgesia [sic] led to a significant prolongation in the first and second stages of delivery; slower rates of cervical dilatation; a fourfold increased incidence of fetal malposition; and a twofold

increase in the requirement for oxytocin augmentation. In addition, the total cesarean section rate was 25 percent in the epidural group compared to 2.2 percent in the narcotic group. This resulted in an increased morbidity of the births, increased duration of hospital stays, and therefore, increased the costs. Efficacy of pain relief was measured by a visual pain scale, with 0 representing no pain and 10 the worst pain. Both the patient and the RN providing patient care rated pain levels at various times. These measurements were compared and tallied. Epidurals produced superior pain relief when compared to narcotic analgesia. Limitations of this research include the lack of discussion regarding the actual methods and potential effects of randomization into the study and control groups.

Stoddart et al. (1994) conducted a prospective, randomized, single-blind study to determine the effect of two concentrations of medications in intrapartum epidural infusions on the instrumental delivery rate of healthy primaparous women 40 years old or younger at 36 or more weeks gestation with cephalic presentation and spontaneous onset of labor. The study group included women who met the inclusion criteria and requested an epidural, the control group also met inclusion criteria, but did not request an epidural. Those who agreed to participate in the study were then randomly assigned to receive two concentrations of medication. There were no significant differences in sample demographic characteristics. Women who had epidurals had significantly longer labor times, but there were no significant differences in length of labor between high and low dose groups. Participants who had epidurals were significantly less likely to have a spontaneous vaginal delivery. Those women who received high dose bupivacaine were more likely to have a rotational Kielland's forceps delivery, while the participants who

received low dose were more likely to have an outlet forceps delivery. These research findings lend support to the assumption that higher doses of epidural medication lead to inadequate rotation of the fetal presenting part via increased motor blockade resulting in pelvic floor muscle relaxation. The majority (95 percent) of women who received epidurals reported satisfaction with analgesia the day after delivery. This was assessed by use of a five point verbal rating score (very satisfied, satisfied, neither satisfied nor dissatisfied, not satisfied, or very dissatisfied). The small sample size was a limitation of this study.

Using a retrospective chart review of all women who gave birth in a one year period as part of a small town family medical practice, Johnson and Rosenfeld (1995) examined the effect of intrapartum epidural anesthesia use on course of labor. The sample, 180 primarily white, low-income, publicly insured women who were less than thirty years of age, was equally distributed between primaparous and multiparous women. Demographic and labor and delivery data were recorded; including the date of delivery, maternal age, parity, gestational age, race, insurance, type of anesthesia, type of delivery, birthweight, and length of second stage of labor. Women were excluded who had cesarean section deliveries for other medical reasons or who had precipitous labors. Not suprisingly, the researchers found that the rates of epidural use declined for all women when changes in public insurance coverage did not include reimbursement for intrapartum epidural use. The length of second stage of labor was significantly related to epidural use for both primaparous, and multiparous women. There was a slight decrease in the number of cesarean and forceps deliveries after the new insurance was instituted, which may be

related to decreased epidural use, but small numbers inhibited statistical analysis. There were no significant differences in demographic characteristics or infant birthweight between groups.

Chestnut et al. (1987) conducted a randomized, double blind, placebo-controlled study of young, Caucasian, low-income women (n = 92), to determine whether continuous epidural bupivacaine analgesia [sic] use beyond a cervical dilatation of eight centimeters in nulliparous women: 1) prolonged the second stage of labor; 2) increased the frequency of instrumental or cesarean delivery; 3) increased the incidence of abnormal position of the vertex; and 4) affected the condition of the infant at birth. The majority of the sample had not attended childbirth education classes, and most had a gestational age of 40 weeks. There were no significant differences in the duration of first stage of labor, duration of infusion of bupivacaine, or dose of bupivacaine before start of study solution. In contrast, the mean length of second stage in the bupivacaine was significantly longer than the saline groups. There were also significantly higher rates of instrumental delivery in the bupivacaine and the saline groups. Indications for instrumental delivery were failure to progress (17 in bupivacaine group and 6 in saline group) and fetal distress (4 in bupivacaine and 5 in saline group). There were no significant differences in neonatal outcomes between the groups. The level of pain was rated by each patient by use of a 100 mm visual analogue pain scale (0 = no pain, 100 = worst possible pain) at 30 minute intervals. Mean pain scores were similar for the first stage, but mean pain scores differed significantly overtime, with the bupivacaine group having significantly lower scores. Verbal assessment of analgesia quality was done twice. The first assessment was

performed at the initiation of the study solution and the second, immediately following birth. The study group had significantly better analgesia quality in the second stage of labor. No statistically significant increased rates of cesarean delivery or abnormal vertex position were noted; however, this may be due to the small numbers of these deliveries. In addition, the lack of anesthesia in second stage probably resulted in provider knowing whether participant was in the experimental or control group.

In contrast, another randomized, double blind, placebo-controlled study by Chestnut and colleagues (1990) evaluated analgesic efficacy and the influence of continuous epidural infusion on the second stage of labor, and the incidence of instrumental delivery in nulliparous women. Effectiveness of analgesia and rates of instrumental deliveries were compared between the patients with bupivacaine and those with saline epidurals. Study solutions were initiated at complete cervical dilation. The sample consisted of 63 primarily Caucasian, low-income women, with a mean gestational age was approximately 40 weeks. The majority had not attended childbirth education classes. There were no significant differences between groups in duration of active phase of first stage, or in the duration or dose of bupivacaine-fentanyl infusion before initiation of the study solution. Five of the women in the bupivacaine-fentanyl group and one of the control group had a prolonged second stage. The level of pain was rated by each patient by use of a 100 mm visual analogue pain scale (0 = no pain, 100 = worst possible pain) at 30 minute intervals. Verbal assessment of analgesia quality was performed two times. Initial assessment was done at complete cervical dilation and the second assessment was done immediately following birth. Both groups had similar pain scores and adequacy of

analgesia for the first stage. In the second stage of labor, the control group had significantly higher pain scores and lower quality of analgesia. There were no differences between the groups in neonatal outcome. A limitation of the study was the inability to determine whether differences in incidence of instrumental delivery were statistically significant due to the small sample size.

Morton, Williams, Keeler, Gambone, and Kahn (1994) used meta-analysis to evaluate the effect of epidural analgesia [sic] on the cesarean delivery rate. An analysis of 230 articles yielded six studies that met the inclusion criteria of a primarily primiparous sample of standard obstetric risk, singleton pregnancies, vertex position, and spontaneous labor at term. Timing, amount and type of epidural agent varied, as did amount of information provided on the variables. For all six studies, the cesarean delivery rate in the epidural group was greater than the no-epidural group. In all studies but one, the difference in risk of cesarean delivery was statistically significant. The cesarean deliveries were primarily for labor dystocia.

In a review of research on the effect of epidural analgesia [sic] on nulliparous labor, six retrospective and prospective studies demonstrate support for the relationship between increased rates of cesarean deliveries for dystocia and epidural use (Thorp, Meyer, Cohen, Yeast, & Hu, 1994). The authors suggest that parity, cervical dilatation at the time of epidural placement, epidural placement technique, management of the epidural during labor, and management of the labor after the epidural placement, are all factors that may be intervening variables in this association.

Numerous retrospective and several prospective studies have examined the physical effects of intrapartum anesthesia use on the mother, fetus, and neonate. Epidural anesthesia appears to be an effective method for control of pain in labor, since the majority of studies have found a positive association between epidural use and effective pain relief in childbirth. Apparently, however, epidural anesthesia use may also have negative physical effects. Several studies have indicated that epidural use may be associated with prolonged duration of the first and second stages as well as the entire length of labor. In addition, researchers have also reported an association between epidurals and instrumental and cesarean deliveries. Fortunately, there appears to be no negative effect of epidural use on fetal/neonatal outcomes.

Physical effects of intrapartum epidural use are important to study for various reasons including increased morbidity and increased health care costs. However, childbirth is a complex experience, not limited to the physical event. A large component of parturition is the woman's emotional experience of birth. Therefore, women's satisfaction with the childbirth experience when using intrapartum epidural anesthesia is also an important concept to examine. Satisfaction with the experience of childbirth, effectiveness of pain control measures, levels of pain, and antenatal expectations are all factors that have been examined. Researchers have found an association between decreased maternal satisfaction and instrumental or operative deliveries and prolonged labors, but not with pain in childbirth (Morgan, Bulpitt, Clifton, & Lewis, 1982a; 1982b; Paech, 1991; Ranta et al., 1995). Some women have described feeling "deprived of the

birth experience," after using an epidural in labor, while others felt epidural use resulted in a separation between their body and mind (Martin, 1992).

Adverse Emotional Effects of Intrapartum Epidural Anesthesia

Martin (1992) describes one such adverse effect of epidural anesthesia in her cultural analysis of reproduction and birth. In interviews with 156 women, their experience with intrapartum epidural anesthesia was described as leading to a "splitting between self and body" (p. 85). The net effect for these women was fragmentation and alienation leading to a lack of control over the birth process and experience. According to Bonica and McDonald (1995), this effect has been over emphasized by the proponents of natural childbirth. They state that only a small portion of the women who used epidural anesthesia in childbirth experienced a phenomenon called "deprivation." Deprivation is described as an emotional experience of feeling left out of the childbirth experience that Bonica and McDonald suggest is secondary to inadequate care--including incomplete childbirth education.

In a retrospective survey of 1000 women with normal vaginal deliveries, Morgan et al., (1982b) examined the effectiveness of pain relief with different types of obstetric analgesia. Within 48 hours of delivery, women were interviewed by a research midwife to inquire about the type of analgesia received, pain experienced, their expectations of pain, and the duration of pain experienced. One year later, women were sent a linear analogue scale to rate their experience of childbirth. An epidural alone was used by 423 participants, 85 participants used an epidural combined with Entonox or pethidine, 80 participants used no medication and the remainder used Entonox, pethidine, a combination

or had a pudendal block. Epidural analgesia [sic] was the most effective method for pain control. Patients who had inductions were more likely to have had an epidural. Patients with an epidural had significantly longer labors and were more likely to require an assisted delivery. No significant differences in race, social class, age, or religion between women receiving different types of analgesia were found. Limitations of this study included lack of description of statistical analysis and only a limited description was given of the participants.

In an extension of this study with the same participants, Morgan et al. (1982a) examined women's satisfaction with the experience of birth related to the type and effectiveness of analgesia received. Of the participants, 64 percent were primiparous women. There were significantly more women who were dissatisfied with their experience among those who used epidurals than among those who used no analgesia. Of interest, effective pain relief did not guarantee a satisfactory experience of childbirth. Women who refused any analgesia reported high pain scores and high satisfaction immediately after birth and one year post partum. At 48 hours postpartum, 84 percent of the women reported satisfactory birth experiences, but only 43 percent viewed their childbirth experience as pleasurable one year later. An unsatisfactory childbirth experience was significantly associated with forceps delivery and longer labor, but was not associated with pain. Of the women who received epidurals, 16 percent felt their experience was unsatisfactory. Interestingly, in this study, satisfaction with the birth experience was not equated with the absence of pain in childbirth.

A similar study to examine the efficacy of various obstetric analgesic/anesthetic agents in childbirth and maternal satisfaction with those methods was conducted by Paech (1991). This researcher surveyed 1000 heterogeneous women of high and low maternal risk with public and private insurance from throughout Western Australia the day after their vaginal deliveries. The women were asked fixed and open-ended questions about their expectations, pain experience, satisfaction and dissatisfaction with their analgesic method, and their satisfaction with the birth experience. Overall satisfaction with the experience was described by 95 percent of the women. More pain than expected was reported by significantly more primiparous than multiparous women, and more frequently by those participants having induced or augmented labors. Pain relief was most effective with epidurals, and satisfaction with analgesia scores were significantly greater for women with epidurals. There was no significant difference in rate of dissatisfaction between the epidural and non-epidural group, or by the type or duration of labor. In contrast to the findings of other studies (Morgan 1982a; 1982b), operative delivery and length of labor did not result in significant dissatisfaction with experience. Similar to the findings of those studies, a significant association was found between an instrumental delivery and overall dissatisfaction with the experience of birth. Since assessment of satisfaction was only done in the immediate postpartum period, long-term satisfaction is unknown.

Ranta et al. (1995) conducted a prospective survey to determine women's requirements for pain relief; to study the actual pain experience in the delivery room; and assess the parturients' recollection of pain, satisfaction and opinions on the adequacy of pain relief after delivery. Data collection included use of a 54 item antenatal

questionnaire; direct observation and assessment of pain (by an 11 point Box Scale) in the intrapartum period; and a 54 item postpartum questionnaire administered three days after delivery. The sample consisted of 1091 women, 360 who were primiparous. Similar to the findings of Morgan et al. (1982a) and Paech (1991), dissatisfaction was significantly related to instrumental deliveries, and not to level of pain, parity, or inadequate analgesia. Greater that 80 percent of the participants stated their pain was very severe or intolerable, and that they had not received adequate pain relief.

The findings from these studies suggest that satisfaction with childbirth and effective pain control are not analogous concepts. Women who used epidurals reported the highest satisfaction with their analgesia. However, women who used epidurals, were also more likely to have instrumental or operative deliveries and prolonged labor. Operative deliveries and prolonged length of labor were each significantly associated with maternal dissatisfaction with childbirth. The potential juxtaposition between high analgesia satisfaction and overall dissatisfaction with epidural use will need to be explored further and discussed with individual patients.

Correlates of Epidural Anesthesia Use

Clearly, however, the use of intrapartum epidural anesthesia is not a decision made independently by the patient. Differences in practice standards among providers, institutions, and nurses combine with multiple individual patient factors. One study has examined the influence of socioeconomic factors and provider characteristics on the use of intrapartum epidural anesthesia (Hueston, McClaflin, Mansfield, & Rudy, 1994). These researchers, in a retrospective chart review of 8229 deliveries at five hospitals, found a

mean frequency of epidural use among the sites was 13 percent (range of six to 23 percent). The use of intrapartum epidural anesthesia was significantly related to both parity and age. Women who were nulliparous and older were more likely to use an epidural, as were women who were white, or had private insurance. Participants who had an obstetrician/gynecologist as their care provider were also more likely to use epidurals. Nulliparous women with obstetrician/gynecologists as their care provider were two times and multiparous women were four times more likely to use an epidural than were women who had a family practice physician or a nurse midwife as their provider. There was great variability by site in terms of associated factors and frequency of epidural use. Individual site models utilized regression models with epidural use as the dependent variable and parity, provider specialty, race, and insurance coverage were independent variables. Nulliparity was independently associated with epidural use at all sites. Medicaid coverage was a significantly associated factor at three sites, as was family physician as obstetric care provider. While numerous sociodemogaphic variables were addressed, there was no examination of the relationship between psychosocial factors (including a woman's experience of abuse) and the use of epidural anesthesia.

Limitations of Research on Epidural Anesthesia

Similar to the research on abuse against women, terminology in research on epidural anesthesia is problematic. Analgesia has been defined as, "absence of sensibility to pain, particularly the relief of pain without loss of consciousness; absence of pain or noxious stimulation" (Miller & King, 1987). In contrast, anesthesia is defined as, "loss of feeling or sensation" (Miller & King, 1987). Many researchers utilize the term "epidural

analgesia" in relation to the technique utilized in vaginal delivery and "epidural anesthesia" with cesarean section deliveries, however, both result in decreased, if not complete, loss of sensation from the woman's waist to her toes (Bonica & McDonald, 1995; Diro, 1985; Hueston et al., 1994; Thorp et al., 1990; 1993; 1994). In addition, much of the research has been retrospective in nature. With the exception work by Morgan (1989b) and Martin (1992), research on women's experience of pain and level of satisfaction with the birth has only focused on the immediate postpartum period. The research of Morgan and Martin suggests that level of satisfaction with childbirth may change over time. Research has begun to focus on pregnancy outcomes, but research into women's experiences with epidurals has been minimal. The one study (Hueston et al., 1994) that has examined correlates of epidural use did not examine if women's experiences of sexual or physical abuse were correlated with epidural use in labor.

Conceptual Framework

The conceptual framework of the larger study proposes a relationship between sociodemographic risk factors, biomedical risk factors, psychosocial risk factors, lifestyle risk factors, and pregnancy outcomes (Curry & Wall, 1992). The current study will provide a secondary analysis of data from the initial study from a feminist perspective that emphasizes the cumulative influence of experiences of woman abuse on women's views of "self." The alteration in self identity experienced by battered women influences decision making about the abuse relationship as well as other aspects of the women's lives.

The conceptual framework used is Landenburger's model of the process of entrapment in and recovering from an abusive relationship (1989, 1993). This model is a

four phase process of binding, enduring, disengaging, and recovering that emphasizes the cumulative influence of experiences of woman abuse on women's views of "self." The alteration in self identity experienced by battered women influences decision making about the abuse relationship as well as other aspects of the women's lives. Isolation, powerlessness, loss of control, and the woman's separation from "self" are all effects of abuse. The stage of recovering from the abusive relationship, feelings of control or lack of control, isolation from "self" and others, and sociocultural expectations combine to influence a woman's response to her environment and to decision making. Although abuse is often conceptualized as a physical event, it impacts not only the woman's physical self but also her self identity and integrity. According to Landenburger, "A woman who is abused lives in two conflicting realities. One reality encompasses the good aspects of the relationship with her partner. The other reality embodies the abusive aspects of her relationship...while in an abusive relationship, a women tries to make sense of her skewed reality and in the process loses a sense of who she is" (1993, p. 379). In the process of trying to make sense of her situation and of herself, the victim of abuse may become separated from her true "self." As a victim of abuse, she perceives that she has little control over her life and her body. During the experience of labor and birth, this may be reflected in her choice of analgesia. The choice to use epidural anesthesia during childbirth could be interpreted as the woman actively exerting control over her birth and the associated pain of childbearing. Conversely, it could be seen as facilitating the separation between the woman's "self" and body.

Research Questions

The purpose of this research was to answer the following questions: 1) What is the relationship between women's experience of physical or sexual abuse and the use of epidural anesthesia during labor? 2) What are the independent and intervening effects of sociodemographic variables on the relationship between woman abuse and use of epidural anesthesia in labor? The sociodemographic variables examined include age, race, education, partner status, and parity, all of which have been described in the literature as affecting epidural use. The goals of incorporating a feminist methodology in this study included researching an issue that empowers women and promotes social change; and articulating and critiquing sexist research assumptions found in many studies on the abuse of women (DeMarco, Campbell, & Wuest, 1993; Duffy, 1985; Parker & McFarlane, 1991).

Violence or abuse against women is a broad concept inclusive of various forms of abuse such as physical, sexual, emotional, and verbal abuse. For this study, as in the primary study, the concept of abuse was limited to physical or sexual acts of abuse or stress related to current abuse. The other variable, choice of intrapartal anesthesia, was limited to epidural anesthesia use or non-use.

CHAPTER THREE

The purpose of this chapter is to describe the methods used in the conduction of this study. The research design, participant inclusion criteria and sample characteristics, data collection instruments and methods, research procedures, and methods of analysis will be discussed.

Methods

Design

This retrospective, correlational study is a secondary analysis of data from a prenatal study of 1400 pregnant women attending prenatal care clinics in the Portland metropolitan area (Curry & Wall, 1992; 1995). The design choice was retrospective and quantitative since this study was a secondary analysis of data from a previous quantitative study. It was a descriptive, correlational design because the purpose was to describe the relationship between women's experience of abuse and their choice of intrapartum anesthesia (Polit & Hungler, 1995). Threats to internal validity included the influence and interaction of psychosocial and sociodemographic variables with the study variables of abuse and anesthesia. Other variables that may have affected internal validity included women's previous birth experiences, individual provider preferences for anesthesia type, in addition to the effects of emotional and verbal abuse (Hueston et al., 1994). Drawing the sample from the same clinic population provided some limits over the providers of intrapartum care, and therefore, provider preference. However, most of the participants delivered at the two sites that were large, tertiary care hospitals. This may also have also affected the internal validity. Women's experiences with emotional and verbal abuse were

not included in the primary study's data collection tools, but potential effects may be somewhat inferred by the primary study instrument, the PPP. Convenience sampling limits the external validity to a population with similar characteristics.

Feminist methods were used in this study. According to Duffy (1985, p. 345), feminist research methodology incorporates the following criteria:

1. The principal investigator is a woman.
2. Feminist methodology was used (defined as a research approach characterized by one or more of the following: interaction between researcher and the subject, nonheirarchical relation between the researcher and the subject, expression of feelings, and concern for values).
3. The study has the potential to help the subjects as well as the researchers will promote and empower women.
4. The research was focused on the experience of the woman (defined as having to do with how a woman lives through the topic of the research).
5. The purpose of the investigation was to study women (not nurses, patients, etc.).
6. The word "feminist" or "feminism" was used in the report.
7. Bibliographic references to feminist literature were included.
8. Nonsexist language was used.

Subjects/Participants

A sample of 1400 pregnant women attending one of five prenatal care clinics in the Portland area participated in the primary study (Curry & Wall, 1992; 1995). Pregnant

women were invited to participate if they spoke English. Potential participants were approached by a Research Assistant (RA) at the time of a routine prenatal visit, after the woman was in an examination room to ensure confidentiality. Participants were reassured that participation was voluntary, and that their care would not be affected by their decision.

A sample of 1129 pregnant women was used in this analysis (only study participants with birth certificate data and labor records were eligible for inclusion). Their mean age was 23.6 years of age (range: 13 to 43). The majority had completed their high school education, were Caucasian, and living with a partner. The mean monthly household income was $1020.49 (range: $0-9999). Most of the women had been pregnant at least two times, but less than half had ever given birth. Participants had a mean parity of one, with 60.58 percent of the pregnancies reported as being unplanned. The mean gestational age at data collection, was 16.93 weeks. This sample was representative of low-income, uninsured or state insured pregnant women living in the greater Portland Metropolitan area. Study results are descriptive of this target population.

Data Collection Instruments and Methods

The Prenatal Psychosocial Profile (PPP), three questions from the Abuse Assessment Screen (AAS), and a Sociodemographic Survey were used for data collection in the initial study (see Appendix A). The instruments were read to study participants by specially trained RAs at a prenatal appointment. Verbal responses were received and recorded. The PPP is a tool that measures women's perceptions of stress, support from partner and others, and self-esteem during pregnancy. It is intended for use with women

of low socioeconomic status. Length of administration has averaged 5 minutes in previous studies. Validity and reliability of the PPP have been examined and described in two studies with similar sample characteristics to each other and to the current study sample. Cronbachs's alphas for the four subscales ranged from 0.78 to 0.95 (Curry, Campbell, and Christian, 1994). One question in the stress subscale relates to abuse: To what extent is current abuse, sexual, emotional or physical a current stressor or hassle for you? This question is rated on a scale of 1 to 4, with 1 = no stress, 2 = some stress, 3 = moderate stress, and 4 = severe stress.

Based on the AAS, three questions operationalize abuse: 1) Within the last year, have you been hit, slapped, kicked, or otherwise physically hurt by someone? 2) Since you've been pregnant, have you been hit, slapped, kicked, or otherwise physically hurt by someone? 3) Within the last year, has anyone forced you to have sexual activities? Self-report of abuse reflected by a positive response to any of these questions, classified the participant as: 1) abused; 2) abused while pregnant; and/or 3) sexually abused. The AAS has been described as an effective clinical screening assessment for abuse. It has been used with Hispanic, African American, and white pregnant and non-pregnant women of various socioeconomic statuses and ages (McFarlane, 1993; McFarlane et al., 1992; Parker et al., 1993). Feasibility of use with those samples is promoted by multi-language forms, and the ease and brevity of AAS utilization. The tool can be incorporated into a nursing interview during a woman's annual or prenatal exam. Consequently, there is minimal cost to the use of this tool. The AAS asks for sensitive, personal information, however, use by the health care provider may decrease the discomfort by the patient in

disclosing abuse. Initial questions are less sensitive, and there is no physical intrusiveness. Limitations to the use of the AAS include the need for further research to evaluate the appropriateness of use with other cultural groups and additional research on its screening effectiveness when used by persons other than the woman's health care provider.

McFarlane et al. (1992) has demonstrated convergent validity of the AAS with the Index of Spouse Abuse (ISA) and the Conflict Tactics Scale (CTS) with sample characteristics similar to the current study sample. The AAS was orally administered, while the other instruments were completed by the women. Evidence of content validity is supported by measuring both physical and sexual abuse. The AAS detected a 17 percent prevalence of physical or sexual abuse during pregnancy. Women identified as abused on the AAS also scored significantly higher on the ISA. In a comparison of two abuse screening methods, researchers found the AAS to be more effective in detecting a variety of abuse compared with a routine social service interview (Norton, Peirpert, Zierler, Lima, & Hume, 1995).

An audit of study participants' hospital charts was done to determine whether they received intrapartum epidural anesthesia. This was a nominal measurement (yes or no). The intervening or independent effects of sociodemographic variables on the relationship between abuse and the use of epidural anesthesia was controlled and analyzed statistically. The type of medication used, duration of anesthesia, or stage of labor initiated was not examined.

Research Procedures

The initial study was reviewed and approved by the Committees on Human Research at Oregon Health Sciences University, Legacy Health System, Providence Health System, and Kaiser Permanente. As previously described, potential study participants were approached by an RA at a prenatal exam appointment. To ensure confidentiality, women were approached only after they were in a private clinical examination room. The study purpose was explained and the women gave informed consent with agreement to participate in the study. Confidentiality of participants' responses was further assured by: 1) assignment of a study ID number to each woman; and 2) coding of responses.

Use of specially trained RAs increases the reliability of the data collected and reduces the potential for intervention effects (Polit & Hungler, 1995). The RAs were specifically trained by the principal investigator of the primary study to ensure reliability (see Curry & Wall, 1992 for further description of training of RAs). Random error variance was minimized by utilization of a standardized research procedure and use of a reliable instrument (the PPP).

Analysis

Coding of data was conducted as previously described. Self-report of abuse reflected by a positive response to any of the abuse questions (A18G, A35A, A35B, or A35C in Appendix A), classified the participant as abused. An audit of study participants' hospital charts included whether they had received intrapartum epidural anesthesia. This was a nominal measurement of yes or no (See C54, Outcome Measures in Appendix A). Descriptive statistics and frequencies were calculated for the total sample, by race, clinic

site, and for each abuse group. Statistical analysis also included cross tabulation and chi-square analysis and *t*-tests comparing the variables of abuse during pregnancy, abuse in the last year, and/or sexual abuse, and the use or non-use of epidural anesthesia, and PPP mean subscale scores. Since sociodemographic variables have been related to epidural use they were further analyzed and those that were significantly associated with epidural use were entered into a regression model and controlled through step-wise multiple regression. An alpha level of 0.05 was considered statistically significant.

CHAPTER FOUR

The purpose of this chapter is to describe the results of this research study. Topics to be discussed include the sample characteristics, frequency of intrapartum epidural use for the sample, prevalence of abuse for this sample population, and the association between past or current abuse and intrapartum epidural anesthesia use.

Results

Sample Characteristics

This sample was primarily comprised of single, adult, low-income women (see Table 1 for a description of sample characteristics). The majority of the participants were Caucasian, while approximately one-fifth were African American. The remainder of the sample was made up of women of Native American, Hispanic, Asian, and "other" racial and ethnic groups. The mean age of the sample was 23.60 (SD = 6.06), with a range of 13 to 43 years. The mean number of years of education completed was 11.94 (SD = 2.07, range: 6 to 23 years). The monthly household income ranged from zero to $9999, with a mean of $1020.49 (SD = 1160.25). Approximately half of the participants were living with a partner, with the majority (62.87 percent), reporting one to three persons currently living in their homes. Most of the women (70.68 percent) had been pregnant at least two times, including their current pregnancy. The sample was fairly evenly distributed between nulliparous and multiparous women.

Intrapartum Epidural Use

Intrapartum epidural anesthesia was used in the labors of 601 women (53.23 percent). Epidural use varied by site (range: 41.06 % to 61.86 %). The lowest rate of

epidural use was observed at Site 2, a clinic staffed by Certified Nurse Midwives (CNMs) who also attended their births; and the highest rate was at a large, university-based clinic, staffed by nurse practitioners, nurse midwives, physicians and residents. Women at the university-based clinic also delivered at the university-based hospital. The use of epidurals also varied by race (range: 25.81 % to 60.61 %). Native Americans were more likely to use an epidural and Asian women were least likely (Tables 1 and 2).

Table 1

Sociodemographic Characteristics by Site

Variable/Site	**Site 1 n = 163**	**Site 2 n = 341**	**Site 3 n = 182**	**Site 4 n = 388**	**Site 5 n = 55**	**Overall N =1129**
Adult (Age > 19 years)	74.23%	62.76%	56.59%	78.87%	65.45%	69.09%
Race:						
Caucasian	93.83%	49.56%	34.07%	78.87%	69.09%	64.45%
African Am.	0.62%	33.14%	46.15%	7.22%	9.09%	20.48%
Native Am.	0.62%	3.81%	3.85%	3.09%	0.0%	2.93%
Hispanic	3.70%	4.40%	7.14%	3.87%	7.27%	4.70%
Asian	1.23%	4.69%	1.65%	1.80%	5.45%	2.75%
Other	0.0%	4.40%	7.14%	5.15%	9.09%	4.70%
Nulliparous	57.06%	34.60%	60.44%	46.39%	69.09%	47.74%
Multiparous	42.94%	65.40%	39.56%	53.61%	30.91%	52.26%
Living with a partner	57.67%	46.04%	36.81%	6.49%	54.55%	53.68%
Monthly income <$1050	66.17%	76.29%	81.25%	55.86%	60.47%	67.28%
Years Education (mean)	11.87	11.70	11.47	12.41	11.96	11.94
Epidural Use	58.90%	41.06%	54.95%	61.86%	45.45%	53.23%

Table 2

Sociodemographic Characteristics by Race

Variable/Race	Caucasian n = 727	African American n = 231	Native American n = 33	Hispanic n = 53	Asian n = 31	Other n = 53
Adult (Age > 19 years)	75.52%	54.11%	57.58%	71.70%	58.06%	56.60%
Nulliparous	48.14%	44.16%	33.33%	54.72%	51.61%	56.60%
Multiparous	51.86%	55.84%	66.67%	45.28%	48.39%	43.40%
Living with a partner	62.31%	26.84%	51.52%	62.26%	45.16%	49.06%
Monthly income <$1050	59.72%	86.02%	80.00%	80.43%	78.26%	70.45%
Years Education (mean)	12.16	11.58	10.91	11.60	12.16	11.45
Epidural Use	56.53%	46.75%	60.61%	52.83%	25.81%	47.17%

Prevalence of Abuse

In this primarily Caucasian, high-school educated, partnered sample of 1129 women, approximately 25 percent reported physical abuse and nearly five percent experienced sexual abuse in the last year as measured by the AAS. Physical abuse since pregnancy was reported by ten percent. Sexual abuse rarely occurred independent of physical abuse, since 26 percent of the sample experienced sexual or physical abuse. As measured by the PPP, stress related to current abuse was reported by almost 14 percent of the women at time one, and by eight percent at time two (Table 3). Physical or sexual abuse in the past year was predictive of abuse during pregnancy. Cross tabulations with chi-square analysis found significant associations between physical or sexual abuse in the past year and abuse in pregnancy ($\chi^2 = 349.175$, df = 1, $p < 0.0000$).

Abuse status was also compared by race and site (Tables 3 and 4). The highest frequency of physical and sexual abuse in the last year, as well as stress related to current abuse, was reported by Native American women. Hispanic women, however, reported the greatest percentage of abuse during pregnancy at the rate of 14 percent. Lower proportions of Caucasian women experienced abuse in the last year, abuse since pregnancy, and physical or sexual abuse in the last year, compared to African American women. Higher proportions of Caucasian women reported experiencing sexual abuse in the last year and stress related to abuse in comparison with African American women. Site Three participants reported the highest percentages of physical and sexual abuse, and abuse during pregnancy. The majority of participants at this site were African American (46.18%). Frequency of sexual abuse, however, was similar for all sites. Stress relative to abuse was experienced more frequently by the participants at Site Five, followed closely by Site Three participants. The majority of women at these sites were Caucasian.

Table 3

Abuse Status by Race

Status/Race	**Caucasian n = 727**	**African American n = 231**	**Native American n = 33**	**Hispanic n = 53**	**Asian n = 31**	**Other n = 53**
Abused in Last Year	23.25%	26.70%	45.16%	26.00%	16.13%	33.33%
Abused Since Pregnant	9.10%	12.61%	12.90%	14.00%	6.45%	11.76%
Sexual Abuse	5.32%	2.26%	12.90%	2.00%	3.23%	7.84%
Physical or sexual abuse	24.60%	27.50%	48.40%	26.00%	19.40%	33.30%
Stress R/T Abuse (T1)	13.69%	12.17%	27.27%	15.09%	12.90%	13.21%

Table 4

Abuse Status by Clinic Site

Status/Site	Site 1 n = 163	Site 2 n = 341	Site 3 n = 182	Site 4 n = 388	Site 5 n = 55	Overall N = 1129
Abused in Last Year	22.09%	27.24%	31.49%	21.65%	21.82%	24.93%
Abused Since Pregnant	6.13%	11.18%	17.13%	8.25%	7.27%	10.18%
Sexual Abuse	4.29%	4.15%	5.00%	5.41%	5.45%	4.82%
Physical or sexual abuse	24.54%	28.43%	32.04%	22.94%	21.82%	26.18%
Stress R/T Abuse (T1)	12.88%	11.90%	15.93%	14.43%	16.36%	13.79%

Abuse Status and Epidural Anesthesia Use

Women who were physically abused in the last year were more likely to use an epidural in labor than women who were not abused (60.6 % compared to 51.6 %). This was also true for participants who were physically or sexually abused in the past year (59.4 % compared to 51.8 %) or were physically abused since pregnancy (64.3 % compared to 52.6 %). Statistically significant associations were found between women's report of physical abuse in the past year ($\chi^2 = 6.626$, df = 1, $p < 0.0100$), physical or sexual abuse in the past year ($\chi^2 = 4.847$, df = 1, $p < 0.0277$), and physical abuse since pregnancy ($\chi^2 = 5.497$, df = 1, $p < 0.019$) and intrapartum epidural anesthesia use. Although 59.4 percent of the women reporting stress related to current abuse (at time 1) used an epidural, compared with 52.4 percent reporting no stress, the association was not statistically significant. Also, the report of stress related to current abuse at time two was not significantly associated with epidural anesthesia use.

Using cross tabulations and chi-square analyses, demographic characteristics were also examined for associations with epidural use. Epidural anesthesia was found to be associated with race, parity, and site. Race was significantly associated with epidural use ($\chi^2 = 17.948$, df = 5, $p < 0.003$). The majority of the Caucasian, Native American, and Hispanic participants used epidural anesthesia, compared with less than half of the African American, Asian, and "other" women. The number of times a woman had given birth was significantly associated with epidural use ($\chi^2 = 27.702$, df = 1, $p < 0.000$). Of the nulliparous women, 61.4 percent used epidural anesthesia compared with only 45.8 percent of the multiparous women. A highly significant association was also found with site and epidural use ($\chi^2 = 35.549$, df = 4, $p < 0.0000$). Women at clinic Sites Two and Five were less likely to use epidurals, in comparison with women at Sites One, Three, and Four. Deliveries at Sites Two and Five were attended by Certified Nurse Midwives (CNMs). Other demographic characteristics including age, partner status, number of people residing in the household, income, and the number of pregnancies were not significantly associated with epidural anesthesia use in labor.

Two of the PPP mean subscale scores were significantly associated with epidural anesthesia use as analyzed by *t*-tests. Mean PPP subscale scores are reported in Table 5. The mean Stress Subscale scores (time one) of women who used an epidural was 19.764 compared with 19.149 for those women who did not receive an epidural ($t = -2.119$, df = 1124.9, $p < 0.04$). The mean Support of Other Subscale scores of women who had an epidural was 52.775 compared with 51.029 for those who did not have an epidural ($t = -2.624$, df = 1098, $p < 0.01$).

Table 5

PPP Subscale Scores

Variable	N	Mean	SD	SE	Range
Stress (T1)	1129	19.48	4.90	0.14	11-36.30
Partner (T1)	956	53.65	12.07	0.39	11-66.00
Other (T1)	1120	51.96	11.14	0.33	11-66.00
Esteem (T1)	1129	35.34	5.51	0.16	11-44.00
Stress (T2)	552	17.98	4.53	0.19	11-35.00
Partner (T2)	455	53.64	12.39	0.58	11-66.00
Other (T2)	544	52.20	10.58	0.45	11-66.00
Esteem (T2)	551	35.84	5.22	0.22	11-44.00

Multiple regression analysis used a model incorporating the independent variables of site, race, parity, physical or sexual abuse in the last year, and physical abuse in pregnancy with the dependent variable of epidural anesthesia use. For all the clinic sites combined, multiparity ($p < 0.0000$) and clinic Site Two ($p < 0.0001$) had a significant negative association with epidural use. In this model, neither abuse status nor race were significant predictor variables (see Table 6).

Table 6

Summary of Stepwise Multiple Regression Analysis for Variables Predicting Epidural Anesthesia Use for All Sites

Variable	B	SE	β	R^2	*p*
Step 1				0.0308	0.0000
Multiparity	-0.15637	0.03215	-0.157		0.0000
African American	-0.08853	0.03772	-0.076		0.0191
Step 2				0.0459	0.0000
Multiparity	-0.13461	0.03241	-0.135		0.0000
African American	-0.05281	0.03859	-0.045		0.1715
Site Two	-0.14256	0.03717	-0.128		0.0001
Step 3				0.0533	0.0000
Multiparity	-0.13476	0.03230	-0.135		0.0000
African American	-0.05493	0.03846	-0.047		0.1536
Site Two	-0.14514	0.03705	-0.131		0.0001
Abuse in year	0.09841	0.03652	0.086		0.0072
Step 4				0.0558	0.0000
Multiparity	-0.13659	0.03230	-0.137		0.0000
African American	-0.05747	0.03847	-0.049		0.1355
Site Two	-0.14465	0.03702	-0.130		0.0001
Abuse in last year	0.06071	0.04353	0.053		0.1635
Abuse in pregnancy	0.10057	0.06336	0.060		0.1128

Given the significant differences in epidural use at Site Two compared to the other sites, further multiple regression analyses were conducted with a model for Site Two separate from the four other sites, and another model for the four other sites combined. The independent variables applied to each model were parity, race, physical or sexual abuse in the last year, and abuse during pregnancy. The dependent variable utilized was epidural anesthesia use. In the model for the four sites other than Site Two, multiparity ($p < 0.000$) and African American race ($p < 0.03$) were each significant negative predictors of epidural use (see Table 6). In the regression model for Site Two, with the same independent and dependent variables, significant effects for abuse (physical or sexual

abuse in last year [$p < 0.05$]) were found (see Table 7). The other variables of parity, race, or abuse in pregnancy were not significant predictive variables in this model.

Table 7

Summary of Stepwise Multiple Regression Analysis for Variables Predicting Epidural Anesthesia Use for All Sites (Except Site Two)

Variable	B	SE	β	R^2	*p*
Step 1				0.0328	0.0000
Multiparity	-0.16683	0.03734	-0.170		0.0000
African American	-0.09962	0.04927	-0.077		0.0436
Step 2				0.0352	0.0000
Multiparity	-0.16722	0.03733	-0.170		0.0000
African American	-0.10337	0.04933	-0.080		0.0365
Abuse in last year	0.05611	0.04333	0.049		0.1957
Step 3				0.383	0.0000
Multiparity	-0.17034	0.03736	-0.174		0.0000
African American	-0.10772	0.04938	-0.083		0.0295
Abuse in last year	0.01526	0.05158	0.013		0.7674
Abuse in pregnancy	0.11049	0.07588	0.066		0.1458

Table 8

Summary of Stepwise Multiple Regression Analysis for Variables Predicting Epidural Anesthesia Use for Site Two

Variable	B	SE	β	R^2	*p*
Step 1				0.0026	0.7101
Multiparity	-0.05419	0.06552	-0.052		0.4090
African American	0.00721	0.06280	0.007		0.9086
Step 2				0.0389	0.0168
Multiparity	-0.05415	0.06444	-0.052		0.4016
African American	0.01715	0.06185	0.017		0.7818
Abuse in last year	0.21035	0.06757	0.191		0.0021
Step 3				0.0413	0.0284
Multiparity	-0.05353	0.06449	-0.051		0.4073
African American	0.01640	0.06190	0.016		0.7913
Abuse in last year	0.17493	0.08068	0.159		0.0311
Abuse in pregnancy	0.09223	0.11460	0.059		0.4217

CHAPTER FIVE

Discussion

Approximately one quarter of the women in this study reported experiencing sexual or physical abuse in the past year. This prevalence rate is similar to those found in previous research studies (Bullock & McFarlane, 1989; McFarlane et al., 1991; Parker et al., 1993; Parker et al., 1994). Ten percent of the women in this sample reported abuse since pregnancy. This rate is also comparable to research that has reported seven to 14 percent of adult women experiencing physical abuse during pregnancy (Amaro et al., 1990; Campbell et al., 1992; Helton et al., 1987; Lia-Hoagberg et al., 1988; McFarlane et al., 1991; Parker et al., 1994), and lower than other research findings that have reported abuse in pregnancy prevalence rates of 16 to 20 percent (McFarlane et al., 1992; O'Campo et al., 1994; Parker et al., 1993). Research conducted previously has found higher percentages of Caucasian women who experienced abuse (Amaro et al., 1990; and McFarlane et al., 1992) or no racial differences in abuse frequency (Bullock et al., 1989; Helton et al., 1987). In contrast, almost one-half of the Native American and one-third of the "other" participants in the current study experienced abuse in the year prior to pregnancy. In this sample, only Asian participants reported lower frequency of abuse than Caucasian women. This is supportive of the findings of Gazamarian et al. (1995), that suggested non-white women were abused more frequently, than white women. However, in this study, except for the African American women, non-white women comprised a relatively small percentage (approximately 15%) of the total sample, which limits the generalizability of these findings.

Methodological issues including the assessment tools used, how and when assessment for abuse was done, and who conducted the assessment may account for some of this variation in reported abuse prevalence. Evidence suggests that the onset, severity, and frequency of abuse may change throughout the duration of the pregnancy (Campbell et al., 1992; Campbell et al., 1993; Helton et al., 1987; McFarlane; Parker et al., 1993; 1994). Except for the assessment of stress related to current abuse, assessment for abuse was not repeated. Without repeated assessment for abuse, the rates found with this sample may not accurately reflect the occurrence of abuse during pregnancy. In addition, differences in sample characteristics (i.e., age and race) may contribute to some of the observed differences between studies. This study supports the findings from previous research that sexual or physical abuse occurring during the childbearing year before pregnancy is strongly associated with abuse during pregnancy (Campbell, 1989b; Gielen et al., 1994; Helton et al., 1987; Parker et al., 1993; 1994; Walker, 1984). This association reinforces the importance of assessing and reassessing for abuse with all women, especially those women who are pregnant or are planning pregnancy.

Fifty-three percent of the study participants used an epidural during their labors. This rate is considerably higher than the six to 23 percent reported by Hueston and colleagues (1994). Racial, parity, and site differences in epidural use were evident in this sample. Caucasian, Native American, and nulliparous participants were more likely to use epidurals, as were participants at Sites One, Three, and Four. In Hueston's research there was also evidence that the type of provider, site of delivery, parity, and race were significantly associated with epidural use. That research suggested that epidural use was

more likely with nulliparous women, an obstetrician as obstetrical care provider, delivery at a university or large teaching hospital, and Caucasian race. Interestingly, in the current study, the lowest use of epidurals occurred at clinic sites (Sites Two and Five) where prenatal obstetric care was predominantly provided by Certified Nurse Midwives (CNMs). It is also likely that at these two sites CNMs attended the participants' deliveries; however, a major limitation of this study is the lack of specific information regarding delivery site and intrapartum care provider. Hueston's findings of less use of epidurals with women whose births were attended by CNMs support this assumption. Unlike the work of Hueston and colleagues, however, no association was found between epidural use and older age or public insurance. In the current study, income was used as a proxy for private and public insurance, since people with incomes below the poverty level ($1050 per month) are eligible for public insurance in Oregon. The demographic characteristics of age, partner status, number of people residing in the home, income, and the number of pregnancies were not significantly associated with epidural anesthesia use in labor.

According to the data from this study, physical abuse in the last year, physical or sexual abuse in the last year, and physical abuse during pregnancy were each significantly associated with epidural use. This is a relationship that has not been previously described, and needs further exploration. The association between abuse and epidural use supports the findings of numerous researchers that suggest that the experience of abuse affects women's decision-making and health behaviors (Amaro et al., 1990; Campbell et al., 1992; Gazamararian et al., 1995; Parker et al., 1993; Young et al., 1989). Other researchers have found that abused women have lower self-esteem, higher anxiety levels,

higher levels of depression and stress, and alterations in self-concept (Campbell, 1989a; 1989b; Landenburger, 1989; 1993; Trimpey, 1989; Ulrich, 1993; Walker, 1984). What is not known is whether it is a woman's decision to use epidural anesthesia or her exhibition of certain behaviors that result in increased intrapartum epidural use with women who are abused.

Although multiple regression models found a statistically significant association between abuse in the last year and epidural use at only one site, this association has clinical significance. Researchers have suggested that intrapartum epidural use may be associated with numerous negative sequalae, including prolonged labor, instrumental or cesarean delivery, decreased maternal satisfaction with childbirth, and the feeling of deprivation (Diro & Beydoun, 1985; Morgan et al., 1982a; 1982b; Paech, 1991; Ranta et al., 1995; Thorp et al., 1989; 1993; 1994). It is unknown whether women who are survivors of abuse face the same potential negative risks of epidural use. Additional research is needed to examine whether survivors of abuse experience the same negative physical or emotional effects that have been found to be associated with intrapartum epidural use in previous studies with women who were not identified as abused. In addition, further research will be needed to examine why an association between abuse and epidural use existed at only one site. Does this reflect providers' increased or decreased sensitivity to and awareness of the needs and wishes for pain control in labor for women who have been abused? Qualitative information on abused women's experiences of pregnancy and childbirth would be extremely useful. Specific areas of focus could include decision making relative to choice of health care provider, use or non-use of pain medication, and intrapartum

support needs. Other useful information would include abused women's perceptions of "self" during the prenatal, intrapartum, and postpartum periods.

As articulated previously, an application of Landenburger's model of entrapment in and recovery from an abusive relationship could lead to various suppositions as to why this association exists (1989; 1993). According to Landenburger, the experience of abuse must be examined from multiple dimensions--within the sociocultural context, the context of the perception of the abuse relationship by others important to the abused woman, and the perception of the abuse, the relationship, and her "self" held by the woman.

Women who are in the early stage of entrapment might be more likely to use an epidural in an attempt to deny or control the pain that they experience and conceal in their abusive relationship. Alternatively, these women may be less likely to use an epidural since they will not admit they are in an abusive relationship. For women in the enduring phase, the abuse has begun to take over a large part of their lives. At this time in the relationship, a woman's view of her "self" is becoming distorted. The woman feels trapped. For these women, epidural use may help to suppress the physical or emotional pain experienced within the abusive relationship. These women may actively choose to use epidurals to deal with the pain. Alternatively, since in this phase women feel trapped and powerless, a health care provider's preference for pain control may be accepted without argument. A woman in the disengaging phase also struggles to reconcile her view of being abused with her view of "self." In this stage, a woman may be feeling a tremendous amount of emotional as well as physical pain. These women are more likely to identify themselves as abused. Again, epidural use may be an active choice for the

women; or if they have identified themselves as abused to their care providers, they may encourage women to use an epidural based on their sociocultural experiences and assumptions about abuse. The woman who is in the stage of recovery, may feel that she has resolved the issues associated with the abusive relationship. She is no longer being abused, feels that she has regained control, and therefore, does not require pain control (in the form of an epidural) during labor. She may see the process of natural childbirth as empowering or conversely, may exert her personal control by choosing an epidural to reduce or alleviate the pain.

Study Limitations

Several limitations are inherent in the way abuse was assessed in this study. First, except for the assessment for stress related to current abuse, abuse assessment was conducted at only one point. Second, assessment was done by a research assistant who was most likely, unknown to the study participants. Both of these may result in underreporting of actual abuse prevalence as previously described. Another limitation of this study is the lack of information on where the women delivered and who assisted with their delivery; as well as the inability to discern whose decision it was to use epidural anesthesia--the patient's, care provider's, or nurse's. Finally, although there was significant variation in abuse prevalence among ethnic groups, the small subsample sizes of the Native American, Asian, Hispanic, and "other" women make generalization of the results difficult.

Implications for Nursing Research and Practice

Abuse affects women in many ways, influencing their experiences, perceptions, and choices. Nurses and other health care providers must understand the dynamics of the abusive relationship and the numerous effects it has on women in order to provide compassionate, individualized patient care. Specific purposes for assessing for sexual and physical abuse of women include: 1) prevention of physical and emotional injury; 2) provision of education, support, and resource referral; 3) legal documentation of the abuse; and 4) assistance with patient care planning and anticipatory guidance (Bohn, 1990; Campbell, 1993).

Landenburger (1993) has described the skewed sense of reality experienced by abused women. The battered woman's choice of epidural anesthesia can be seen as an exertion of control or as further separation between the "self" and the body. Further research will be needed to determine why abused women choose a particular type of analgesia or anesthesia and how their choice influences their satisfaction and experience of childbirth. Whatever the reason, the abuse survivor should have the opportunity to choose the type of pain control measure she deems appropriate for her during birth. In order for the patient to make an informed choice, however, it is imperative she understands what the available intrapartum anesthesia and analgesia options are, including risks, benefits, and potential side effects.

Knowledge of the effects of an epidural on childbirth, combined with an awareness of why abused women may or may not desire an epidural is important to the battered woman and her health care providers. Through this, better patient education and an increased sensitivity to women's needs in childbirth can be accomplished. The abused

woman should be reassured that analgesia and anesthesia use in labor are acceptable options. Discussions about choice of analgesia or anesthesia may provide valuable insight to the abused woman as to her feelings about childbirth, pain, and her abuse experience and may offer the patient and health care provider a valuable opportunity to share an open, honest dialogue on the effects of abuse on women's sense of "self." Available childbirth education classes, printed materials, and other resources which support or accept the battered women's choice of anesthetic could be provided to the patient. Relevant patient education regarding the birth process and anesthesia should occur in the clinic setting, childbirth education classroom, and in the hospital. It is imperative that health care providers accept abused women's choices, acknowledge their feelings, and promote their sense of autonomy and control, especially since this may be one of the few situations where the abused woman can exercise control over her body. By supporting women's choices of intrapartum anesthesia, the health care provider can facilitate the battered woman's sense of autonomy, control, and wholeness in the birth process and in her life.

In addition, this descriptive research study may provide useful information for further development and research in the broad area of woman abuse, as well as in the specific area of the relationship between abuse experience and its' effect on women's pregnancy and birth experiences. Although numerous research studies have explored the relationship of abuse to pregnancy outcomes, further research is needed in the area of the abused woman's birth experience. The identification of additional effects of violence against women can help to emphasize the importance of dealing with woman abuse as a public health problem. Nursing has long provided clinical care to survivors of all forms of

abuse and violence. It is also critical that nursing is an integral contributor to knowledge development in the area of woman abuse. By participating in knowledge development relative to abuse, nursing may assist in the development of health policy, and as a result, positively influence the health and lives of thousands of women (AAN Expert Panel on Violence, 1993).

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Appendix

Sociodemographic Survey

A1. Today's Date ___ / ___ / ___
Mo Day Year

A2. Date of Birth ___ / ___ / ___ Age _____
Mo Day Year

A3. What is your current partner status? Are you *(read choices):*

- ☐ 1. Married living with your partner
- ☐ 2. Married living alone
- ☐ 3. Single living with your partner
- ☐ 4. Single living alone

A4. How many years of education have you completed? *(GED = 12 years)* _____

A5. Did you drop out of high school?

- ☐ 0. No
- ☐ 1. Yes

A6. What is your race?

- ☐ 1. Caucasian
- ☐ 2. African American
- ☐ 3. Native American
- ☐ 4. Hispanic
- ☐ 5. Asian
- ☐ 6. Other *(please specify)* _____

A7. What is your total family income each month? _____

A8. How many people currently reside in your household? _____

A9. Do you work outside the home?

- ☐ 0. No *(Go to question A13)*
- ☐ 1. Yes *(Go to question A10)*

Sociodemographic Survey

*Ask **Only** if Question #9 was Yes.*

A10. Does the work involve heavy, physical labor?

☐ 0. No
☐ 1. Yes

A11. Is the work stressful?

☐ 0. No
☐ 1. Yes

A12. Do you have to commute more than 30 minutes one way to work?

☐ 0. No
☐ 1. Yes

A13. How many times have you been pregnant, including this pregnancy? _____

A14. How many times have you given birth, including any still born births? _____

A15. How far along are you today? *(in weeks)* _____*(Lifestyle Behavioral Risk Factor) (If not sure, complete after exam)*

A16. Have you had any prenatal care for this pregnancy prior to today's visit?

☐ 0. No
☐ 1. Yes *(if yes, record dates and number of visits)*

_____
_____
_____

A16A. Record: Weeks gestation at first visit _____

A17. Was this pregnancy planned?

☐ 0. No
☐ 1. Yes
☐ 2. Yes and No (please explain)

_____
_____
_____

Prenatal Psychosocial Profile

Assessment of Stress

Ask women to what extent the following factors are current stressors/hassles. Circle the number corresponding to the appropriate response.

To what extent are **(READ CHOICE)** a current stressor/hassle for you?	No Stress 1	Some Stress 2	Moderate Stress 3	Severe Stress 4
A18A. Financial worries (e.g., food, shelter, health care, transportation)	1	2	3	4
A18B. Other money worries (e.g., bills, etc.)	1	2	3	4
A18C. Problems relating to family (partner, children, etc.)	1	2	3	4
A18D. Having to move, either recently or in the future	1	2	3	4
A18E. Recent loss of a loved one	1	2	3	4
A18F. Current pregnancy	1	2	3	4
A18G. Current abuse, sexual, emotional or physical	1	2	3	4
A18H. Problems with alcohol and/or drugs	1	2	3	4
A18I. Work problems (e.g., being laid off, etc.)	1	2	3	4
A18J. Problems relating to friends	1	2	3	4
A18K. Feeling generally "overloaded"	1	2	3	4

Prenatal Psychosocial Profile

Assessment of Support

This next set of questions asks how satisfied you are with the amount of support you receive from your partner and/or other people.

A19. First of all, do you have a partner?

☐ 0. No *(ask only about support from others)*

☐ 1. Yes

I will read you a list of statements describing types of support. On a scale of 1 to 6, with 1 being very dissatisfied and 6 being very satisfied, I want you to tell me how satisfied you are with the support you receive from *(your partner/other people)*.

	Partner						Other People					
	Very Dissatisfied					Very Satisfied	Very Dissatisfied					Very Satisfied
A19A. Shares similar experiences with me	1	2	3	4	5	6	1	2	3	4	5	6
A19B. Helps keep up my morale	1	2	3	4	5	6	1	2	3	4	5	6
A19C. Helps me out when I'm in a pinch	1	2	3	4	5	6	1	2	3	4	5	6
A19D. Shows interest in my daily activities and problems	1	2	3	4	5	6	1	2	3	4	5	6
A19E. Goes out of his/her way to do special or thoughtful things for me	1	2	3	4	5	6	1	2	3	4	5	6
A19F. Allows me to talk about things that are very personal and private	1	2	3	4	5	6	1	2	3	4	5	6
A19G. Lets me know I am appreciated for the things I do for him/her	1	2	3	4	5	6	1	2	3	4	5	6
A19H. Tolerates my ups and downs and unusual behaviors	1	2	3	4	5	6	1	2	3	4	5	6
A19I. Takes me seriously when I have concerns	1	2	3	4	5	6	1	2	3	4	5	6
A19J. Says things that make my situation clearer and easier to understand	1	2	3	4	5	6	1	2	3	4	5	6
A19K. Lets me know that he/she will be around if I need assistance	1	2	3	4	5	6	1	2	3	4	5	6

Prenatal Psychosocial Profile

Assessment of Self Esteem

We all have some kind of "picture" of ourselves we carry with us. I'm going to read you a list of statements that people have used to describe themselves. I would like you to tell me how much you agree or disagree that this statement describes yourself.

	Strongly Agree	Agree	Disagree	Strongly Disagree
A20A. Feel that you're a person of worth, at least on an equal basis with others.	1	2	3	4
A20B. Feel that you have a number of good qualities.	1	2	3	4
A20C. All in all, feel that you are a failure.	1	2	3	4
A20D. Feel that you are able to do things as well as most other people.	1	2	3	4
A20E. Feel you do not have much to be proud of.	1	2	3	4
A20F. Take a positive attitude toward yourself.	1	2	3	4
A20G. On the whole, feel satisfied with yourself.	1	2	3	4
A20H. Wish you could have more respect for yourself.	1	2	3	4
A20I. Feel useless at times.	1	2	3	4
A20J. At times think you are no good at all.	1	2	3	4
A20K. Feel like you have control over your life.	1	2	3	4

Prenatal Psychosocial Profile/ Abuse Assessment Screen

A35A. Within the last year have you been hit, slapped, kicked or otherwise physically hurt by someone?

☐ 0. No
☐ 1. Yes

A35B. Since you've been pregnant, have you been hit, slapped, kicked or otherwise physically hurt by someone?

☐ 0. No
☐ 1. Yes

A35C. Within the last year, has anyone forced you to have sexual activities?

☐ 0. No
☐ 1. Yes

A20L. Did this interview bring up any concerns or questions that you would like to discuss with your prenatal care provider?

☐ 0. No
☐ 1. Yes

A20M. Would you like me to approach your prenatal care provider with this concern or question for you?

☐ 0. No
☐ 1. Yes

Offer participant a card with community resources for abused women.

Prenatal Psychosocial Profile

Assessment of Stress

Ask women to what extent the following factors are current stressors/hassles. Circle the number corresponding to the appropriate response.

To what extent are **(READ CHOICE)** a current stressor/hassle for you?	No Stress 1	Some Stress 2	Moderate Stress 3	Severe Stress 4
B18A. Financial worries (e.g., food, shelter, health care, transportation)	1	2	3	4
B18B. Other money worries (e.g., bills, etc.)	1	2	3	4
B18C. Problems relating to family (partner, children, etc.)	1	2	3	4
B18D. Having to move, either recently or in the future	1	2	3	4
B18E. Recent loss of a loved one	1	2	3	4
B18F. Current pregnancy	1	2	3	4
B18G. Current abuse, sexual, emotional or physical	1	2	3	4
B18H. Problems with alcohol and/or drugs	1	2	3	4
B18I. Work problems (e.g., being laid off, etc.)	1	2	3	4
B18J. Problems relating to friends	1	2	3	4
B18K. Feeling generally "overloaded"	1	2	3	4

Prenatal Psychosocial Profile

Assessment of Support

This next set of questions asks how satisfied you are with the amount of support you receive from your partner and/or other people.

B19. First of all, do you have a partner?

☐ 0. No *(ask only about support from others)*

☐ 1. Yes

I will read you a list of statements describing types of support. On a scale of 1 to 6, with 1 being very dissatisfied and 6 being very satisfied, I want you to tell me how satisfied you are with the support you receive from *(your partner/other people)*.

	Partner						Other People					
	Very Dissatisfied					Very Satisfied	Very Dissatisfied					Very Satisfied
B19A. Shares similar experiences with me	1	2	3	4	5	6	1	2	3	4	5	6
B19B. Helps keep up my morale	1	2	3	4	5	6	1	2	3	4	5	6
B19C. Helps me out when I'm in a pinch	1	2	3	4	5	6	1	2	3	4	5	6
B19D. Shows interest in my daily activities and problems	1	2	3	4	5	6	1	2	3	4	5	6
B19E. Goes out of his/her way to do special or thoughtful things for me	1	2	3	4	5	6	1	2	3	4	5	6
B19F. Allows me to talk about things that are very personal and private	1	2	3	4	5	6	1	2	3	4	5	6
B19G. Lets me know I am appreciated for the things I do for him/her	1	2	3	4	5	6	1	2	3	4	5	6
B19H. Tolerates my ups and downs and unusual behaviors	1	2	3	4	5	6	1	2	3	4	5	6
B19I. Takes me seriously when I have concerns	1	2	3	4	5	6	1	2	3	4	5	6
B19J. Says things that make my situation clearer and easier to understand	1	2	3	4	5	6	1	2	3	4	5	6
B19K. Lets me know that he/she will be around if I need assistance	1	2	3	4	5	6	1	2	3	4	5	6

Prenatal Psychosocial Profile

Assessment of Self Esteem

We all have some kind of "picture" of ourselves we carry with us. I'm going to read you a list of statements that people have used to describe themselves. I would like you to tell me how much you agree or disagree that this statement describes yourself.

	Strongly Agree	Agree	Disagree	Strongly Disagree
B20A. Feel that you're a person of worth, at least on an equal basis with others.	1	2	3	4
B20B. Feel that you have a number of good qualities.	1	2	3	4
B20C. All in all, feel that you are a failure.	1	2	3	4
B20D. Feel that you are able to do things as well as most other people.	1	2	3	4
B20E. Feel you do not have much to be proud of.	1	2	3	4
B20F. Take a positive attitude toward yourself.	1	2	3	4
B20G. On the whole, feel satisfied with yourself.	1	2	3	4
B20H. Wish you could have more respect for yourself.	1	2	3	4
B20I. Feel useless at times.	1	2	3	4
B20J. At times think you are no good at all.	1	2	3	4
B20K. Feel like you have control over your life.	1	2	3	4

Outcome Measures

C35. How many prenatal visits did the subject make during this pregnancy? _____

Infant birthweight

C36. Actual birthweight in grams _____

C37. Low birthweight (≤ 2500 grams)

☐ 0. No
☐ 1. Yes

Infant complications

C38. Actual weeks gestation _____

C39. Preterm infant ≤ 37 weeks

☐ 0. No
☐ 1. Yes

C40. Actual one minute Apgar score _____

C41. One minute Apgar less than 7

☐ 0. No
☐ 1. Yes

C42. Actual five minute Apgar score _____

C43. Five minute Apgar less than 7

☐ 0. No
☐ 1. Yes

C44. Crown/heel length in centimeters_____

C45. Head circumference in centimeters _____

C46. Intrauterine growth retardation

☐ 0. No
☐ 1. Yes

C47. Meconium staining at delivery

☐ 0. No
☐ 1. Yes

C48. Admit/transfer to Neonatal Intensive Care Unit

☐ 0. No
☐ 1. Yes

Outcome Measures

Labor & Delivery Complications and Use of Anesthesia & Analgesia

C49. Onset of labor spontaneous

- ☐ 0. No *(labor spontaneous)*
- ☐ 1. Yes *(labor induced)*

C50. Delivery assisted (vacuum, forceps)

- ☐ 0. No
- ☐ 1. Yes

C51. Cesarean delivery

- ☐ 0. No
- ☐ 1. Yes

C52. First stage of labor longer than normal *(For primiparas greater than 22.9 hours for first stage; for multiparas greater than 13.1 hours for first stage)*

- ☐ 0. No
- ☐ 1. Yes

C53. Second stage of labor longer than normal *(For primiparas greater than 105 minutes for second stage; for multiparas greater than 32 minutes for second stage)*

- ☐ 0. No
- ☐ 1. Yes

C54. Epidural analgesia

- ☐ 0. No
- ☐ 1. Yes

C55. Narcotic analgesia

- ☐ 0. No
- ☐ 1. Yes

C56. High blood pressure during labor/delivery *(>139/89 over a period ≥ 2 hours)*

- ☐ 0. No
- ☐ 1. Yes

C57. Membranes ruptured longer than 24 hours before delivery

- ☐ 0. No
- ☐ 1. Yes

C58. Cervical infection on admission to labor

- ☐ 0. No
- ☐ 1. Yes

Appendix B.

Summary of Literature:
Psychological Effects of Abuse on Self, Self-Concept, and Self-Esteem

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Trimpey, M.L. (1989). Purpose: To determine to what extent physically and emotionally abused women in a support group experienced high anxiety and low self-esteem.	Design: Descriptive. Method: At the end of the first group session women were assessed by administration of standardized tests. Instruments: State-Trait Anxiety Inventory and the Culture-Free Self-Esteem Inventories for Adults. Statistical analyses: descriptive statistics, t-tests. Abuse definition: Not assessed for. Abuse classification was determined by each woman.	The sample consisted of 36 women who were participating in a family service center support group for abused women. Their demographic characteristics: mean age = 33.7; 45.8% divorced. 22% still living with abuser. 35.3 % employed full-time with 62.1% with incomes of $10,000 or less. 67% were residents of an abuse shelter.	Self-esteem inventory scores ranged form 6-30 with a possible score of 32. The mean score of 16.12 is in the 11th percentile rank for women. 76.3% of the women scores were in the low to very low range. Mean state-trait anxiety scores were higher than for normed comparison groups. Significant differences were found in the anxiety mean scores of abused women and working women (t= -3.07, p=.001), abused women and college women (t=-8.55, p=.001) and abused women and men with anxiety reactions (t=-3.07, p=.001). No difference between the scores of the abused group and depressed men (t=.32).	Effects of intervention were not tested. Majority of the sample from a shelter for abused women. This may skew the results and limit the generalizability to the sample. Strengths: Described an intervention useful to and designed to be used by women in support groups. Emphasis on increasing women's empowerment. Limitations: Small, non-random sample.
Landenburger, K. (1993). Purpose: Outline of clinical approaches with women in abusive relationships or those who have recently left	Design: Description of model with recommended clinical applications. Based on descriptive, qualitative research on the	See below for sample characteristics/description for 1988; 1989 studies. 1991 Sample: A non-probability sample of 70	The experience of women in abusive relationships must be viewed within a multilevel context including: the sociocultural	Addresses the contextual aspects and their impact on women's experience of abuse. Theory "fits" with what is seen clinically.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
the situation.	experiences of women in abusive relationships. A process of entrapment in and recovering from an abusive relationship (Landenburger, 1988;1989; 1991). Method: Constant Comparative Analysis. Statistical Analysis: N/A Abuse Definition: Not specifically described.	women who were recruited from a community shelter for battered women. 10 of these women participated in open interviews.	context in which the woman lives, the context of the relationship as perceived by important others, and the perceptions of the woman about the relationship, the abuse and her "self." Four ever-changing phases are described: Binding, enduring, disengaging and recovering. Interventions must be: 1) specific to the phase of the process; 2) accepting of where the woman is in understanding her situation; and 3) resources must be available at all times.	Strengths: Acknowledgment of social and cultural variables' influence on the meaning of abuse in women's lives. Provides interventions specific to phases in the process of entrapment and recovery that make clinical "sense". Limitations: General interventions described. Small sample size.
Landenburger, K. (1989). Purpose of the study was to: 1) Describe the experience of being abused within the context of a significant relationship; and 2) Explain how the nature of the relationship influences the choices a woman makes.	Design: Triangulated design. Method: Descriptive-correlational method and a phenomenological qualitative method. Instruments: ISA, a Demographic Data Form and a semi-structured interview. Women asked to describe: 1) Their view of "self" and the abuse relationship; 2) Reactions to and feelings about abuse	A nonprobability sample of 30 women who were current or previous victims of domestic abuse was obtained via newspaper advertisements, a community support group, and a shelter for battered women. The mean age of the sample was 23 years, with a range of 16 to 40. The sample was predominantly white. 20% of the sample were single	Cross-tabulation between the duration of the abusive relationship and the value of history of abuse as a child showed a significant relationship between the two variables, Kendall's Tau c = .387, $p<.05$. Kendall's Tau coefficients showed no significant relationship between severity of physical or non-physical abuse, and abuse duration, or frequency. The	Strengths: The description of abuse is in women's own words and language. Triangulated method strengthens design. Limitations: Limited generalizability to white women. Self-selected sample. Retrospective nature may bias recall.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	by self and other; 3) The first, last, and most significant abuse incidents; 4) Changes in their relationship with others due to the abuse. Statistical Analysis: Cross-tabs, Kendall's Tau. Qualitative Analysis: Constant Comparative Analysis. Abuse Definition: Determined by score on ISA. A score of 25 or greater on the ISA-NP or 10 or greater on the ISA-P classified the participant as abused. Women were assessed one time for abuse.	for the duration of the relationship. 13 of the women were employed full-time. 73% of the women had completed some college or more. The mean duration of all the relationships was 7.6 years (range from 0.5 to 19 years). For 23 women, the relationship was the first time in an abusive relationship with a significant male partner. For 63% of the women, abuse was a daily occurrence.	process of entrapment in and recovery from an abusive relationship contains four phases: binding, enduring, disengaging, and recovering. Incorporated into each phase is the cycle of abuse as described by Walker (1979). A combination of a woman's feelings about self, a perception that the degradation of her role as a woman is a socially acceptable and expected norm, and a lack of support by others from whom she has sought help contribute to a woman's responses to abuse.	
Ulrich, Y.C. (1993). Purpose: To describe social support and the self in relationship to the process of leaving an abusive relationship.	N/A--essay & literature review	N/A, however, some of the themes described are based on Ulrich's unpublished research data.	Leaving an abusive relationship is a complex process associated with socioeconomic factors, relationship factors, and changes in self-concept. Changes in awareness of the situation and availability of social support have been described as helping women leave. Affirmation	A solid review of some of the abuse literature with interventions recommended. Limitations: Use themes derived from unpublished research data leads to questioning regarding methodology, sampling, etc. Appropriateness of the conclusions are not evident.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
			and recognition of women's strengths are needed to help women in their process of leaving.	
Campbell, J.C. (1989a). Purpose: To compare the responses of battered women with those of women experiencing serious problems but not battered in their intimate relationships.	Design: Prospective, cross-sectional comparison study. Method: Data collection employed a combination of interviews and standardized measurement tools. Instruments: CTS, Tennessee self-concept scale, Beck Depression Index, Denyes Self-Care Agency Instrument, SCL-90, DAS. Statistical Analysis: Independent t tests, chi-square analysis, multiple regression analysis, standardized partial correlation coefficients. Abuse definition: assessed?	Sample: 97 battered women were compared with 96 nonbattered women. Of the sample, 60 percent were younger than 35 years of age. The majority were well-educated, with incomes in the middle range. Approximately 35 percent were legally married. Seventy-one percent of the women either were employed or attended school full-time.	Battered women were significantly younger, poorer, had a shorter duration of relationship with their abuser, and were more likely to be a race other than white. Battered women scored higher on instruments measuring depression and had increased frequency and severity in symptoms of stress and grief.	Limitations: Convenience sample.
Campbell, J.C. (1989b). Purpose: An extension of the previous study to examine the effects of sexual abuse in intimate relationships. Comparison between nonbattered women and battered women who were sexually abused, and those who were not.	Design: Cross sectional comparison. Method: Instruments administered combined with an in-depth interview. Instruments: CTS, Tennessee self-concept scale, Beck Depression Index, Denyes Self-Care Agency Instrument, SCL-	Sample: As described above.	Ninety-seven women (50.2 percent) reported physical abuse in their relationship. Of the battered women, 44.3 percent were also being sexually abused. Women who were sexually abused were more likely to experience greater severity and frequency of abuse.	Sexual abuse correlated with negative body image and self-esteem. Limitations: Small, non-random sample.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	90, DAS. Statistical Analysis: Two tailed t tests, chi square analysis, zero order correlations. Abuse definition: ?assessed		They were also more likely to experience abuse during pregnancy. Sexually abused battered women scored lower on scales measuring body image and levels of self-esteem. There were no demographic differences between women sexually abused and those physically but not sexually abused.	
Walker, L.E. (1984). The broad purpose was to learn about domestic violence from the battered woman's perspective. Specific goals include: 1) To identify psychological and sociological factors that compose the battered woman syndrome; 2) To test two specific theories (learned helplessness theory and the cycle theory of battering) about battered women; and 3) To collect comprehensive data on battered women.	Design: Descriptive, exploratory, correlational retrospective quantitative. Method: Use of standardized tools, interviews and 200 page questionnaire. Instruments: Standardized scales included the CES-D; Locus of Control Scale; and The Attitude Toward Women Scale. Statistical Analysis: Descriptive statistics. Definition of abuse: A woman was considered eligible to participate if she reported that she was battered at least two times by a male significant partner. Physical abuse was	The sample consisted of 400 self-identified battered women who lived in a six state region. 80% of the sample was white. 60% of the sample was married to or living with the batterer. 48% were unemployed and 40% had some college education. The age range was 18-59 years with a mean of 32.2.	The violence always escalated in severity and frequency over time. Battered women held attitudes toward women's roles that were more liberal than most of the population. Battering was present in two-thirds of the battered women's childhood homes, four-fifths of batterers homes, and one-quarter of nonbatterers homes. One-half of the battered women reported being sexually molested or abused as children. Women were at high risk to be battered during pregnancy. Battered women rated themselves	Learned helplessness and cycle of violence theories supported. Incompatibility between reports of high self-esteem and depression are juxtaposed and need to be explored more thoroughly. Theory of Learned helplessness may actually be a strength/ survival method for women. Strength: One of the first large scale studies and publications of abused women. Limitations: Non-random sampling limits generalizability. Questionable conclusions and terminology re:

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	any form of a coercive physical act with or without resultant injury.		high on a self-esteem measure and high on depression indices.	Learned Helplessness

Summary of Literature:
Epidural Anesthesia

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Hueston, W.J., McClaflin, R.E., Mansfield, C.J., & Rudy, M. (1994). Purpose of study was to examine the influence of socioeconomic factors and provider characteristics on epidural anesthesia/analgesia use in intrapartum.	Design: Correlational, retrospective, descriptive. Method: Review of hospital records. Instruments: N/A Statistical Analysis: Stepwise logistic regression. Bivariate analysis, Chi-square, and t-test. Descriptive statistics. Abuse definition: N/A	Data was obtained from the hospital charts of 8229 women who delivered at one of five hospitals between 1990 and 1991. Bivariate analysis was performed to identify potential bias. Confounding variables were controlled for via logistic regression.	The mean frequency of epidural use was 13% among the five sites. Epidural use was significantly related to parity and age. Nulliparous and older women were more likely to use an epidural. Insurance status, race, and physician specialty also were associated with epidural use in labor (level of significance $p < 0.001$) .	Epidural use varied with sites. Strengths: Large sample size from five hospitals. Useful examination providing a description of epidural use. Limitations: Abuse was not a variable examined. Patient and provider attitudes relative to epidural use along with clinical site policies influence usage of epidural anesthesia and need to be evaluated. May be reflection of self-selection bias.
Thorp, J.A., Hu, D.H., Albin, R.M., McNitt, J., Meyer, B.A., Cohen, G.R., and Yeast, J.D. (1993). The purpose was to determine the effect of epidural analgesia [sic] on nulliparous labor and delivery.	Design: Prospective, experimental design. Method: Normal term nulliparous women in early spontaneous labor were randomized to receive either narcotic or epidural analgesia [sic]. Patients in both groups were allowed to ambulate until they requested pain relief, they were then placed on bed rest. Continuous electronic fetal heart rate monitoring	A total sample of 93 women with 45 women randomized to the narcotic group and 48 to the epidural group. There were no significant ($p > 0.10$) differences in the variables of maternal age, height, weight, shoe size and gestational age between the two groups. Cervical dilatation at admission and at the first analgesic dose were similar in both groups	There was a twofold increase in the requirement for oxytocin augmentation in the group receiving epidural analgesia [sic] compared with the group receiving narcotic analgesia [sic]. Malposition incidence was four times greater in the epidural (18.8%) versus the narcotic (4.4%) group. The overall rate of cervical dilatation from admission to complete dilatation was	Epidural analgesia provided better "pain relief" but resulted in a significant increase in cesarean delivery. The first randomized, prospective, controlled study examining the effect of epidural anesthesia on labor. Strengths: Randomization of participants promotes "strength" of findings, and limits effects of selection bias.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	was observed for both groups. Narcotic recipients were given meperidine and promethazine hydrochloride intravenously every 90 minutes prn during the first stage of labor. Epidural groups patients had an epidural catheter placed at the L2-3 or L3-4 interspace. An initial bolus of bupivacaine was given, followed by a continuous infusion. Epidural continued through the second stage if progress was adequate. Cesarean section was performed for dystocia or fetal distress. Instruments: Visual 1-10 pain scale. Apgar. ABGs, and Amiel-Tison test. Statistical Analyses: Chi-square analysis or Fisher's exact test. Means compared by t-test. Two way analysis of variance with repeated measures. Mann-Whitney U Test.	($p > 0.10$). The duration from admission to randomization and from admission to first analgesic dose were comparable in both groups ($p > 0.10$). Pain was assessed by a visual pain score with 0 = no pain and 10 = worst pain. Pain was assessed at four intervals by the patient and the nurse. Apgar scores were collected at 1 and 5 minutes by the delivery nurse. Venous and arterial blood was sampled from the umbilicus immediately after delivery and ABGs analyzed within 30 minutes. Amiel-Tison test (a neurobehavioral score) was evaluated on the newborns at 2 hours and 24 hours post-delivery.	significantly slower in the epidural group (1.18 +/- 0.85 vs. 0.95 +/- 0.72 cm/hr, $p > 0.05$). This difference was entirely accounted for by the difference in dilatation after analgesic [sic] administration. The total cesarean section rate was significantly increased in the epidural group, 25% compared with 2..2% in the narcotic group ($p < 0.05$). Risk of cesarean was not significantly increased if the epidural was placed at 5 cm dilatation or greater. Epidural analgesia provided superior pain control as assessed by patients and nurses.	Limitations: Randomization of participants limits their freedom to choose pain control methods which may profoundly effect their birth experience.
Thorp, J.A., Parisi, V.M., Boylan, P.C., & Johnston, D.A. (1989). Purpose: To assess the effects of	Design: Retrospective, quasi-experimental. Method: Comparison between epidural group and	Sample: 711 nulliparous women of similar races, mean ages, and weeks gestation. The epidural	20% of the sample received no analgesia, 17% received narcotic, 53% received epidural, and 10% received	Findings suggest an increased incidence of cesarean with use of epidurals.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
epidural analgesia [sic] in labor on the incidence of cesarean section for dystocia on nulliparous women.	nonepidural group. Instruments: N/A Statistical Analysis: Chi-square analysis, t test, one way ANOVA, multivariate analysis. Abuse Definition: N/A	group (n = 447) and the nonepidural group (n = 264). Patients were offered either narcotics or epidural anesthesia if they requested pain relief assistance during labor.	narcotic and epidural. 55.8% of the total sample received oxytocin augmentation. 73% of the epidural group compared with 27% of the narcotic group. C-section for fetal distress occurred with similar frequency in both groups. C-section for dystocia was significantly greater ($p<0.002$) for the epidural than the narcotic group (9.0% vs. 3.2%) when macrosomia was controlled for. Similar fetal outcomes.	Weaknesses: Difficult to control for selection bias. Non-random assignment. No information provided on the frequency of fetal head malposition.
Diro, M. & Beydoun, S.M. (1985). Purpose: To evaluate the effects of epidural analgesia [sic] given during the first stage of labor on the course of labor, mode of delivery, and immediate infant outcome.	Design: Prospective, quasi-experimental. Method: Matched Control. Instruments: Apgar Statistical Analysis: Descriptive statistics, t-test, and chi square analysis. Abuse Definition: N/A	Sample: 43 matched (by race, age +/- 2 years, parity, gestational age +/- 2 weeks, birthweight +/- 200 g) controlled patients of mixed parity. The decision to use an epidural was "mutually made by the anesthesia and obstetric personnel."	74.4% of study group vs. 30.2% of control group needed oxytocin augmentation ($p<.001$). 7 of the 43 study women had cesareans due to failure to progress. Significantly prolonged duration of first stage ($p<.001$), second stage ($p<.05$), and total length of labor ($p<.001$). Neonatal outcomes were similar.	This was the first study to address the possible association between epidurals and cesarean section deliveries. Did the patients really have a choice re: type of pain control since the decision was made by the health care providers and depended upon the availability of the anesthesia staff. Limitations: Mixed sample of multips and nullips. Small sample size.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Stoddart, A.P., Nicholson, K.E.A., & Popham, P.A. (1994). Purpose: To determine the effect on the instrumental delivery rate of two different concentrations of medications in epidural infusions during labor.	Design: Prospective, randomized, single-blind study. Method: Inclusion criteria: Healthy primaps, $\leq$ 40 y.o., $\geq$ 36 weeks gestation, cephalic presentation, spontaneous onset of labor, maternal request for epidural. Control group met inclusion criteria, except did not request epidural. Analgesia was established in a standard manner, participants were then asked to participate in study. Those who agreed were then randomly assigned to receive two different concentrations of medication. Delivery was assigned as: spontaneous vaginal, Neville-Barnes forceps, Kielland's rotational forceps, extraction or Cesarean. Statistical Analysis: Chi-square, Mann-Whitney U-test, ANOVA. Abuse Definition: N/A	Sample: See inclusion criteria. No significant differences in sample demographic characteristics. Data Collection: Clinical observation, interviews.	Labor, epidural, infusion data: No significant differences in cervical dilation at epidural request times. Women who had epidurals had significantly longer labor times ($p<0.001$, high dose, $p<0.01$, low dose). No significant differences in length of labor between high and low dose groups. Method of delivery: Women who had epidurals were significantly less likely to have a spontaneous vaginal delivery ($p<.0001$, high dose, $p<0.05$, low dose). Women who used high dose were more likely to have a Kielland's forceps delivery ($p<0.01$), while the participants who received low dose were more likely to have a N-B forceps delivery ($p<0.05$). 95% of women who received epidurals reported satisfaction with analgesia. No maternal satisfaction assessed with control group.	Epidurals were associated with instrumental deliveries and prolonged length of labor. Women who did not use epidurals were more likely to deliver vaginally. Lends support to assumption that higher doses of epidural medication lead to inadequate rotation of the fetal presenting part via increased motor blockade resulting in pelvic floor muscle relaxation. Limitations: Small sample size.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Johnson, S. & Rosenfeld, J.A. (1995). Purpose: To determine the effect of intrapartum epidural use on course of labor.	Design: Retrospective chart review. Method: The charts of all women who gave birth in a one year period as part of a small town family practice were analyzed. Statistical Analysis: Chi-square analysis, t-test. Abuse Measurement: N/A	Sample: 180 primarily white, low-income, publicly insured women who were less than thirty years of age. With an equal number of primaps and multips. Data Collection: Demographic and labor and delivery data were recorded including date of delivery, maternal age, parity, gestational age, race, insurance, type of anesthesia, type of delivery, birthweight, and length of second stage of labor. Women were excluded who had c-sections for other medical reasons or who had precipitous labors.	Rates of epidural use declined for primaps and multips with changes in public insurance coverage for epidural use. Length of second stage of labor was significantly related to epidural use for primaps ($p<0.004$), and multips ($p<0.001$).Slight decrease in number of cesarean and forceps deliveries which may be related to decreased epidural use, but small numbers inhibited statistical analysis. Demographic characteristics for women who received/did not receive epidurals were similar. No significant birthweight differences.	Increased duration of second stage of labor was found. There also was a decreased use of epidurals with lack of reimbursement for use with publicly insured women. Limitations: Small numbers of c-sections/forceps delivery precluded analysis of relationship to epidural use.
Chestnut, D.H., Laszewski, L.J., Pollack, K.L., Bates, J.N., Manago, N.K., & Choi, W.W. (1990). Purpose: To evaluate analgesic efficacy and the influence of continuous epidural infusion on the second stage of labor and the incidence of instrumental delivery in	Design: Randomized, double blind, placebo-controlled. Method: Participation consent was obtained from healthy nulliparous women with term singleton fetuses in vertex position. Visual analog pain scales were given at 30 minute intervals. Quality of pain	Sample: 63 primarily Caucasian, low-income women. The majority had not attended childbirth education classes. The mean gestational age was approximately 40 weeks. Data Collection: Maternal: Interview, observational, visual analog pain scale, maternal BP via	There were no significant differences between groups in duration of active phase of first stage, duration or dose of bupivacaine-fentanyl infusion before initiation of study solution. The median duration of second stage was not significantly different between groups. Five of	Limitations: Unable to determine whether differences in incidence of instrumental delivery were statistically significant due to small sample size. Longer duration of labor was not significant.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
nulliparous women.	control was assessed during the first and second stage of labor and immediately postpartum. Standard epidural techniques were utilized. Effectiveness of analgesia and rates of instrumental deliveries were compared between patients with bupivacaine and those with saline epidurals. Study solutions were initiated at complete cervical dilation. Statistical Analysis: t-test, Wilcoxon test, Chi square, and Fisher exact test, Kruskal-Wallis test, split-plot analysis of variance for nonparametric data. Abuse Measurement: N/A	sphygmomanometer. Neonatal: Apgar scores, and umbilical venous and arterial acid-base analysis.	the women in the bupivacaine-fentanyl group and one of the control group had a prolonged second stage but it was not significant.. Both groups had similar pain scores and adequacy of analgesia for first stage, but in the second stage, the control group had significantly higher pain scores and higher quality of analgesia. There were no differences in neonatal outcome.	
Chestnut, D.H., Vandewalker, G.E., Owen, C.L. Bates, J.N., & Choi, W.W. (1987). Purpose: To determine whether continuous epidural bupivacaine analgesia beyond a cervical dilatation of 8 cm in nulliparous women: 1) Prolongs the second stage of labor; 2) increases the frequency of	Design: Randomized, double blind, placebo-controlled. Method: Consent was obtained from healthy nulliparous women with term singleton fetuses in vertex position. Visual analog pain scales were given at 30 minute intervals. Quality of pain control was assessed during	Sample: 92 primarily young, Caucasian, low-income women, equally divided into control and study groups. The majority had not attended childbirth education classes. Most had a gestational age of 40 weeks. Data Collection: Maternal: Interview, observational, visual analog pain scale,	There were no significant differences in the duration of first stage of labor, duration of infusion of bupivacaine, or dose of bupivacaine before start of study solution. The mean length of second stage in the bupivacaine was significantly longer than the saline groups ($p<0.05$). There were also significant	Excellent analgesia was obtained with bupivacaine group, with increased frequency of instrumental delivery, increased length of second stage of labor. No increased rates of cesarean delivery or abnormal vertex position were noted. Limitations: Lack of anesthesia in second stage

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
instrumental or cesarean delivery; 3) increases the incidence of abnormal position of the vertex; and 4) affects the condition of the infant at birth.	the first and second stage of labor and immediately postpartum between patients with bupivacaine and those with saline epidurals. Study solutions were initiated when participants were eight or more centimeters dilated. Standard epidural techniques were utilized. Length of labor, frequency of instrumental or cesarean deliveries, frequency of abnormal vertex position and neonatal condition at birth were compared. Statistical Analysis: t-test, Mann Whitney U-test, Chi square, and Fisher exact test. Abuse Measurement: N/A	maternal BP via sphygmomanometer. Neonatal: Apgar scores, and umbilical venous and arterial acid-base analysis.	higher rates of instrumental delivery in the bupivacaine and the saline groups ($p<.05$). Indications for instrumental delivery were failure to progress (17 in bupivacaine group and 6 in saline group, $p<0.05$) and fetal distress (4 in bupivacaine and 5 in saline group). There were no significant differences in neonatal outcomes between the groups. Mean pain scores were similar for the first stage, but mean pain scores differed significantly overtime, with the bupivacaine group having significantly lower scores. Bupivacaine group had significantly better analgesia quality in second stage ($p<0.0001$).	probably resulted in provider knowing whether participant was in experimental or control group.
Morton, S.C., Williams, M.S., Keeler, E.B., Gambone, J.C., & Kahn, K.L. (1994). Purpose: To use meta-analysis to evaluate the effect of epidural analgesia on the cesarean delivery rate.	Design: Meta analysis. Method: Meta-analysis of 230 articles published in English between January 1981 and July 1992 that reported on cesarean delivery rates for an epidural group and an concurrent no-epidural	Sample: 6 studies that met the inclusion criteria. 2 studies were analyzed separately. Timing, amount and type of epidural agent varied, as did amount of information provided on the variables. Data Collection:	For all six studies, the cesarean delivery rate in the epidural group was greater than the no-epidural group. In all studies but one, the difference in risk of cesarean delivery was statistically significant ($p<0.05$). Cesarean	Relationship between epidurals and cesarean deliveries. May reduce risk of cesarean by delaying placement of the epidural. Not able to explain why relationship occurs.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	group of women of standard obstetric risk. Inclusion criteria: Primarily primiparous sample of standard obstetric risk, singleton pregnancies, vertex position, and spontaneous labor at term. Statistical Analysis: Chi-square analysis, pooling with equal effects and random effects models. Abuse Measurement: N/A		deliveries were primarily for labor dystocia.	
Thorp, J.A., Meyer, B.A., Cohen, G.R., and Yeast, J.D., and Hu, D. (1994). The purpose was to review published studies assessing the effect of epidural analgesia [sic] in nulliparous labor and the frequency of cesarean delivery for dystocia.	Review of literature.	N/A	Four retrospective and two prospective studies find an association between epidural use and cesarean delivery for dystocia.	
Morgan, B.M., Bulpitt, C.J., Clifton, P., & Lewis, P.J. (1982a). Purpose: To examine the effectiveness of different types of obstetric analgesia.	Design: Retrospective survey. Method: Within 48 hours of delivery, women were interviewed by a research midwife to ask about analgesia received. Record review of analgesia, parity, induction, oxytocin use, delivery method, length of	Sample: 1000 consecutive women with vaginal delivery at a hospital in London. Mean age was 28 years; 230 of the sample had spouses who were professional or managerial workers. 64% of the participants were primaps. Participants were	80 of the participants did not use any analgesia, 423 used an epidural only, 85 used an epidural combined with Entonox or pethidine, the remainder used entonox, pethidine, a combination or had a pudendal block. Patients who had inductions were	The authors commented that the midwives had encouraged epidural use, and were surprised that so only 536 patients chose that method of pain control. Limitations: No description of statistical analysis provided. Limited description of study

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	labor, and demographic variables. Interview questions asked: 1) Did you feel pain in labour and delivery despite treatment? (Yes/No); 2) How much pain did you experience? (Linear analog scale 1-100); 3) Do you feel that this was the correct amount of pain in labour? (Less/Correct/More/Don't Know); and 4) How long did the pain last? (Minutes). One year later, women were sent a linear analogue scale rating their experience of childbirth. Instruments: Visual analog scale, interview. Statistical Analysis: Descriptive statistics.	encouraged to choose the method of analgesia.	more likely to have an epidural (71% vs. 48%, $p<0.001$). Patients with an epidural had a significantly longer labor (Mean 10.5 hrs vs. 6.4 hrs, $p<0.001$) and the proportion requiring an assisted delivery was much greater (51% vs. 6%, $p<0.001$). No significant differences in race, social class, age, or religion between women receiving different types of analgesia. 71% of the participants had as much pain as they expected, but reported high pain scores.	participants.
Morgan, B.M., Bulpitt, C.J., Clifton, P., & Lewis, P.J. (1982b). Purpose: To examine women's satisfaction with the experience of delivery in relation to the type and effectiveness of analgesia received.	Design: Retrospective survey. Method: Within 48 hours of delivery, women were interviewed by a research midwife to ask about analgesia received (see above description for specific questions asked of participants). One year later, women were sent a	Sample: 1000 consecutive women with vaginal delivery at a hospital in London. Mean age was 28 years; 230 of the sample had spouses who were professional or managerial workers. 64% of the participants were primaps. Participants were encouraged to choose the	84% of women reported satisfactory birth experience at 48 hours, but only 43% viewed it as pleasurable at one year. Unsatisfactory childbirth experience associated with forceps delivery and longer labor, not associated with pain. 16% of the women who received epidurals felt	Discussed influence of women's preparation, support, and attitude toward birth on the experience of childbirth. Satisfaction with experience not equated with the absence of pain. Limitations: No description of statistical analysis provided. Limited

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	linear analogue scale rating their experience of childbirth. Instruments: Visual analog scale, interviews. Statistical Analysis: Descriptive statistics.	method of analgesia.	their experience was unsatisfactory. Most were primaps, no social bias was observed. 11 women who had negative experiences with epidural use gave reasons relating to their view of themselves as women.	description of study participants.
Paech, M.J. (1991). Purpose: To examine the efficacy of and the maternal satisfaction with various obstetric analgesic agents in childbirth.	Design: Retrospective survey. Method: Women were surveyed by interview the day following vaginal delivery. The women were asked: 1) Did you experience more or less pain than you expected during labor, or was it as you expected?; 2) How much pain did you experience having used the method? (Recorded from a 100 mm visual analog scale (VAS)); 3) How would you rate the method you used as a means of pain relief during labor? (100 mm VAS 'couldn't have been better' to 'totally unsatisfactory'); 4) Was there anything you disliked about the method you used?	Sample: 1000 heterogeneous women of high and low risk with public and private insurance from throughout Western Australia. Various methods of pain relief were available including antenatal prep classes and an on-demand epidural service. 60% of the primaps attended parent education classes taught by midwives.	Overall satisfaction with experience described by 95% of the women. More pain than expected was reported by significantly more primaps than multips, and more frequently by those participants having induced or augmented labors. Pain relief highest with epidurals. Satisfaction scores significantly greater for women with epidurals. 51 women expressed dissatisfaction with their experience. No significant difference in rate of dissatisfaction between epidural and non-epidural group, type or duration of labor. Significant association with instrumental delivery and overall dissatisfaction.	Contrasts other studies in that operative delivery and length of labor did not result in dissatisfaction with experience. Disparity between expectations and labor experience is associated with increased pain and dissatisfaction. Follow up study needed to see if women's perceptions of the experience change over time. Perception of pain subject to many influences.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	(Seven options given); 5) Overall, were you satisfied with your childbirth experience?; 6) Do you have any other comments or suggestions about pain relief during labor? Statistical Analysis: Wilcoxin rank sum test and Chi-square tests. $p<0.05$ was considered statistically significant.		Common reasons for dissatisfaction (66%) inadequate pain relief; misc. obstetric reasons (13%), forceps (6%), and long labor (6%).	
Ranta, P., Spalding, M., Kangas-Saarela, T., Jokela, R., Hollmen, A., Jouppila, P., & Jouppila, R. (1995). Purpose: To determine parturients' requirements for pain relief, to study the actual pain experience in the delivery room and to assess the parturients' recollection of pain, satisfaction and opinions on the adequacy of pain relief after delivery.	Design: Prospective survey. Methods: Three points of data collection: 54 item antenatal questionnaire, data in delivery rooms, and postpartum questionnaires asked three days after delivery. Instruments: Antenatal questionnaire, 11 point Box Scale, Postpartum 42 item questionnaire. Statistical Analysis: Mann-Whitney U-test and chi-square analysis. $p<0.05$ was considered significant.	Sample: 1091 women, 360 primaps and 731 multips. Mean duration of labor was 11 hours for primaps and 6.2 hours for multips. 80% had NVD, 8.7% were induced, 4.2% had vacuum extractions, 7% had non-elective CS. 45% had episiotomies, and 29% required a perineal laceration repair.	96% had received sufficient information about childbirth. 95% were satisfied with care of childbirth. 45% reported very good analgesia. Dissatisfaction was significantly related to instrumental deliveries and not to pain relief. Greater that 80% of the participants stated there pain was very severe or intolerable and had not received adequate pain relief.	Finding similar to Paech with dissatisfaction with operative delivery. No follow up beyond 72 hours postpartum.

Summary of Literature:
Woman Abuse & Pregnancy Outcomes

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Parker, B., McFarlane, J., & Soeken, K. (1994). Purpose: To determine the incidence of physical and sexual abuse of adult and teen age women and to determine the effect of abuse on birthweight.	Design: Prospective, correlational. Methods: Women were screened in private for the presence of abuse. Instruments: AAS, ISA, and DAS. Record review for infant birth weight. Statistical Analysis: Chi-square analysis, t tests, multiple regression, and relative risk assessment. Abuse Definition: Women classified as abused if they had a positive response to question 2, 3 or 4 of the AAS. Women screened for abuse at first prenatal visit and in the second and third trimester of pregnancy.	Sample: 1203 pregnant women (29.6% teens and 70.4% adults). All were urban residents. Mean age of teens was 17.5 years, and the mean age of adults, 25.4 years. 34.4% were African-American, 34.2% Hispanic, and 31.3% white. 95% of the sample had incomes that were below the poverty level. 26% of the teens and 41% of the adults were married. 61% of the teens and 21% of the adults were primaps. Infant birth weight was obtained from record review.	At the first visit, 24% of the sample reported physical or sexual abuse. Adjusted rate of 20.6% of the teens compared with 14.2% of the adults. 5% of the nonabused women reported abuse starting since the first visit. Women abused in pregnancy entered care later. Adult women had higher severity and frequency while teenage women had higher occurrence of abuse. Abuse during pregnancy was a significant risk factor for LBW, low weight gain, infections, anemia, smoking and alcohol or drug use.	Results of larger study. Breakdown of data by age, race, abuse status. Higher incidence of abuse. Control for economic factor because all women were low income. AAS confirmed findings (classifying women as abused) of ISA and DAS.
Bullock, L.F., & McFarlane, J. (1989). Purpose: To explore how the stress of physical abuse affects the incidence of low birth weight.	Design: Exploratory, quasi-experimental, retrospective design. Method: Women were interviewed within 24 hours of delivery. Hospital records were reviewed. Demographic variables,	Sample: Five hundred and eighty nine women were interviewed. The sample (n=300) from the private hospital was predominantly white, married; had a mean age of 29; a mean education of 14.6 years; were	Of the sample, 20.4 % had been battered. Overall, women battered during pregnancy were two times more likely to give birth to low birth weight (LBW) infants. In private hospitals, battered women	This study emphasized the importance of early identification of battered women who are pregnant. One-fifth of the women in the study admitted to being battered during pregnancy. This study emphasized that

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	smoking and alcohol habits, incidence of abuse. Intervening variables: maternal complications during labor, onset of prenatal care, number of previous abortions and whether the woman was a public or private patient. Statistical Analysis: Analysis: Chi-square analysis. Other variables controlled via stepwise correlation regression. Descriptive statistics. Definition of abuse: Battering was defined as physical assault by the woman's current male partner either during or before pregnancy.	multigravida prenatal care started early in the first trimester; and had a mean gestational age of 39.1 weeks at birth. Sampling from the public hospital was random, with a sample population (n=289) of white, black, and Hispanic; majority were married, the mean age was 25; mean education 10.2 years; multigravida; mean entry into prenatal care late first trimester; mean gestational age at delivery was 38.2 weeks.	were four times more likely to deliver a LBW infant than non-battered women. No statistical difference in incidence of LBW deliveries were found between battered and non-battered women in public hospital births, but slightly higher rate. Significant correlation between battering and low birthweight when controlling for all variables ($p< 0.05$).	battering is not unique to lower socioeconomic group and that battery during pregnancy can lead to LBW infants. Battering may pose a higher risk for women of higher socioeconomic status. Limitations: Retrospective nature may alter women's recall or reporting of abuse. Non-random sampling limits generalizability of results. The researchers concluded that other variables (e.g., low socioeconomic and poor nutritional status) may have influenced the results.
Schei, B., Samuelsen, S.O., & Bakketeig, L.S. (1991). Purpose: To determine is there a relationship between adverse pregnancy outcome and life in an intimate relationship characterized by physical abuse.	Design: Retrospective, cohort. Methods: Structured interviews and participant's self reports. Instruments: N/A Statistical analysis: Chi-square analysis, t tests, one-way analysis of variance. Abuse Definition: Not described:	Sample: Study sample: 66 non-randomly sampled; the control group included 114 women, ages 20-49 who were randomly sampled.	Increased numbers of SAB and LBW were seen in the study group. Increase in mean BW was seen with increased educational level for both groups. Education, primiparity, and history of addiction significantly influenced birth weight. Violence exposure had an impact close to significance, with a	Limitations: Non-random sampling. Demographic information not well described. Information regarding smoking status, weight gain, prenatal visits missing. Retrospective design. Reliance on self-report data for BW and gestational age.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
			difference in mean BW of 175 g (when adjusted for education, primiparity, and addiction history). Currently living in a physically abusive relationship had no significant impact on BW.	
Dye, T.D., Tolliver, N.J., Lee, R.V., & Kenney, C.J. (1995). Purpose: To describe the impact of prenatal conditions and behaviors of low-income, rural women on fetal and birth outcomes.	Design: Prospective, correlational. Method: Structured interview using the Pregnancy Risk Assessment Monitoring Systems (PRAMS) questionnaire, Maternal Adjustment and Maternal Attitudes (MAMA) questionnaire, and medical records. Instruments: PRAMS and MAMA . Statistical Analysis: Chi-square analysis, bivariate associations. Odds ratios. Definition of Abuse: A positive answer to one of two questions: 1) Since you were pregnant, were you involved in a physical fight? and 2) Since you were pregnant, did someone physically hurt you?; Or Clinician	Sample: 364 women on a West Virginia Medicaid risk registry (131 < 20 years of age, 233 > 20 years), primarily white, high school graduates, rural residents. 160 of the women were primaps, and 199 were multips.	15.9% of the sample were identified as abused. 78% of these were identified by the interview, and not noted on the clinical record. Teens were more likely to be involved in violence during pregnancy than adult women, and women whose partners were teens were more likely to have been abused in pregnancy. Primaps were nearly twice as likely as multips to have been abused in pregnancy. Rate of stressful events were higher, and abused women reported higher levels of anxiety, depression, stress, and dissatisfaction with pregnancy. Abused women were more likely to smoke and use alcohol during pregnancy. Abused women	Significant relationship found between negative birth outcomes (LBW & fetal distress or demise) and abuse. Higher prevalence of abuse. Higher rate of detection when patient asked directly. Limitations: Small sample size. Non-random sampling, non-standard assessment tool.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	assessment noted on standardized prenatal record.		were more likely to experience fetal distress or fetal death. Mean BW for women experiencing violence during pregnancy was 164 g less than mean BW of other women. Infants of abused women were more likely not to be discharged from the hospital at the same time as their mothers.	
Newberger, E.H., Barkan, S.E., Lieberman, E.S., McCormick, M.C., Yllo, K., Gary, L.T., Schecter, S. (1992). Review of current literature on abuse during pregnancy and adverse birth outcomes.	N/A--literature review	N/A--literature review	Methodological problems identified as small sample size and nonrandom sampling techniques limiting generalizability; limited description of actual abuse and interventions for injuries; lack of corroboration with infant findings; confounding variables; possible recall bias with retrospective designs; inadequate validity and reliability of study instruments; potential statistical error due to inadequate power. Limited funding of research on abuse. There may be direct or indirect effects of abuse on pregnancy outcome.	

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
			Recommendations: Interview women to assess for abuse; link medical services to services provided by the battered women's movement.	
O'Campo, P., Gielen, A.C., Faden, R.R., & Kass, N. (1994). Purpose: To describe the frequency of specific types of violence during pregnancy; the perpetrators; and the impact of violence during pregnancy on birthweight and preterm birth among a sample of low-income women.	Design: Exploratory, descriptive. Method: Three interviews conducted by specially trained interviewers during prenatal care. BW data obtained from hospital delivery logs. Gestational age abstracted from prenatal medical records. Instruments: Interview items based on Conflict Tactics Scale. Statistical analysis: Simple descriptive statistics and frequencies. Analysis of variance procedures. Abuse definition: + findings in interview based on CTS. Only assessed for abuse at third interview.	Sample: 358 women with a mean gestational age at time of enrollment of 3.5 months. Ninety percent African-American. Mean years of schooling, 11.4 years. Forty-one percent of the sample were between the ages of 20 and 24. Sixty-two percent had total annual household incomes of $10,000 or less, and 11% were married.	Sixty-five percent of the sample experienced verbal or physical abuse during their pregnancy, with almost half of the sample reporting the experience of verbal abuse. Twenty percent of the women experienced moderate or severe violence. No differences found in gestational age at delivery and birthweight for women experiencing any form of conflict. Older women are less likely to experience verbal and physical abuse than younger women.	Contrasting findings in severity of violence occurrence related to other studies. Consistent results related to birthweight and gestational age at delivery. Primarily African-American sample. Limitations: Abuse assessed for at only one time. CTS has been criticized.
Lia-Hoagberg, B., Knoll, K., Swaney, S., Carlson, G., Mullett, S. (1988). Purpose: To determine differences in psychosocial and medical factors among	Design: Retrospective, matched sample. Method: Retrospective record review of records. Instruments: A 40 factor psychosocial instrument	Sample: 65 primarily single, female matched pairs. 40% were less than 20 years old; greater than 25% were Black or Native American. The majority	Hospitalization and street drug use were significantly related to LBW. Complications during pregnancy were similar for both groups. 20% of the	Women reporting relationship problems with parents and partner may be abused or at increased risk of abuse. Limitations: Lack of

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
low-income women with LBW and NBW infants.	developed by investigators based on factors identified from research literature and review of past patient record. Statistical Analysis: Chi-square analysis and descriptive statistics utilized. Definition of abuse: Not specifically described. Assessment not specifically described.	had less than 12 years of education.	women reported CSA. 50% of the women had a history of drug abuse; 55.4% were mothers of LBW infants. 25% identified relationship problems with their mother and father. More than 50% of the women indicated problems with the father of the baby. 20% of the women reported emotional abuse and more than 10% reported physical abuse. Financial concerns were expressed by almost all of the women.	interview data relative to abuse screening may effect actual prevalence of abuse. The women's perceptions of her situation--psychosocial support and problems was not assessed. Not enough description of methodology, assessment tool provided.
Curry, M.A. & Wall, E. (1992; 1995). Purpose: To determine the relationship between sociodemographic risk factors, biomedical risk factors, psychosocial risk factors, and lifestyle behavior risk factors to each other and to low birthweight and other adverse pregnancy outcomes, including labor and delivery complications and infant complications.	Design: Prospective correlational study. Methods: Instruments: PPP, AAS questions, patient chart audits, and birth certificates. Definition of abuse: A positive answer to question 2,3 or 4 from the AAS or positive response at time 1 or time 2 to a question on stress relative to abuse classify women as abused. Abuse only reassessed for with one question on stress relative to abuse.	1400 pregnant women at four prenatal care clinics in the Portland metropolitan area, affiliated with the Oregon Health Sciences University (OHSU) Perinatal Program. The sample had a mean age of 23.5 years, with a range of 13 to 43 years. 37.4% had not completed high school. The monthly income mean was $1003.57. The participants had a mean parity of one, with 55.6 % of the pregnancies reported as planned. Weeks of	Research is in progress. Data collection continues through May 1995.	

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
		gestation 17 (mean) at interview.		

Summary of Literature:
Abuse Assessment Instruments

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Hudson, W.W. & McIntosh, S.R. (1981). Purpose: To describe the validity and reliability, administration, scoring and score interpretation of the Index of Spouse Abuse (ISA) scale.	Design: Three quantitative studies, non-random sampling. Method: Three studies were detailed to describe the validity and the reliability of the ISA. Instruments: Questionnaires were administered for sociodemographic information. Four clinical scales [the Generalized Contentment Scale (GCS), the Index of Self-Esteem (ISE), the Index of Marital Satisfaction (IMS) and the Index of Sexual Satisfaction (ISS) and the ISA were utilized.	Study 1 (HSAS): 398 graduate and undergraduate females were non-randomly sampled. Mean age of sample was 22.8 years, 79.3 % were single. 88.8% were childless. Mean educational level was 14.6 years of education with average monthly income of $1447. Study 2 (ISAC): 188 graduate and undergraduate students and faculty, non-random sampled. Study 3 (ISAV): 107 women from social agencies and shelters. Mean age was 29.9 years; 54.7 % were married and 31.1 % were separated or divorced. 43.7 % had one or two children. Mean education completed was 13.4 years. Mean length of time with the current spouse or partner was 7.4 years. Average monthly income was $1142.	The ISA is a thirty item, self-report instrument developed for clinical use. It is composed of two subscales designed to measure physical and non-physical abuse. Scores are calculated by weighting the items and summing the responses. Possible subscale scores range from 0-100. The higher the score, the greater the severity of abuse. Reliability: Cronbach's alphas have been reported of .9031 to .9420 for the ISA-P (physical abuse) and .9124 to .9688 for the ISA-NP (non-physical abuse) subscales. Evidence of content validity is supported by measuring both physical and non-physical abuse. Construct and discriminant validities have been supported by the correlation of ISA scores with related variables and established abuse measures.	Shortening of tool is not recommended by authors. Limitations: Non-random sampling for all studies. Potential for respondents to give socially desirable responses.
Curry, M.A., Campbell,	Two studies were done.	Study 1: A convenience	Study 1: Reliability:	Both samples were non-

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
R.A., & Christian, M. (1994). Purpose: To examine the validity and the reliability of the Prenatal Psychosocial Profile (PPP).	Design: Prospective design for each. Study 1 The self-report PPP was read to the participants by trained RAs. Study 2 used a test-retest design. The PPP and the Difficult Life Circumstances Scale were administrated as above, and then the PPP was readministered at a subsequent prenatal visit. Instruments: PPP, Difficult Life Circumstances Scale.	sample of 91 low income pregnant women with at mean age of 24.5 years. Years of education completed ranged from 8-17 with a mean of 11.8. 66% of the women were partnered. The mean monthly income was $555. Study 2: 88 women comprised this convenience sample, with a mean age of 26.4 years. Mean years of education completed =12.3. 77% were partnered, and the mean monthly income was $970.	Crohnbach's alphas>0.70. Validity: Stress scores were significantly negatively correlated with support from partner, support from other, and self esteem. Self-esteem was positively correlated with partner and other support. Study 2: Validity: Convergent validity was demonstrated with the DLCS. Significant correlations were demonstrated between the scales. Reliability: Correlations ranged from .78 to .84 indicating test-retest reliability. Cronbach's alphas ranged from .73 to .96.	random, low-income, adult, Caucasians limiting generalizability to that group.
McFarlane, J., Parker, B., Soeken, K., & Bullock, L. (1992). Purpose: To assess the occurrence, frequency, and severity of physical abuse during pregnancy and associated initiation of prenatal care.	Design: Stratified, prospective cohort analysis. Instruments: The Abuse Assessment Screen (AAS), Conflict Tactics Scale (CTS), Index of Spouse Abuse (ISA) and the Danger Assessment Screen (DAS) were used. Method: The AAS was verbally administered, while the other instruments	Sample: 691 black, Hispanic and white women with 57% in the 20 to 29 age range. 35% of the sample were married, while 95% had incomes that were below the poverty level.	The three question AAS detected a 17% prevalence of physical or sexual abuse during pregnancy. Convergent validity was demonstrated with the ISA and the CTS. 60% of the women reported two or more episodes of abuse. Abuse frequency and severity and homicide risk were significantly worse for	Abuse prevalence higher than other studies with pregnant women. Reassessment for abuse may have uncovered abuse that was not reported in the first interview or that started later in the pregnancy.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	were completed by the women. Statistical Analysis: Descriptive statistics. Definition of Abuse: Women who answered yes to questions 2,3, or 4 of the AAS were classified as abused. Women were screened for abuse during each trimester.		white women. Abused women were twice as likely to enter prenatal care during the third trimester.	
McFarlane, J., Christoffel, K., Bateman, L., Miller, V., & Bullock, L. (1991). Purpose: To compare the prevalence of abuse reported by women using a self-report instrument compared with a nurse-interview format.	Design: Prospective design. Method: AAS used in self-report on demographic questionnaire vs. nurse-interview format. Instruments: AAS Statistical analyses: Chi-square, descriptive statistics. Definition of abuse: Women who answered yes to questions 2,3, or 4 of the AAS were classified as abused. Screening occurred one time.	Sample: 300 women were randomly selected and administered the questionnaire and interviewed by the nurse. Of these women, 58% were age 20-29 and 67% had never been married. Black comprised 54% of this group, 27% were white, and 17% Hispanic. These were compared with a historical group of 477 women who had self-reported abuse in a previous study. The majority of the women (60%) were age 20-29. 68% had never been married. Of this group, 42% were black, 39% white, and 17% Hispanic.	Of the women interviewed, 29.3% reported physical abuse, while only 7.3% self-reported abuse. During pregnancy, 8.3% of those interviewed reported abuse compared with 1.5%. 44 women (14.7%) reported yes to forced sexual activities when interviewed compared to 1.3%. Questions that dealt with emotional problems, changes in living arrangements and legal problems elicited no statistically significant difference on nurse interview.	Women were more likely to disclose physical abuse, abuse during pregnancy, and forced sexual activities during a nurse interview than on a questionnaire.
Campbell, J.C. (1986).	Design: Quantitative, non-	Sample: 79 women who	Of the 79 woman sample,	Non random sampling.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Purpose: To describe the Danger Assessment instrument along with it's validity and reliability.	experimental design. Method: Women identified as abused were asked if they would be interested in filling out the DAS with the assistance of a nurse. Instruments: CTS, DAS, adapted scale by Berk et al. Definition of Abuse: Women were defined as "battered" by use of the CTS. + Response to one or more instances of physical aggression. One time assessment.	were identified as battered by use of the CTS were the convenience sample. 69.6% of the women were 15-34 years of age. 45.6% of the women were women of color, and 38% of the women had a total family income below the poverty level.	39.2% of the women reported an expected increase in severity and frequency of abuse, while 53.2% reported no increase or a decrease in expected severity and frequency of abuse. 38% of the women had a firearm in their house. 74.7% reported that there abuser was sexually abuse. 72.1% of the women reported abuser intoxication every day or almost every day. 54.4% reported abuser controls all aspects of their lives. Reliability: Crohnbach's alpha was 0.71 for the sample. Construct validity was supported by the positive, moderate-to strong correlation's with items on the CTS and the severity of injury from a scale adapted from Berk et al. Content validity was supported by various domestic abuse experts.	
Straus, M.A. (1979). Purpose: To describe the validity, reliability, and use of the Conflict Tactics	Design: Quantitative, retrospective, non-experimental design. Method: Student volunteers	Sample: 105 students in two sociology courses and 72% 121 of their parents. Data collection:	The CTS measures the use of reasoning, verbal aggression and violence within the family.	Assumption of the instrument is that violence occurs somewhat equally in a family instead of the

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Scale (CTS).	were asked to complete the CTS. A similar questionnaire was sent to each of their parents, separately. Definition of Abuse: Determined by score on CTS.		Reliability: item analysis with mean item-total correlations were above .70 for both husband and wife in reasoning, verbal aggression, and violence categories. Crohnbach's alphas were >0.70. Validity: Concurrent validity was supported by congruence of answers by students and parents.	usual unidirectional pattern of male to female partner. Limitations: Scoring is somewhat tedious. The tool is administered in written form and may not truly capture those in abusive relationships.

Summary of Literature:
Abuse During Pregnancy

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Campbell, J.C., Poland, M.L., Waller, J.B., Ager, J. (1992). Purpose: To describe the factors that correlated with violence in pregnancy.	Design: Exploratory, retrospective design. Method: Interviewed women 2-5 days postpartum. The interview consisted of open-ended and fixed questions. Prenatal care was assessed via the Kessner Index. The AAS was utilized. Chart reviews and interviews were conducted by five trained interviewers. Instruments: Kessner Index, AAS. Statistical analyses: Spearman correlations, descriptive statistics. Definition of abuse: A positive response to AAS. Participants divided into three categories of abuse: 1) Partner assault during pregnancy; 2) Partner assault before pregnancy only; 3) Assault by someone other than partner before or during pregnancy. One time assessment for abuse.	Sample: The convenience sample was comprised of 488 women, 85.7% were Medicaid eligible. Mean age for the sample was 23.3 years; 66.6% were African-American. The average parity was 1.3 children.	Prevalence of 11.2 % or 56 of the women reported physical abuse at some time during their relationship. 7% of the women reported abuse during pregnancy, while 4.2% were battered prior to pregnancy only. Ten of the women battered during pregnancy reported an increase in violence during pregnancy. Significant correlations were found with drug and alcohol use and depression and anxiety. Women battered during pregnancy were most likely to be depressed and anxious; least likely to have adequate prenatal care; and least likely to have social support.	Lower prevalence among those women battered before pregnancy possibly due to racial differences. Associations with housing and problems in daily living, emotional problems and inadequate social support evident. Severity of abuse increased during pregnancy. No significant correlations with demographic variables and abuse. Inadequate prenatal care with women abused during pregnancy identified. Limitations: Retrospective design may promote recall bias.
Young, C., McMahan, J.,	Design: Retrospective,	Sample: 201 women	Women seeking third	Although family crises and

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Bowman, V., and Thompson D. (1989). Purpose: To examine self-reported maternal reasons for delayed entry into prenatal care.	correlational. Method: Women who entered prenatal care in a county health system in the third trimester were interviewed. Interviews were conducted in their home by a public health nurse regarding self-reported reasons for delayed prenatal care. Instruments: None except interviews. Statistical Analysis: Descriptive statistics and content analysis of qualitative responses. Definition of Abuse: Not specifically assessed for or else not described.	seeking third trimester entry to prenatal care. Twenty-three percent of the sample was less than 18 years old. Greater than 15 percent of the women entered prenatal care during the 36th week of gestation or later. More than 57 percent of the women were under age 20, and less than 19 percent of the women over age 20 were primagravidas.	trimester care demonstrated several high risk behaviors. Almost half of the women seeking late prenatal care smoked during pregnancy and had a child less than two years of age. Approximately 30 percent reported less than 15 pounds weight gain during pregnancy. These women were more likely to be single, a member of a minority group, to have completed less than 12 years of education, and to be unemployed. Adult women attributed delayed entry to prenatal care to numerous social problems including unemployment, single parenthood, stress, family crises, and interpersonal conflicts with the father of the baby.	conflicts with the father of the baby were described by the women as barriers to prenatal care, the researchers failed to explore the details of the crisis and conflicts. Based on the research of Campbell et al. (1992) and Amaro et al. (1990), it might be hypothesized that the some of the conflicts and crisis in these women's lives were related to abuse.
Amaro, H., Fried, L.E., Cabral, H., & Zuckerman, B. (1990). Purposes: To describe the prevalence and patterns of abuse during pregnancy; to describe the association between demographic and	Design: Prospective, descriptive, correlational design. Method: Participants were interviewed during the prenatal and postpartum period. Medical records were abstracted for	Sample: 1243 pregnant women primarily low income ($500/month), 55% were American black, 55% were primiparous, and 66% were between 19 and 29 years of age.	7% of the women reported physical or sexual violence during pregnancy. These women were more likely to be white, American, and single. They were also more likely to be on Medicaid. Victims of abuse	Limitations: Homogenous, non-random sample limits generalizability. Assessment of abuse not done by health care provider and did not use a standardized screening tool.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
psychosocial characteristics, drug and alcohol use/abuse and violence in pregnancy; to explore the association between the experience of violence in pregnancy and newborn outcomes.	pertinent data. Instruments include: LES, CES-D, urine drug analysis and a forced choice questionnaire for sociodemographic characteristics. Statistical Analysis: Odds ratios and 95% confidence intervals. Multiple logistic regression and least square multiple regressions were utilized. Definition of Abuse: "Victims of violence" were women who experienced sexual or physical abuse during pregnancy.		were more likely to be unhappy about the pregnancy, perceived their partner or family as unhappy about the pregnancy, and had a history of depression or attempted suicide. Abused women also had more depressive symptoms and negative life events in the past year. Abused women were at greater risk of being heavy users of alcohol and elicit drugs and of having a male partner who used marijuana and/or cocaine. Weak positive associations were found with the experience of violence in pregnancy and negative birth outcomes.	
Campbell, J.C., Oliver, C., & Bullock, L. (1993). Purpose: To answer the question: What are the reasons women used to explain their experiences of violence from their husbands or partners during pregnancy? To correct the victim-blaming approach utilized by	Design: Exploratory, correlational, retrospective design. Focus of analysis: Demographic variables, smoking and alcohol habits, incidence of abuse. Minor variables: maternal complications during labor, onset of prenatal care, number of previous	Setting not specified other than two cities. Women were recruited via newspaper advertisement and bulletin board postings. Sample: 51 women--53% were pregnant and battered during pregnancy by their partner and 47% women who had been pregnant by	Responses to the open-ended interview questions explaining abuse illustrate four basic themes: 1) jealousy of the unborn child; 2) pregnancy-specific violence that was not directed toward the unborn child; 3) anger toward the unborn child; and 4) anger against the woman or	Women who are abused prior to pregnancy may or may not be abused during pregnancy. This study emphasizes the need to assess and reassess for domestic abuse, because the pregnancy may alter the pattern, frequency, or severity of abuse. Limitations: Small sample

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
previous research; shed light on whether pregnancy is a time of increased risk for abuse; compare women battered during pregnancy with a group of women also abused and having a history of pregnancy by the abuser but who were not battered during pregnancy.	abortions and whether the woman was a public or private patient. Instruments: Use of a modified Conflict Tactics Scale (CTS) and Campbell's Danger Assessment tool, and interviews. Qualitative Analysis: Responses to the open-ended question were coded by themes. Statistical Analysis: t-tests on demographic and other study variables. Chi-square analysis of ethnicity and abuse. Definition of Abuse: Women identified as battered by answers on the Conflict Tactics Scale (CTS), modified to reflect sexual and physical abuse from intimate partner. One time, retrospective assessment for abuse.	the abuser, but not battered during pregnancy. Equal distribution between African- and European-American. Both groups had similar mean ages, years of education, family income, and amount of time in relationship. Group I (Abused but not during pregnancy) had a mean conflict tactics scale score of 297; and mean severity of injury score of 2.17. Group II (Abused while pregnant) had a mean conflict tactics scale score of 461.33; and mean severity of injury score of 3.11.	"business as usual." No demographic differences were found between women battered during pregnancy and those women who were not battered during pregnancy. Group II experienced greater severity and frequency of abuse and also had more severe injuries. Women viewed the batterers as being responsible for the abuse rather than blaming themselves.	size in an unknown setting limits generalizability. The study evaluated women's perception versus the batterers actual motivation to abuse, therefore, may or may not actually be the reasons men batter. Retrospective nature of the study may have altered women's perception of reasons for abuse. Although the women did not report self-blame for the abuse, the retrospective nature may have modified this.
Bohn, D.K. (1990). Purpose: To review literature describing the experiences of pregnant women with domestic abuse; describe the cycle of	Design: Literature review. Focus of analysis: Literature available about abuse during pregnancy; the dynamics of the abusive relationship; resources and	Reviewed 17 studies, with a total sample of 7195 women, husbands, children, and crisis phone callers. Research studies used a variety of methods:	Approximately half of all battered women experience abuse during pregnancy with the occurrence varying from 1 in 11 to 1 in 50 women in the general	A comprehensive literature review addressing nursing and non-nursing literature, however, the author addressed only the role of the nurse-midwife instead

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
violence, coping strategies of abused women; and describe the primary, secondary and tertiary intervention strategies for the nurse-midwife providing care to prenatal patients who are victims of domestic abuse.	roles of the nurse-midwife. Definition of Abuse: Battered women defined as women who have suffered one or more episodes of battery from their male partner or ex-partner. Slapping, kicking, punching, shoving, torture and sexual assault are forms of battery. Psychological and emotional battery are also forms of abuse.	personal and phone interviews, medical records, police and court records, Conflict Tactics Scale and the Danger Assessment tool, questionnaires.	public. Abuse often begins or escalates during pregnancy. Outcomes of abuse (in addition to physical and emotional injury to the woman) include spontaneous abortion, low birth weight infants, preterm labor, fetal injury and fetal death. An understanding and awareness of the dynamics of domestic abuse are vital to effective intervention.	of other health care providers. The strategies advocated are applicable to and appropriate for other health care providers giving prenatal care.
Gelles, R.J. (1988). Purpose: Examines the hypothesis that pregnant women are at increased risk of being victims of violence and battering by their partners.	Design: Descriptive, exploratory design. Method: Telephone interview of national probability sample. Instruments: Definition of Abuse: 1) violence -- defined as an act carried out with the intention or perceived intention of causing physical pain or injury to another person; and 2) Abuse -- was defined as those acts of violence that have a high probability of causing injury to the person. Instruments: Telephone	Sample: National probability sample of 6002 households which included adults 18 years of age or older who were: a) presently married; or b) presently living as a male-female couple; or c) divorced or separated within the last two years; or d) a single parent with a child under 18 years of age and living in the household. Black and Hispanic households were oversampled. Type of setting: Private homes across the United States (via telephone).	The research hypothesis was not statistically supported, although the differences between the rates of violence in households with pregnant women compared to homes with women who were not pregnant were large. Pregnant women's risk of minor violence was 23.8% greater than non-pregnant women's. Pregnant women's risk of abusive violence was 60.6% greater and the overall risk of any form of violence for pregnant versus non-pregnant women was	Limitations: Method of data collection, phone interviews and interviews of male partners, may not be a reliable method to determine the incidence of violence. Although no statistically significant increased risk of abuse was found with pregnant women, the results from this study contradict those of other studies, and the results need to be replicated. If not statistically significant, clinical significance is evident. Assessing women at one point in their

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	interview with the use of the Conflict Tactics Scale. Analysis: Descriptive Statistics and two-way analysis of variance.		35.6% higher. Pregnant women also reported greater severity of violence. When pregnancy and age were controlled for, the large differences in occurrence disappeared (F statistic was 3.351, with 1 degree of freedom, with a statistical significance of 0.067).	pregnancy may miss the onset or pattern of abuse. Also, a comparison of information obtained in phone interviews and personal interviews would be useful.
Helton, A.S., McFarlane, J., & Anderson, E.T. (1987). Purpose: To describe the occurrence of pregnancy and battering and examine the influence/ correlation of demographic variables; smoking and alcohol use/ abuse; battering incidence, occurrence, and threats; sites of abuse; seeking of medical behavior for injury due to battering; and abuse during prior pregnancy on the current pregnancy experience relative to battering.	Design: Descriptive, correlational design. Method: Women interviewed, assessed for presence of variables. Demographic variables, smoking and alcohol habits, incidence of abuse. Minor variables: Maternal complications during labor, onset of prenatal care, number of previous abortions and whether the woman was a public or private patient. Instruments: 19 item questionnaire used in interviews, use of body map to identify sites of abuse/injury. Statistical Analysis: Descriptive statistics.	290 pregnant women; 80% were at least five months pregnant; had an age range of 18-43 years; ethnicity/race--Latino, Black, White and American Indian or Asian; the majority were married. Subjects were randomly selected at the sites. The public clinics were randomly selected, private clinics were a convenience sample.	Eight percent reported abuse during pregnancy, and 15% reported battering before the current pregnancy. 33% of the women battered during pregnancy sought medical attention. 87.5% of the women battered during pregnancy reported abuse prior to pregnancy; 29.1% of the women reported increased severity of abuse following pregnancy. The most frequent site of abuse was the head, followed by the trunk, and extremities. None of the women were identified as abused by their health care providers nor had they been given a community resource list.	This study illustrated the prevalence of battering of pregnant women in a selected sample of women seeking prenatal care. The primary predictor of abuse during pregnancy was previous abuse. It also emphasizes the need to assess the woman's entire body for injuries, because sites are not limited to specific areas of the body.

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	Definition of Abuse: Report of a partner hitting, slapping, kicking or physically hurting woman. Abuse assessed for one time.		Demographic variables were not significant for incidence of abuse.	
Gelles, R.J. (1975). Looked at the occurrence of domestic abuse between husbands and wives during pregnancy.	Design: A secondary analysis of a primary research study on violence between husbands and wives. Method: Informal, unstructured interview. Informal, unstructured interview. Instruments: None described. Primarily qualitative analysis (not described) Statistical Analysis: Descriptive statistical analysis. Definition of Abuse: Not given.	Members of 80 families; no other identifying data was provided.	55% of the sample reported violence. Of those, 22.7% reported battering during pregnancy. Potential causes of battering during pregnancy cited: 1) husband's sexual frustration; 2) transition to parenthood and resultant stress; 3) wife's biochemical changes; 4) abuse aimed at the unborn child; and 5) wife's defenselessness.	This was the first discussion of the relationship between pregnancy and domestic abuse. Conclusions emphasize the need for assessment of abuse during pregnancy. Limitations: Limited generalizability to study population. Blaming the victim mentality was evident. No specific definition of violence or battering given.
McFarlane, J. (1989). Purpose: To discuss the etiology battering, the prevalence of battering during pregnancy, and the pregnancy outcomes of battered women.	Design: Review of literature and a description of a prevention program.	N/A	Prospective studies measuring the severity and frequency of battering correlated to maternal complications and pregnancy outcomes have not been done. Pregnancy is the time healthy women are in frequent contact with	

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			health providers. That makes it an ideal time for assessment for and education about abuse.	
Parker, B. & McFarlane, J. (1991). Purpose: To describe assessment and interventions for battered pregnant women.	N/A	N/A	The AAS is described as an assessment tool. Intervention is the responsibility of the nurse if the woman reports that battering has occurred. The nurse must be familiar with area resources and local laws and ordinances. Ensuring the woman's safety is integral. Use of the DAS helps to evaluate risk of homicide.	
Parker, B., McFarlane, J., Soeken, K., Torres, S., & Campbell, D. (1993). Purpose: To compare the physical and emotional abuse during pregnancy among adult and teenage women.	Design: Stratified, prospective, cohort analysis. Method: All new maternity patients were assessed for abuse using the AAS by their primary care providers. All women completed the ISA and the CTS. Abused women also completed the DAS. Definition of Abuse: Women who answered yes to questions 2, 3, or 4 on the AAS were considered abused.	Sample: 691 pregnant women, 31% were teens with a mean age of 17.5 years. The mean age of the adults (69%) was 25.4 years. All were urban residents who received care at a public clinic. 38% were African American, 34% were Hispanic and 27% were white. 95% were below the poverty level. 22% of the teens were married and 39% of the adults. For 18% of the teens and 63% of the adults, this	Abused women in both teen and adult groups entered prenatal care later in pregnancy. 26% of the women reported abuse within the last year at the first prenatal visit (31.6% of teens and 23.6% of adults). 8% of the nonabused women reported abuse beginning in the second or third trimester. 21.7% of the teens and 15.9% of the adults reported abuse during pregnancy. Adult women	Study also described in McFarlane et al., 1992. More teens report abuse, however, adults experience greater severity of physical and non-physical abuse. One in 5 teen and one in 6 adult pregnant women report physical or sexual abuse during pregnancy. The AAS was effective in screening for abuse when compared with longer instruments.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	Instruments: AAS, ISA, CTS, DAS. Instruments were readministered in the 2nd and 3rd trimester.	was the first pregnancy.	reported more severe physical and emotional abuse.	
McFarlane, J. (1993). Purpose: To review clinical research on abuse in pregnancy. Previous research emphasized was proposed to determine the frequency, severity, and location of physical abuse during pregnancy, associated characteristics of the abuser, and trimester of entry into care specific to ethnicity of pregnant women.	As described above.	As described above.	As described above.	
Gielen, A.C., O'Campo, P.J., Faden, R.R., Kass, N.E., & Xue, X. (1994). Purpose: To examine the frequency, severity, perpetrators and psychosocial correlates of violence during the childbearing year.	Design: Prospective, correlational. Method: Women were interviewed three times during pregnancy (at the first and second prenatal visits and at a third trimester visit), and at a 6 month postpartum visit. Instruments: CTS; Vaux et al.'s Social Support Appraisal Scale; Barreras's Inventory of Socially Supportive Behaviors, and a Likert scale of social	Sample: 275 pregnant women receiving care at the prenatal clinic of an urban teaching hospital. 65% of the women were age 18-24, 49% had completed high school, 89% were single, 83% had an income < $15000, 92% of the sample was African American, 76% were unemployed, and 36% were primaps.	Only 25% of the total sample reported no interpersonal conflict or physical violence during the childbearing year. 4% of the sample experienced moderate or severe violence 5 or more times during pregnancy, while 6% experienced this level of violence 5 or more times during the postpartum. 19% of the sample experienced moderate or severe violence prenatally,	Multiple interviews during pregnancy by interviewers, not health care provider. Use of CTS. Primarily African American, low-income sample. Only study to follow the sample through pregnancy and postpartum.

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
	support items; Locus of Control was assessed by a 12 item Likert scale; Drug use by partner was by the women's self report. Statistical Analysis: descriptive statistics, chi-square analyses, ANOVA, and multiple logistic regression. Definition of Abuse: + Report on CTS. Conflict further delineated into actions resulting in a high probability of causing injury and those that don't.		compared to 25% in the postpartum. Women who experienced moderate or severe violence from their male partner were more likely to be younger, be better educated, have lower levels of family and friend support and to report that a sex partner had ever shot drugs. Being older, having a confident other that a male partner and social support from friends were significant protective factors.	
Gazamararian, J.A., Adams, M.A., Saltzman, L.E., Johnson, C.H., Bruce, F.C., Marks, J.S., Zahniser, S.C., & the PRAMS working group (1995). Purpose: To determine if pregnancy intendedness is associated with physical violence, and identify factors that modify the association.	Design: Retrospective, correlational. Method: Questionnaire mailed to a population-based sample of new mothers, three to six months postpartum. Instruments: Not described. Statistical Analysis: Multiple logistic regression. Computation of odds ratios. Definition of Abuse: + report of "physical violence" defined as husband or partner physically hurting her during 12 months before	Sample: 12612 new mothers in four states. The majority of the sample had completed 12 or more years of education, were white, married, over age 24, did not participate in WIC during pregnancy, had started prenatal care in the first trimester, and had an intended pregnancy.	Reported rates of physical violence were higher for women with less than 12 years of education, were races other than white, were less than 20 years of age, were not married, lived in crowded conditions, participated in WIC during pregnancy, and delayed or had no prenatal care. Women with unintended pregnancies reported higher rates of physical violence. Nearly 43% of the women reported an unintended pregnancy. 67% of the	Large sample size. Limitations: Use of mailed questionnaire may underrepresent the actual incidence of violence in women's lives. Questions assessing violence were non-standardized. Did not assess for postpartum violence or trajectory or levels of violence in pregnancy. Retrospective. Did not follow up with women who reported abuse. Was pregnancy intendedness ever assessed during pregnancy?

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Summary of Literature
Abuse, Nursing, and the Health Care System

Author/Purpose	Design/Method	Sample/Data Collection	Findings	Comments
Sampselle, C.M. (1991). Purpose: To describe and analyze the incidence of violence against women, the social dynamics that sustain the violence, and the role of the nurse in counteracting those dynamics.	Design: N/A--literature review	N/A--literature review	Annually, 1-10 million American women are abused by their male partner. Majority of victimization studies reflect higher incidence of violence against women than do official statistics. Evidence suggests that approximately 33% of the women in the US experience sexual violence or battery at some time in their life. The sexist social order operates to maintain men's power over women. Devaluation of women, power inequity, the view of women as property all serve to maintain the patriarchal social order. Nurses must examine their personal feelings about abuse, empower women through nursing practice, and develop setting-specific interventions.	Application of feminist philosophy in working against abuse within a nursing context.