The Impact of Child Sexual Abuse on Women's Breast-Feeding Behavior

By

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ABSTRACT: The Impact of Child Sexual Abuse on Women's Breast-Feeding Behavior

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This study sought to determine whether a history of child sexual abuse (CSA) would impact initiation and duration of breast-feeding in new mothers. Using an instrument based on the modified Sexual Experiences Survey (SES) and three items from the Abuse Assessment Screen, the bilingual researcher interviewed 56 Hispanic and Non-Hispanic women. While the study revealed related variables of significance (level of maternal education, change between prenatal intended feeding method and actual in-hospital, and decreased numbers of women breast-feeding at 4 to 6 weeks post partum than had originally intended), the study found no significant association between women's history of CSA with infant feeding behavior. The study also incidentally revealed a high level of reported past and current abuse (52%), particularly among Hispanics.

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Chapter 1: Introduction

Clinical observations suggest that there may be a relationship between a woman's history of child sexual abuse (CSA) and her infant-feeding behavior. However, whether the experience of sexual abuse in childhood is associated with women's infant-feeding behavior has not been investigated. The primary aim of this project was to examine the relationship between women's history of CSA and their infant-feeding behavior.

It is estimated that one-third to one-quarter of women have been sexually abused as children (Anderson, Martin, Mullen, Romans, & Herbison, 1993; Wynkoop, Capps, & Priest, 1995). There is extensive evidence of both short and long-term effects for the adult woman survivor of CSA. However, the emotional effects of CSA on women during the childbearing years have only been theoretically described. While there is extensive empirical literature regarding the multiple factors that influence breast-feeding, no studies have empirically examined the effects of CSA on breast-feeding behavior. Thus, it is not known if any factors related to a history of CSA impact a woman's breast-feeding behavior or the extent of that influence.

Low breast-feeding rates in the United States have long been a public health issue. Empirical data demonstrate the benefits of breast-feeding and are evidenced by supportive recommendations for breast-feeding from the American Academy of Pediatricians, the World Health Organization, and the Healthy People 2010 objectives. Yet, there remains concern that more women do not initiate and continue breast-feeding. The discrepancy is not new between the professional recommendations, the national goals, and the actual rate of breast-feeding initiation and duration. The clinical question is whether CSA may be one of the factors that contribute to low rates of breast-feeding.

Certainly, breast-feeding and child sexual abuse are areas that impact directly on women. Indirectly, those effects extend into the family and the larger community. From their position as members of the health care team, nurses have the capacity to intervene positively with women from preconception through pregnancy, childbirth, and into the post-partum period. Nurses inform, care, advocate, and provide education for women as well as strive professionally to improve the outcomes for women, their children, and their families. The pregnancy and subsequent birth of a child is often a catalyst for a variety of behavioral changes, learned through formal and informal processes. Tasks within the scope of nursing practice include (a) identifying a potential negative influence, (b) educating women and their families, and (c) providing techniques for overcoming barriers.

Some of the variables that influence a woman's decision to initiate and continue to breast-feed cannot be modified, such as the woman's age, ethnicity, or level of education. Other variables, such as social support and specific knowledge that promotes breast-feeding may be modifiable. If an association between child sexual abuse and breast-feeding exists and can be described, nursing can respond in three important ways. First, nursing has the responsibility and the ability to convey information in a judicious and convincing manner to other health care and allied professionals, the lay community, and women themselves. Secondly, nurses can intervene by assisting women, their families, and the public through hands-on care, education, and identification of risks and trends that serve as barriers to the well being of the clients. Finally, nursing can provide further research into this timely issue to make available the data that will assist in moving the issues of CSA and breast-feeding onto the public agenda and foster debate from an evidence-based perspective.

Chapter 2: Review of the Literature

The rationale for breast-feeding is supported by an expanding body of research, as well as position statements from such agencies as the World Health Organization (WHO), the American Academy of Pediatrics, and the American Dietetic Association (ADA). Literature also documents the factors that appear to influence a woman's decision to initiate and continue breast-feeding. Yet a percentage of women decline to breast-feed at all, despite interventions such as the Baby Friendly Hospital Initiative, which was designed to increase the number of women who breast-feed (Saadeh & Akre, 1996). Additionally, there are women who state they want to breast-feed, who can verbalize the benefits, and yet who do not successfully initiate or continue breast-feeding. Clinically, it has been observed by this author that a history of child sexual abuse (CSA) may be a hidden factor that influences women in their choice of an infant-feeding method.

This chapter (a) presents an operational definition of breast-feeding; (b) reviews and synthesizes the current literature on this topic, focusing on factors that have been associated with a woman's ability to initiate and/or continue breast-feeding; (c) examines the literature for the incidence and prevalence of CSA among adult women; (d) discusses the definition of CSA and how it has been measured; (e) reviews the effects of CSA on adult women, including those effects suggested as specific to or relevant for pregnant women; (f) examines the theoretical effects that have been suggested as explaining the impact of CSA on adult women, and (g) suggests a conceptual framework within which to examine the impact of a woman's history of CSA on her breast-feeding behavior.

Criteria were established for selecting English-language sources to review on breast-feeding and CSA. Articles on breast-feeding were selected for review if they reported research

on full-term infants, within North America, and in the two ethnic populations of interest to this study, European-American and Hispanic. Attention focused on papers that examined ante-partum, in-hospital, and early post-partum factors that affected breast-feeding initiation and duration. The selection of CSA papers was determined by the author's interest in a community sample of pregnant and potentially breast-feeding women. Literature that focused exclusively on boys and men abused as children, that examined CSA within a psychiatric population, or that was specific to incest were not included. Although the focus was on child sexual abuse, studies that explored all types of child maltreatment, encompassing sexual abuse, physical abuse, emotional abuse, and neglect were reviewed if information on child sexual abuse was included, along with studies that exclusively examined CSA.

Definition of Breast-Feeding

For the purposes of this study, the definition of a woman's breast-feeding behavior is limited to the initiation and continuation of exclusive breast-feeding for the first 4 to 6 weeks post-partum. The literature on breast-feeding has been plagued by inconsistencies in defining breast-feeding (Labbok & Krasovec, 1990). This section provides a brief overview of how breast-feeding is defined in the literature and the attendant problems with the varying definitions. The lack of a uniform definition has resulted in (a) difficulties with comparing results across studies, (b) misinterpretation of results, and (c) an inability to establish accurate rates of breast-feeding. Clarity in all three areas is necessary if clinicians and policy makers are to determine effectively where to invest efforts promoting and supporting the breast-feeding family.

In general, the studies used one of three categories of infant feeding: breast-feeding, breast- and bottle-feeding in some combination, and bottle-feeding (Bernstein, Fink, Handelsman, et al., 1994; Bernstein, Ahluwalia, Pogge, & Handelsman, 1997). Listed below is a

brief overview of definitions generally used to describe infant-feeding behaviors, followed by a summary and rationale for the definition selected for this project.

Breast-Feeding

Definitions of breast-feeding range from narrow and conservative to broad and inclusive. Variations in definition occur in both clinical and research settings, and they reflect both a clinical concern to recognize any attempt at breast-feeding behavior and a research interest in a specified and measurable variable. The World Health Organization has narrowly defined breast-feeding as the exclusive use of breast-milk (Green & Jones, 1991). This contrasts with the work of some researchers who provide a definition of breast-feeding intended to be inclusive rather than exclusive. For example, Wright, Rice, and Wells (1996) considered women as breast-feeding if they had nursed their infant at any point prior to discharge from the hospital. Duckett, Henry, Avery, et al. (1998) considered women as breast-feeding if they continued to nurse their infant or provide human milk in any form, even if it was only one feeding in 24 hours.

Some studies simply referred to two categories of infant feeding: breast-feeding and not breast-feeding (Brandt, Andrews, & Kvale, 1998; Kramer, Barr, Dagenais, et al., 2001; Morrow, Guerro, Schultz, et al., 1999; Perez-Escamilla, Pollitt, Lonnerdal, & Dewey, 1994; Ryan, 1997; Wiemann, Dubois, & Berenson, 1998). Breast-feeding as a dichotomous variable resulted in either a loss of data or a confusion of data. Women could be either exclusively breast-feeding or partially breast-feeding but still be categorized as breast-feeding. In these studies, the amount of supplementation did not affect the definition of breast-feeding.

Breast- and Bottle-Feeding

Some authors handled the difficulty of women who did breast-feed but not exclusively by including a category between exclusive breast-feeding and exclusive bottle-feeding. The

intention behind establishing multi-levels of breast-feeding behavior was to include the actions of women who demonstrated some breast-feeding behavior but who were not exclusively breast-feeding. The kind, timing, and amounts of supplementation have also been considered (Hellings, 1985; Perez-Escamilla et al., 1994).

One study attempted to differentiate between what constituted a supplementary feeding and what constituted a complementary feeding (Coreil & Murphy, 1988). Supplementation indicated an entire feeding of formula in place of breast-feeding; complementation signified the addition of formula at the end of a breast-feeding session to complete the feeding. In addition, some researchers have recognized that non-human milk (formula) may not be the only fluid that mothers use to supplement breast-feeding. Gomes Victoria, Pareja Behague, Celso Barros, Anselmo Olinto, and Weiderpass (1997) and Snell, Krantz, Keeton, Delgado, and Peckham (1992) defined supplementation as including water and teas, along with or separate from formula.

Bottle-Feeding

The definition of bottle-feeding did not vary. A woman who gave no breast-milk either because she never initiated breast-feeding or because she had totally weaned was consistently described as bottle-feeding.

Summary of Definition

The controversy over defining breast-feeding is in part based upon the conflict between an ideal outcome of exclusive breast-feeding and the actuality of varying levels of breast-feeding behavior. There appears to be an unstated theoretical assumption that any amount of human milk received by a baby is better than no human milk. This unstated assumption might be responsible for the variations in research definitions of breast-feeding. However, the wide variation in breast-

feeding definitions makes it difficult to compare research outcomes and recommend one intervention over another.

To address the discrepancies between the ideal recommended by the WHO and the realities revealed in clinical and research work, Labbok and Krasovec (1990) suggested development of a set of breast-feeding definitions that are (1) limited to breast-feeding (not infant feeding in general), (2) based on bio-physiological dynamics as a basis for categorization, (3) able to adequately differentiate between "full" and "partial" breast-feeding, (4) appropriate for the collection of cross-sectional data, and (5) useful as part of a framework for development of a single comprehensive approach (p. 226).

Labbok and Krasovec categorized breast-feeding behaviors into three areas: full, partial, and token breast-feeding. These areas were further sub-divided. Full breast-feeding included exclusive and almost-exclusive breast-feeding. In exclusive breast-feeding, no other liquid or solid is given to the infant. In almost-exclusive breast-feeding, water, juice, vitamins, minerals, or ritualistic feeds are infrequently given in addition to breast-feeding. Partial breast-feeding was divided into high (more than 80% of feeds are from the breast), medium (20 to 80% of the feeds are from the breast), and low (less than 20% of feeds are from the breast). Finally, the category of token breast-feeding was used when the infant's breast-feeding is minimal, occasional, and irregular.

These definitions of breast-feeding behaviors allow six levels of breast-feeding behaviors, not including bottle-feeding. Other authors have used this type of categorization as well. Humenick, Hill, and Wilhelm (1997) combined the exclusive and almost-exclusive categories into one category and added bottle-feeding as a sixth category. Hoddinott and Pill (1999) modified the measurement categories to define seven levels of breast-feeding ranging

from exclusively bottle-feeding to exclusively breast-feeding, further delineating the partial breast-feeding category. The advantage of this mechanism of categorization is that it provides a greater ability to discriminate between responses.

In contrast, the WHO definition of breast-feeding is restricted to exclusive breast-feeding only, with all other levels of infant feeding categorized as "not breast-feeding." From the standpoint of clinicians, this is the ideal goal. In a research project, this defeats the purpose if that purpose is to assess discrete changes, which may not show up when the variable is dichotomous. Additionally, no studies have been done to suggest at what level the mother-baby dyad derives the benefits of breast-feeding.

This inexactitude presents a dilemma for studies like the present one, which hypothesizes that a woman's history of CSA impacts or is associated negatively with her breast-feeding behavior. Limitation of the outcome variable to a dichotomous response would include not only those women who never initiate breast-feeding but also those who start to breast-feed but stop sooner because of a CSA history. A dichotomous variable could also miss women who do not stop breast-feeding but who breast-feed at a lesser rate or supplement earlier. What is needed is a definition of breast-feeding that is sensitive to slight changes in infant-feeding behavior. For example, a woman may initiate breast-feeding, depending upon the severity of her CSA, but continuation of breast-feeding may be compromised.

For this study, a broader definition of breast-feeding behavior on a continuum from exclusively bottle-feeding to exclusively breast-feeding was adopted. The broader definition may reveal even a subtle association between a woman's CSA history and her breast-feeding behavior.

General Literature on Breast-Feeding

This section examines the rates of breast-feeding, briefly summarizes the documented benefits of breast-feeding, and discusses the variables that influence the initiation and continuation of breast-feeding.

Incidence and Continuation Rates

Women in the United States almost exclusively breast-fed prior to the 1930's and early 1940's. Following the development of improved infant nutrition and manufactured, non-human milk, breast-feeding rates declined persistently, dropping to an-all time low in the late 1960's and early 1970's. One 1968 study found 18% of women exclusively breast-fed, an additional 9% breast- and bottle-fed, and 73% of women exclusively bottle-fed (Meyer, 1968). Eckhardt and Hendershot (1984) reported that the low was reached in 1972 with only 22% of new American mothers initiating breast-feeding in the hospital. By 1973-1975, the rate of initiation of breast-feeding had risen from 26.5% to 29.8%. The trend of initiating breast-feeding steadily rose, and by 1993, 55.9% of new babies were breast-fed in the hospital. However, only 19% of those babies were still breast-fed at 6 months (Williams, 1995). Ryan (1997) noted that the largest increases in the initiation of breast-feeding between 1989 and 1995 occurred among the following groups of women: those who were African-American, those less than 25 years of age, those with low income (<$10,000), those with no more than 6 years of education, those having their first baby, those living in the South Atlantic region of the United States, those with infants with low birth-weight, those working full-time outside the home, and those who participated in WIC.

The United States Department of Health and Human Services under President Carter established national benchmarks for the United States, including goals for maternal and child

health. Initiation and continuation of breast-feeding was considered a target priority and the benchmarks reviewed each decade (Office of Disease Prevention, 1998). National data collated for the Year 2000 National Health Objectives indicated that the incidence of breast-feeding might be responding to national efforts to meet the following benchmarks: 75% of all new mothers breast-feeding during the early post-partum period and 50% of all mothers continuing to breast-feed until their infant is 6 months old. The Healthy People 2010 objectives retained these benchmarks and added an additional benchmark of 25% women still breast-feeding to one year of age. The national rates in 1995 reported 59.7% of women were breast-feeding during the early post-partum period and 21.6% were doing so at 6 months. A summary of 1990-1993 data for the Department of Health and Human Services found only 8.6% of babies were breast-fed at one year of age (Office of Disease Prevention, 1998).

Benefits of Breast-Feeding

Research in the past two decades documents benefits from breast-feeding for the mother-child dyad, the infant alone, and society as a whole. These benefits are psychological, emotional, physiological, and economic. Benefits to the dyad include increased mother/child contact and assistance in returning the mother to the ante-partum state through increased production of oxytocin, a hormone that directly impacts the uterus, causing it to contract; this leads to decreased bleeding and a more rapid return to non-pregnant size. Breast-milk is easier to digest and less likely to cause an allergic reaction as it is human milk made for humans. In addition, breast-feeding provides a contraceptive effect as exclusive breast-feeding can defer return to fertility by suppressing ovulation, a clear benefit (Lindenberg, Cabrera Artola, & Jimenez, 1990; Sciacca, Phipps, Dube, & Ratcliff, 1995).

Besides the emotional and psychological benefits of breast-feeding for the infant, there are components of breast milk that positively affect the physical health of the child. Human milk has been shown to include antibodies and an increased number of immune cells, which pass through maternal milk to the infant, resulting in an improved immune system better able to resist pathogens and react more quickly, decreasing the numbers of illnesses in a breast-fed baby (Newman, 1995). While it is the human milk itself that provides the benefit to the infant, the act of breast-feeding is still the best mechanism for providing the infant with breast milk.

Society as a whole benefits from the economic savings realized by breast-feeding. These include lower health care costs and less illness in the first year of life for breast-fed infants (Ball & Wright, 1999; Montgomery & Splett, 1997). "Breast is best" remains a strong public health message with benefits for both the infant and the mother. The American Academy of Pediatrics now publicly proclaims this message in their position statement (Heinig, 1998; Moore, Zale, & Moramarco, 1998; American Academy of Pediatrics, 1997). The Academy recommends that infants breast-feed exclusively for the first six months of life.

In spite of the expanding body of knowledge of the benefits of breast-milk and breast-feeding, the initiation and continuation of breast-feeding is still influenced by variables that are not completely understood. These variables can be categorized into three overlapping areas: ante-partum, immediate post-partum or in-hospital, and later post-partum or post-discharge.

Ante-Partum Variables

Empirically supported ante-partum factors that are associated with a woman's breast-feeding behavior include five demographic variables and six additional variables that are subject to influence or intervention. The demographic variables include (a) maternal age (Ahluwalia, Tessaro, Grummer-Strawn, MacGowan, & Benton-Davis, 2000; Barber, Abernathy, Steinmetz,

& Charlebois, 1997; Brandt et al., 1998; Brent, Redd, Dworetz, D'Amico, & Greenberg, 1995; Coreil & Murphy, 1988; Dix, 1991; Duckett, 1992; Evers, Doran, & Schellenberg. 1998; Giugliana, Caiffa, Vogelhit, Witter, & Perman, 1994; Goodine & Fried, 1984; Graef , Rosycki, Fescina-Jones, et al., 1988; Gross, Caulfield, Bentley, et al., 1998; Grossman, Harter, Sachs, & Kay, 1990; Hellings, 1985; Hill, Humenick, Argubright, & Aldag, 1997; Hoddinott & Pill, 1999; Humenick et al.. 1997; Johnson, Garza, & Nichols, 1984; Lindenberg et al., 1990; Matich & Sims, 1992; Perez-Escamilla, Himmelgreen, Segura-Millan, et al., 1998; Raisler, 2000; Rentschler, 1991; Righard & Alade, 1992; Romero-Gwynn & Carias, 1989; Sable & Patton, 1998; Sciacca et al., 1995; Switzky, Vietze, & Switzky, 1979; Tarkka, Paunonen, & Laippala, 1999; Wiemann, Dubois, & Berenson, 1998), (b) maternal education (Ahluwalia et al.; Barber et al; Brandt et al.; Brent et al.; Coreil & Murphy; Dix; Duckett; Evers et al.; Giugliana et al.; Goodine & Fried; Gross et al.; Grossman et al.; Hellings; Humenick et al.; Hoddinott & Pill; Johnson et al.; Lindenberg et al; Matich & Sims; Perez-Escamilla et al., 1994; Raisler; Rentschler; Righard & Alade; Romero-Gwynn & Carias; Sable & Patton; Sciacca, et al.; Switzky et al.; Tarkka et al.; Wiemann et al.), (c) ethnicity (Ahluwalia et al.; Barber et al; Brandt et al.; Brent et al.; Dix; Duckett; Evers et al.; Giugliana et al.; Goodine & Fried; Grossman et al.; Hellings; Hill et al.; Humenick et al.; Johnson et al.; Perez-Escamilla et al., 1994; Raisler; Rentschler; Sable & Patton; Sciacca, et al.), (d) income (Ahluwalia et al.; Barber et al; Brandt et al.; Coreil & Murphy; Dix; Evers et al.; Goodine & Fried; Grossman et al.; Hellings; Hill et al.; Hoddinott & Pill; Matich & Sims; Perez-Escamilla et al., 1994; Rentschler; Sable & Patton; Wiemann et al.), (e) gravity and parity (Barber et al; Brandt et al.; Coreil & Murphy; Dix; Evers et al.; Goodine & Fried; Graef et al.; Gross et al.; Grossman et al.; Hill et al.; Humenick et al.; Johnson et al.; Lindenberg et al.; Perez-Escamilla et al., 1994; Raisler; Righard & Alade;

Romero-Gwynn & Carias; Sable & Patton), (f) and a history of previous breast-feeding (Barber et al; Brandt et al.; Dix; Gross et al., 1998; Grossman et al.; Hill et al.; Johnson et al.; Perez-Escamilla et al., 1994; Raisler).

The six additional variables are (a) timing of the woman's decision to breast-feed (Bourgoin, Lahaie, Rheaume, et al., 1997; Dix, 1991; Goodine & Fried, 1984; Wiemann et al., 1998), (b) motivation to breast-feed (Coreil & Murphy, 1988; Goodine & Fried; Gross et al., 1998; Hoddinott & Pill, 1999; O'Campo, Faden, Gielen, & Wang, 1992; Perez-Escamilla et al., 1998; Sable & Patton, 1998; Sciacca et al., 1995; Wiemann et al.), (c) social support (Gross et al.; Matich & Sims, 1992; O'Campo et al.; Raj & Plichta, 1998; Rentschler, 1991; Sciacca et al.; Wiemann et al.), (d) living situation (with or without a partner, in some studies described as marital status) (Bourgoin et al., 1997; Coreil & Murphy; Dix; Evers et al., 1998; Giugliana et al., 1994; Sciacca et al.; Wiemann et al.), (e) informal prenatal sources of positive breast-feeding information (Bourgoin et al.; Brent et al., 1995; Dix; Giugliana et al.; Gross et al.; Hoddinott & Pill; Matich & Sims; Raj & Plichta; Rentschler; Sciacca et al. Wiemann et al.), and (f) formal prenatal sources of positive breast-feeding information (Bourgoin et al., 1997; Brent et al.; Dix; Evers et al.; Giugliana et al.; Gross et al.; Hoddinott & Pill; Johnson et al., 1984; Matich & Sims; Raj & Plichta; Rentschler; Sciacca et al.; Wiemann et al.).

Maternal age. Maternal age is correlated with breast-feeding. The variable can be measured as an interval, categorical, or continuous variable. Although age is a continuous variable, it is generally analyzed categorically: ≤ 18; 19-29; and ≥ 30 (Brent et al., 1995; Dix, 1991; Evers et al., 1998; Gross et al., 1998; O'Campo et al., 1992; Sable & Patton, 1998; Sciacca et al., 1995).

Older women were found to initiate and continue breast-feeding at a higher rate than younger women (Barber et al, 1997; Coreil & Murphy, 1988; Duckett et al., 1998; Evers et al., 1998; Matich & Sims, 1992). For example, Evers et al. found in a sample of 380 women that 77% initiated breast-feeding but only 63% were breast-feeding at 3 months. There were no significant differences in the ages of women who initiated breast-feeding or bottle-feeding; however, the mean age of women who stopped breast-feeding before three months of age (26.2 years) was significantly lower than that of women who continued to breast-feed (28.3 years). Ertem, Votto, and Leventhal (2001) also found that maternal age (< 20) was significantly related to the discontinuation of breast-feeding at 2 weeks and again at 2 months post-partum. In a similar vein, Matich and Sims found that women who intended to breast-feed were older and had higher levels of income and education. They also had fewer children and came from a small household.

Maternal education. Maternal education has consistently been found to be a predictive factor in women's breast-feeding behavior. Hellings (1985) examined eight factors, which she categorized into individual, sociocultural, family, and physiological variables. The purpose of her study was to examine the contribution of these factors to breast-feeding success. She recruited a convenience sample of 84 women who met the criteria of being a primigravida, between ages 18-35, living with the baby's father, and intending to breast-feed. The one variable that was significantly correlated with breast-feeding success was maternal education. Subsequent studies have supported this finding; more education is correlated with a higher success rate for initiation and continuation of breast-feeding to at least 4 to 6 weeks of age (Barber et al., 1997; Duckett et al., 1998; Ertem et al., 2001; Evers et al., 1998; Goodine & Fried, 1984; Grossman et al., 1990; Matich & Sims, 1992). This effect was also found in a Hispanic population

participating in a California Women, Infant's and Children's (WIC) program (Brandt et al., 1998).

Ethnicity. Nationally, 64% of European-American women, 61% of Hispanic women, 52% of Native-American women, and 37% of African-American women breast-feed in the early post-partum period (Office of Disease Prevention, 1998). At 6 months post-partum, 24% of European-American women, 20% of Hispanic women, 24% of Native-American women, and 11% of African-American women were breast-feeding. (Data for Asian-American women were not available [Office of Disease Prevention, 1998]). There is no specific research to explain these variations in breast-feeding rates by ethnicity, although the rates may reflect familial, cultural, or socioeconomic factors that have not yet been identified.

It has been hypothesized that immigrant women who might breast-feed in their country of origin experience barriers to this behavior in the new country, including increased psychological, financial, cultural, and sociological stressors. Romero-Gwynn and Carias (1989) examined a population of 132 low-income Mexican-American women in Southern California, 88% who were born in Mexico and 12% who were born in the U.S. The purpose of this prospective study was (a) to assess the women's intent to breast-feed and the variables associated with their intentions; (b) to assess incidence of actual breast-feeding initiation in the hospital and the associated factors; and (c) to assess incidence of breast-feeding behaviors post-hospital discharge and associated factors. Data was collected by personal and telephone interviews using a standardized breast-feeding survey instrument. Reliability was established on a similar population prior to the actual use of the survey.

There were 77% of the women who intended to breast-feed (67.7% exclusively and 10.0% partially). The most significant variable for intent to breast-feed was the mother's country

of birth. The women born in Mexico were 4.75 times more likely to breast-feed than the women born in the U.S. There was a large discrepancy between intention to exclusively breast-fed (67.7%) and actual practice in-hospital (19.7%), perhaps because a significant number of the infants were supplemented during the in-hospital period, following to routine institutional practice. Other factors associated with intent and success in breast-feeding among these Hispanic women included the mother's initial prenatal choice to breast-feed, initiation of breast-feeding within 10 hours of birth, exclusive breast-feeding in the hospital, vaginal birth, and remaining at home in the post-partum period.

An important finding in that study was that the less acculturated woman had a higher rate of initiating breast-feeding. This suggests that as women become more acculturated, they are more likely to partially or exclusively bottle-feed their infant (Romero-Gwynn & Carias). This may be a reflection of hospital practices, a loss of familial and extended community social support, or the need for many Mexican-American women to return to work.

Income. Income is associated with breast-feeding behavior. Lower-income women have a lower rate of initiation and duration of breast-feeding (Abbott Laboratories, Inc., 1996; Office of Disease Prevention, 1998). Intervention studies to increase the rate of initiation and duration have been done within the low-income population (Grossman et al., 1990; Montgomery & Splett, 1997; Reifsnider & Eckhardt, 1997; Sciacca et al., 1995). This is partly because of the public health concern for this population but also because of the ease of doing research among WIC participants. It is unclear whether income is a proxy for education, social support, ethnicity, or some combination of these and/or other variables.

Gravity and parity. Gravity and parity are also associated with initiation of breast-feeding. Gravity is defined as the number of pregnancies a woman has had, and parity is defined

as the number of births a woman has had, including pre-term and full-term births. As variables, gravity and parity are used sometimes only as demographic factors for the purpose of sample description, wherein women are reported simply as nulliparous or multiparous without comparing the rate of breast-feeding between the two groups (Dix, 1991; Evers et al., 1998; Grossman et al., 1990; Johnson et al., 1984; Righard & Alade, 1992). Other authors have excluded multiparous women to remove what may be the confounding variable of a woman who has breast-fed previously (Duckett et al., 1998; Giugliana et al., 1994; Graef et al., 1988; Hellings, 1985; Hoddinott & Pill, 1999; Lavergne, 1997; Lindenberg et al., 1990; Rentschler, 1991; Tarkka et al., 1999). Matich and Sims (1992) found that primiparas or women with fewer children were more likely to intend to breast-feed. O'Campo et al. (1992) found that multiparous women were more likely to plan to breast-feed longer than primiparous women. Multiparity may actually be a proxy for previous experience breast-feeding, negative or positive, explaining why more primiparous women attempt to breast-feed yet multiparous women have a better sense of how long they will continue to do so.

History of previous breast-feeding. A history of having successfully breast-fed a baby is positively associated with a woman's ability to initiate and continue breast-feeding in a subsequent pregnancy (Barber et al., 1997; Gross et al., 1998; Humenick et al., 1997; Johnson et al., 1984; Matich & Sims, 1992; Switzky et al., 1979). Perez-Escamilla et al. (1998) found the same effect among Hispanic women living in the United States.

Humenick et al. (1997) assessed a convenience sample of 120 women to see if encouragement, maternal knowledge of breast-feeding, and maternal commitment to breast-feeding were related to sustained breast-feeding. A second research question asked if prior infant-feeding experience influenced the hypothesized relationships between sustained breast-

feeding and encouragement, maternal knowledge of breast-feeding, and maternal commitment. The study sample included 58% primiparas, 9% multiparas inexperienced in breast-feeding, and 33% multiparas experienced in breast-feeding. The primiparas were younger than the multiparas, and the multiparas without breast-feeding experience were less educated than the primiparas. The mothers completed an in-hospital questionnaire regarding socio-demographic information, importance of breast-feeding, intended duration of breast-feeding, perception and preparation for breast-feeding, time spent learning about breast-feeding, and attendance at prenatal classes. The women were followed up during weekly home visits for six weeks and monthly telephone contact until the baby was 5 months old or weaned, whichever came first. All women who were breast-feeding received the same treatment, allowing a conclusion based on the status of parity and previous infant-feeding experience.

The study found that experienced multiparous women were more successful in predicting their duration of breast-feeding, whether they intended limited or sustained breast-feeding. The ability of inexperienced multiparas to accurately predict whether they would breast-feed in a limited or sustained manner was not significant. For primiparous women, however, the findings were paradoxical and confusing. There were significantly higher levels of breast-feeding among those women who had planned to limit breast-feeding than those who had planned to sustain it. This finding was explained by the rationale that primiparous women who anticipated less support predicted a shorter time of breast-feeding. In reality, these women may have received more support and were then able to breast-feed longer. This study provided clear definitions of infant-feeding method categories and was strengthened by the division of women into the three categories of primiparous, inexperienced multiparous, and multiparous women, rather than the more traditional groupings of primiparous or multiparous.

Timing of the woman's decision. The timing of a woman's decision to breast-feed is associated with her duration of breast-feeding (Goodine & Fried, 1984). The timing of a mother's decision to breast-feed has been examined, partially to describe the decision-making process and also to define the window of opportunity for intervention. Goodine and Fried sent a questionnaire to women with 1-year-old infants. It included questions about demographic variables, prenatal breast-feeding decisions, rationale for choosing an infant-feeding method, length of time they planned to use the method, and the actual method they used in-hospital and at predetermined times in the first year of the child's life.

Of the 288 respondents, 80% made a decision about their infant-feeding method prior to conception and 20% made the decision during pregnancy. The average length of breast-feeding was 9.5 months among the breast-feeding women who made the decision prior to pregnancy, compared to 7.9 months for women who made their infant-feeding decision during pregnancy. Clinically and statistically the duration of breast-feeding was significant, as the continuation of breast-feeding is supported by the WHO and other national agencies such as the American Academy of Pediatricians and the American Dietetic Association. The applicability of the findings is limited, however, because of the retrospective design of the study. Bourgoin et al. (1997) also found this relationship between preconceptual timing of the decision to breast-feed and a longer duration in a population of 350 new mothers in Canada.

Motivation to breast-feed. A correlation between women's motivation to breast-feed and the subsequent rate of initiation and continuation has been confirmed by a number of studies (Coreil & Murphy, 1988; Dix, 1991; Ertem et al., 2001; Goodine & Fried, 1984; Rentschler, 1991; Sciacca et al., 1995). These studies all hypothesized that in some form a woman's motivation to breast-feed is positively associated with both initiation and duration of breast-

feeding. In the studies reviewed here, all four suggested that it is motivation (or personal conviction) in combination with other factors that promotes longer breast-feeding.

Dix (1991) examined 81 ethnically diverse women in a retrospective, descriptive study to identify and describe the reasons for what was clinically thought to be a low rate of breast-feeding in an urban medical center. Participants were interviewed once during the post-partum period, ranging from 6 hours after birth up to 6 months. A semi-structured questionnaire was used, and content validity, inter-rater reliability, and test-retest reliability for the questionnaire were established. The questionnaire included statements that defined positive and negative attitudes toward breast-feeding to which the women agreed or disagreed. Other questions asked about the infant-feeding method and the woman's rationale for choosing that method. The study design would have been strengthened by operationally defining motivation and attitude and conceptually linking the actual infant-feeding method with the participant's responses to the statements defining attitude (e.g., a positive attitude will correlate positively with breast-feeding).

The overall initiation rate of exclusive breast-feeding was 9%, with 84% of the respondents bottle-feeding exclusively and 6% doing both. One half of the women chose a feeding method before conception. A prime factor that described whether a woman initiated breast-feeding or bottle-feeding was her attitude toward breast-feeding: 70% of the women indicated it was better for the baby than bottle-feeding; 88% described it as "natural"; and 71% felt babies would be healthier if breast-fed. This suggests that women can verbalize the benefits of breast-feeding and have a positive attitude about breast-feeding but still not choose to do it.

Rentschler (1991) hypothesized that a pregnant woman's motivation to breast-feed along with her breast-feeding knowledge would be positively correlated to her success in breast-

feeding. Rentschler recruited as subjects 150 married, primiparous, primarily European-American (94%) women who were attending childbirth classes. All were high school graduates and 77% had attended college. The assessed variables included demographics, achievement motivation, prenatal breast-feeding knowledge, and breast-feeding outcomes at 6 weeks post-partum. Achievement motivation and breast-feeding knowledge together explained 12% of the variance in success. While this finding supported the hypothesis, maternal age and maternal education were also probable factors for the high rate (71%) of women who were continuing to breast-feed at 6 weeks.

Goodine & Fried's study (1984) described above (Timing of Decision) found that breast-feeding duration was positively correlated in women who made the decision to breast-feed prior to pregnancy, who had knowledge of the benefits of breast-feeding, and who cited "personal conviction" as a reason for choosing to breast-feed. The following factors were correlated negatively with shorter duration of breast-feeding: less than high-school education, lower birth weight, in-hospital supplementation with formula or glucose water, and smoking. Data analysis and the subsequent results would have been strengthened if each factor's unique contribution to the duration of breast-feeding had been assessed in such a way as to examine not only the aggregate numbers but also the individual-specific case.

Sciacca et al. (1995) randomly assigned a convenience sample of 68 primiparous women from a WIC clinic in Arizona to two groups. There were 55 respondents who completed all components of the study, 29 in the control group and 26 in the intervention group. The purpose of the study was to examine the effects of an incentive-based educational intervention designed to encourage maternal and partner participation in breast-feeding promotion activities. The researchers assumed that provision of breast-feeding knowledge to a woman and her partner

would increase both motivation and partner support for breast-feeding. The researchers used an infant-feeding questionnaire to assess knowledge and attitudes about breast-feeding. Reliability and validity of the questionnaire were not addressed, and attitudes toward breast-feeding were not defined. The intervention was clearly described and included both a prenatal and postnatal component. Women were assessed for infant-feeding method at time of discharge from the hospital, 2 weeks, 6 weeks, and 3 months post-partum.

The two groups did not significantly differ in age, ethnic group, or level of formal education. Women in the intervention group were exclusively breast-feeding at a significantly higher rate at all time points, decreasing from 88.5% at time of discharge from the hospital to 42.3% at 3 months post-partum. Of women in the control group, 55.2% were exclusively breast-feeding at time of discharge, falling to 17.2% at 3 months post-partum. Involving partners in educational efforts increased both the initiation and duration for breast-feeding. The study's conclusion would have been strengthened if a third control group had allowed for women without partners to be involved in the incentive-based education. Without this control group, it is difficult to conclude if it is the effect of the partner that accounts for the difference in breast-feeding rates rather than the intervention itself. It is also not clear if increased motivation accounted for the increase in frequency of initiation and duration of breast-feeding or if it was the educational component of the intervention. These limitations suggest that a more concise definition of maternal motivation and a conceptual framework within which the definition would fit should be included in future research.

Ertem et al. (2001) enrolled 64 WIC-eligible, English-speaking women who had delivered singleton infants at term, who planned to take their child to the hospital's primary-care clinic, and who initiated breast-feeding within the first 48 hours. The purpose of this study was to

determine the prevalence and correlates of the early discontinuing of breast-feeding by WIC-eligible mothers. Using semi-structured interviews, women were interviewed within 48 hours of delivery and at 1 and 2 weeks post-partum. Chart review was done at 2 and 4 months post-partum. A semi- structured, close-up interview was developed specifically for the study; it assessed socio-demographic characteristics, knowledge regarding breast-feeding, and attitudes and beliefs related to breast-feeding, particularly the confidence of the woman in her intention to continue to breast-feed. A control group of 61 women who met the criteria and had delivered in the same time period but who did not participate in interviews was also followed. Breast-feeding was discontinued when the woman no longer offered any breast-milk. There were no differences between the study group and the control group in socio-demographic characteristics or in the outcome of breast-feeding. Data were only reported for the study group.

In the Ertem et al. study, 56% of the women were black, 34% were Puerto Rican, and the remaining women were described as white. The median age was 22 and the median years of education were 12.1. The three primary sources of information on breast-feeding were written material or videos (49%), a medical professional (22%), and family or friends (17%). Using a stepwise logistical regression model analysis, two independent predictors of the mother terminating breast-feeding at 2 weeks were (a) the mother's lack of confidence in her ability to continue breast-feeding up to 2 months and (b) the belief that the baby enjoyed bottle-feeding. Additionally, younger age, less than a high school education, and being of Puerto Rican heritage were associated with a higher rate of discontinuation of breast-feeding at 2 weeks and 2 months.

Social support. Historically, social support is one of the most commonly named factors for successful breast-feeding (Kearney, 1987; Raj & Plichta, 1998; Sharma & Petosa, 1997). Studies have attempted to document the source and influence of social support on breast-feeding

initiation and continuation. Social support has been assessed during pregnancy, and in the early and later post-partum periods. However, what constitutes social support may vary between ethnic groups.

Wiemann et al. (1998) investigated differences in breast-feeding initiation and the factors that influenced the decision to breast-feed among 696 culturally diverse, pregnant adolescent women. The purpose of the study was to examine ethnic differences in frequency of breast-feeding and to determine which of these factors influenced the decision among adolescent mothers. Although the adolescent decision-making process may differ from the adult process, this study is included here because of its ethnic considerations: 55% of the Mexican-American women, 45% of the European-American women, and 15% of the African-American women intended to breast-feed.

Feeding advice for Mexican-American women came from varied sources (Wiemann et al., 1998). The feeding preference of their partner or mother and the timing of the feeding decision (made early in pregnancy) were positive influential factors in choice of infant-feeding method. The decision to breast-feed for European-American women was influenced positively by the health provider's feeding preference, having two or more breast-feeding models, not being enrolled in the WIC Supplemental Nutrition Program (likely a proxy for women with higher income levels), relying on infant-feeding advice from family and peers, and the prenatal consumption of alcohol. The decision to breast-feed for African-American women was influenced positively by living with a partner, having a mother who breast-fed, the breast-feeding preference of their partner or health care provider, and limited family support. In all groups, social support from partners, family, and peers was found to positively influence breast-feeding behavior.

Matich and Sims (1992) used a prospective study design to define the sources, types, and amounts of social support as perceived by women who initiated and continued breast-feeding as to compared to the perceptions of women who bottle-fed. A convenience sample of 159 pregnant women recruited from prenatal clinics, prenatal classes, and regional WIC clinics completed a self-administered questionnaire in the last trimester of pregnancy. The questionnaire included questions on demographic information, social support, and affective variables. Social support was operationalized as tangible, emotional, and informational support. Of the respondents, 85 women (53.5%) expressed their intention to breast-feed and 74 (46.5%) planned to bottle-feed. In addition, 78 of the breast-feeding women completed a second self-administered questionnaire at 4 weeks post-partum, which assessed actual initiation and continuation of breast-feeding and repeated the social support survey. Demographic characteristics of age, education, number of children; affective factors of beliefs on the effect of the chosen feeding method on the baby's health; and perceptions of what friends thought of the woman's choice explained 65% of the variance for women initiating breast-feeding. Other social factors found to be predictive of breast-feeding were the role of the baby's father, marital status (being married may reflect the availability of a partner who could be supportive), attendance at prenatal classes, and the perception of good informational support.

Giugliana et al. (1994) confirmed these findings. The purpose of this second study was to compare social support for breast-feeding between 100 breast-feeding and 100 bottle-feeding mothers, assessed in-hospital after delivery. The study narrowly focused on the association between social support and the initiation of breast-feeding. The data analysis controlled for the confounding issues of age, group, race, marital status, and educational level. Breast-feeding was more likely to occur among women who received prenatal care, who attended a prenatal class,

who talked with their friends about breast-feeding, and whose partners preferred breast-feeding. Finally, the opinion of the baby's father was found to be the most important factor in a woman's decision to initiate breast-feeding. The design of this study would have been further strengthened if the women had been followed to determine the actual effect of social support rather than just the perceived effect.

Living situation. It has been assumed that the woman's living situation is associated with initiation of breast-feeding. Studies examining marital status and/or a woman's living situation have had mixed results. Living situation and marital status are two variables that may reflect the same domain; in addition, the variable of living situation may actually serve as a proxy for intimate social support. As noted above, a partner's positive support has been found to be a key predictor in successful breast-feeding (Giugliana et al., 1994; Matich & Sims, 1992). Also, if the mother perceives that the baby's father prefers an infant-feeding method, that method is more often her choice (Giugliana et al., 1994).

Three studies found a significant difference in the rate of breast-feeding initiation between married and unmarried women, with married women more likely to initiate (Giugliana et al., 1994: Dix, 1991; Sable & Patton, 1998). A fourth study compared data collected from 493 Canadian women, ages 15 to 41 years (Evers et al., 1998). These women were mothers of children born in 1994 in five low-income communities who were participating in a larger longitudinal study. The purpose of this study was to identify factors correlated with breast-feeding. Subjects were recruited prior to the child's third-month anniversary and interviewed within 2 weeks of that date. The women were divided into two groups: (a) women living with a partner, married or unmarried; and (b) women living alone.

The rate of initiation of breast-feeding was the same for both groups. There was no difference in age between women who initiated breast-feeding or bottle-feeding. Prenatal education, higher level of education, marriage, and no financial stress were correlated with increased likelihood to breast-feed. The rate of continuation, however, significantly differed by living status. The 270 initially breast-feeding women were interviewed a second time between 3 and 5 months post-partum. Only 31% of women living with partners were breast-feeding then, compared to 62% of the women living alone and 72% of the married women. Additionally, the women who continued breast-feeding were older, were non-smokers, were more educated, and had participated in a home visitor program. It was hypothesized that the lower rate of breast-feeding among women living with partners could be due to other responsibilities, lack of support, and less partner involvement in prenatal programs. The partner's breast-feeding preference or their attendance at breast-feeding programs was not evaluated.

Informal prenatal information sources. Prenatal breast-feeding education or information has been classified as coming from either informal (Sable & Patton, 1998) or formal sources (Brent et al., 1995; Ertem et al., 2001; Gross et al., 1998; Johnson et al., 1984; Sciacca et al., 1995). Informal prenatal sources of information found to be significantly associated with breast-feeding were the woman's partner or significant other, family, friends, or a combination thereof (Dix, 1991; Ertem et al.; Giugliana et al., 1994; Matich & Sims, 1992; Perez-Escamilla et al., 1998). A woman's exposure to a breast-feeding role model also has been seen as an informal source of information (Hoddinott & Pill, 1999; O'Campo et al., 1992; Wiemann et al., 1998).

Hoddinott and Pill (1999) used a grounded theory framework to describe the decision-making process in initiating breast-feeding among 21 primiparous, low-income women in London's East End. This study is included here because its research methodology demonstrates

an unusual approach in breast-feeding literature, that of asking women directly what works or does not work for them. The study design included three methods of collecting data. Two focus groups explored the social context in which women make their decision to initiate breast-feeding. Women were interviewed prenatally, often with a partner or relative, to assess their intent to breast-feed. The women were then followed in the post-natal period to ascertain the actual infant-feeding method.

In the Hoddinott and Pill study, previous exposure to other women breast-feeding strongly influenced a woman's intent to initiate breast-feeding. A positive perception served as a positive role model for the pregnant woman. The opposite was also true; a negative perception of breast-feeding served as a negative model. The women interviewed also shared informal messages regarding infant feeding that included information they had received from the community at large, family members, other women friends, or male friends of themselves or their partners. Negative informal messages included the difficulty involved in breast-feeding, with descriptions of pain and problems associated with breast-feeding, including nipple soreness, embarrassment, decreased sexuality, and uncertainty about breast-feeding. Positive informal messages included observing someone discretely breast-feeding, actual or perceived commitment to breast-feed, and history of previous breast-feeding. All women acknowledged the "Breast is Best" health message but took different stances when it came to owning the information. Women who intended to breast-feed used the first person when discussing breast-feeding information ("I know that breast is best"); whereas women who intended to bottle-feed used the third person ("They say breast is better").

Formal prenatal information sources. The second source of prenatal breast-feeding knowledge has been described as formal. Like the informal sources, formal sources have been

shown to correlate with a woman's breast-feeding behavior. The formal sources are planned interventions that can be done prenatally as part of a formal education process or are initiated prenatally and continued postnatally. Sources of formal prenatal information include a woman's care provider, a prenatal educator, and associated health providers such as nutrition (WIC) counselors, nurses, or lactation consultants. One other source of formal prenatal information is media material, including books, pamphlets, videos, and commercial corporate marketing.

Sable and Patton (1998) explored the relationship among maternal characteristics and women's prenatal plans to initiate breast-feeding and whether their health care providers asked them to consider breast-feeding. The study included 2,162 women and was part of a larger population-based case-control study. About one in three women were asked by their providers to consider breast-feeding. The rate of planned initiation of breast-feeding significantly differed when the overall group of women was compared to the group given prenatal breast-feeding advice. Within the group of women who reported being given breast-feeding advice, 43.0% planned to breast-feed compared to 31.3% who did not receive prenatal advice from a provider.

Other types of formal prenatal interventions include the use of incentives to encourage women and their partners to attend prenatal breast-feeding education (Sciacca et al., 1995), the use of either professional lactation consultants or peer consultants (Brent et al., 1995; Gross et al., 1998; Johnson et al., 1984), and the use of alternative teaching methods such as video tapes or peer group meetings (Gross et al.; Johnson et al., 1984). Intervention studies were designed as quasi-experimental studies with a control group and a treatment group or groups. Studies were longitudinal and prospective. The interventions were done prenatally and sometimes postnatally, following women from pregnancy through at least 1 week post-partum but as long as 1 year post-partum.

The studies that examined prenatal interventions all demonstrated a higher rate of initiation of breast-feeding among those women who experienced some kind of formal intervention compared with those who had not. In addition, while breast-feeding declined for all groups in the post-partum period, those groups receiving intervention had slower rates of decline.

Brent et al. (1995) assigned 108 low-income, WIC-eligible women to either an intervention group (N=51) or a control group (N=57). The researchers controlled for the age factor by stratifying women into one of three groups (< 20, 20-29, and ≥ 30) and then used a block randomization procedure (block size of 8) to equalize women by age in the intervention and control groups. Parity was not described. The women assigned to the intervention group received the intervention whether or not they planned to breast-feed. Prenatally, each woman in the intervention group received two, three, or four 10-15-minute individual sessions with a prenatal lactation consultant. After birth, they received daily lactation consultant rounds during hospitalization, home visits at 48 hours and 1 week after discharge, and routine health visits (the exact schedule was not detailed) until the child was 12 months of age. The women in the control group received no intervention. Of the mothers in the intervention group who had planned to bottle-feed, 38% instead initiated breast-feeding compared to 10% within the control group. The overall incidence of initiating breast-feeding was 61% in the treatment group with a mean continuation of 84 days, compared to an initiation rate of 32% among the control group and a mean continuation of 33 days.

Finally, Sciacca et al. (1995) addressed the issue of motivating women and their partners to attend prenatal breast-feeding classes (see Motivation to breast-feed above). The 68 women who volunteered to participate in the study were randomly assigned to a control group (N=34) or an intervention group (N=34); 81% finished the program, 26 in the treatment group and 29 in the

control group. Both groups received a 5-week prenatal childbirth class, flyers, a demonstration describing the WIC breast-pump rental program, breast-feeding promotional materials, participation in a peer support group, and the option to attend a 15-minute breast-feeding group. In addition, participants in the intervention group received incentives for each couple to attend a 5-week series of prenatal classes as well as a 2-hour expectant couple's breast-feeding class.

Women were assessed at time of hospital discharge and at 2 weeks, 6 weeks, and 3 months post-partum. Women in the treatment group were found to be breast-feeding at a significantly higher rate than those in the control group. For the intervention group, the rate of breast-feeding dropped from 88.5% to 42.3% at 3 months post-partum while the control group's rate dropped from 55.2% to 17.2%. The rate of bottle-feeding was significantly higher in the control group at each of the same intervals. The authors concluded that formal prenatal education with the addition of partner support demonstrated a significant increase in rate in initiation and duration of breast-feeding. However, the study numbers were small and limited to low-income women, decreasing the possibility of generalizing to other populations. It is not clear what the individual contribution of each variable was (partner support or formal prenatal education). The study would have been strengthened if the analysis had defined the unique contribution of each variable and clarified whether it was an individual variable or the combination that contributed to the significant outcome.

Summary of ante-partum variables. In summary, ante-partum factors that have been found to consistently and positively influence a woman's breast-feeding behavior are (a) older maternal age, (b) more maternal education, (c) European-American ethnicity, (d) higher level of income, (e) multiparity, (f) history of previous breast-feeding, (g) deciding before conception to breast-feed, (h) motivation to breast-feed, (i) social support, (j) living situation, and (k) exposure

to positive informal prenatal information sources and (l) positive formal prenatal information sources. It is important to note that all this research is limited by small sample sizes, the inability to ethically assign women at random to breast-feed or bottle-feed, and variations in the definition of breast-feeding. Techniques such as those used by Brent et al. (1995), where all women in the intervention group received the intervention whether breast-feeding or not, serve to strengthen the conclusion that the study's outcome was influenced by the intervention. In general such research would be strengthened if confounding variables such as marital status, living situation, and social support were consistently defined and controlled for. Study designs should also control for such factors as age, gravity, education, income, and other demographic variables, all repeatedly found to be correlated with breast-feeding behavior and found to influence the outcome.

In-Hospital or Immediate Post-Partum Variables

The factors that influence breast-feeding behavior in the post-partum period have been described in the theoretical, research, professional, and lay literature. This section includes a review of the Baby Friendly Hospital Policy and two meta-analyses that summarize the effect of hospital practices on breast-feeding.

Baby Friendly Hospital Initiative. Probably the best example of an international response to the concerns of in-hospital factors that influence breast-feeding is the Baby Friendly Hospital Initiative. The Initiative stemmed from an international concern that the easy availability of breast milk substitutes and the aggressive marketing practices of commercial formula companies were directly responsible for the worldwide decline in breast-feeding. In 1981, the WHO adopted The International Code of Marketing Breast-Feeding Substitutes in an attempt to address these health concerns. All but one of the 119 member countries endorsed the code, with the United

States dissenting (Green & Jones, 1991). In 1991, the WHO and the United Nations Children's Fund (UNICEF) jointly issued the Baby Friendly Hospital Initiative, which summarized 10 steps a hospital could take to become "baby-friendly" and successfully promote the initiation and duration of breast-feeding.

Saadeh and Akre (1996) summarized the principles and provided both a rationale and scientific evidence for each of the steps (Appendix A). In brief, the steps are based on five interrelated elements:

> a) Mothers should be counseled correctly and enabled to make and carry through informed choices; b) mother-infant contact should be unrestricted; c) infants should be fed whenever they indicate a desire to be fed; d) newborns usually require no food or fluid other than breast-milk, not even water; and e) mothers should be supported during the postnatal period (p. 154).

The U. S. has not formally adopted the Baby Friendly Hospital Initiative, but the initiative has been adopted by individual hospitals throughout the country. It appears that such institutional changes have been positively associated with increased initiation and duration of breast-feeding (See below).

Meta-analyses. Two meta-analyses have examined the effect of infant-feeding policies on initiation and continuation of breast-feeding (Bernard-Bonnin, Stachtchenko, Girard, & Rousseau, 1989; Perez-Escamilla et al., 1994). Bernard-Bonnin et al. included randomly controlled trials that intended to examine five areas: (a) early contact between mother and infant, (b) no feeding supplement, (c) support of nursing personnel, (d) feeding on demand, and (e) rooming-in. The last two areas were excluded from their analysis when only one study in each area could be identified. Breast-feeding was defined as breast-feeding for a minimum of 4

weeks with the use of no more than one supplemental formula feeding per week. A total of nine studies were appropriate for review, and the results were classified into four areas: early mother-infant contact, in-hospital nursing support without telephone follow-up, in-hospital nursing support with post-discharge telephone follow-up, and in-hospital and post-partum supplementation.

All four areas showed some effect on the continuation of breast-feeding, but only two were statistically significant. Early mother-infant contact was significantly associated with an increased continuation of breast-feeding of 6 to 8 weeks. Nursing support with follow-up telephone contact also significantly increased the continuation of breast-feeding up to 4 to 6 weeks. Nursing support without telephone follow-up demonstrated a positive but not statistically significant relationship with the continuation rate of breast-feeding. And finally, supplementation was a negative factor but not statistically significant.

Perez-Escamilla et al. (1994) examined international literature in English and Spanish from 1951 through 1991 with the intent of assessing whether a causal relationship existed between hospital (maternity ward) practices and lactation success. The criteria for inclusion in the meta-analysis were randomly controlled trials or quasi-experimental designs. Exclusion criteria included questionable internal validity, self-selection of participants, assignment to group based on provider's choice, high or unevenly distributed attrition rates, subjects with planned rather than actual breast-feeding behavior, confounding birth method, or post-discharge interventions, particularly follow-up by a lactation consultant. No overall consistent definition of breast-feeding behavior was used.

The results were categorized into the following areas: (a) commercial discharge packs, (b) rooming-in and breast-feeding guidance, (c) early maternal-infant contact, (d) breast-feeding

on demand, and (e) in-hospital formula supplementation. The variables that were positively associated with breast-feeding success were rooming-in and breast-feeding guidance, early maternal-infant contact, and breast-feeding on demand. Rooming-in and breast-feeding guidance were positively correlated with both short- and long-term breast-feeding success for first-time mothers. Early maternal-infant contact was also positively correlated with breast-feeding initiation and continuation. However, the variable of breast-feeding guidance was often in the same study with early maternal-child contact, possibly confounding the results. There was a significant positive relationship between advice to breast-feed on demand and lactation success.

The variables that were associated with poor breast-feeding success were commercial discharge packs and in-hospital formula supplementation. Commercial discharge packs were correlated with poor lactation success, particularly for first-time mothers and poor women in developing countries. In-hospital formula supplementation of less than 48 ml a day did not significantly impact breast-feeding duration. The reviewed research on the impact of in-hospital formula supplementation included one study that compared infants routinely fed formula at the 2 AM feeding and infants who only received formula if the mother requested it. All infants were given glucose water. There was no significant difference between groups in breast-feeding at 4 weeks and 9 weeks post-partum. The potential influence of routine glucose supplements, prior breast-feeding experience, and the actual rate of continuation for both groups were not addressed.

Four methodological issues may have confounded the results. These issues included (a) high and uneven attrition rates across all groups possibly resulting in a self-selection bias among those women who completed the study, (b) variation in what respondents told researchers

without follow-up as to what respondents actually did, (c) self-selection bias, and (d) varying definitions of what constituted breast-feeding.

Summary of in-hospital or immediate post-partum variables. In-hospital variables can be summarized as institutional practices. Variables that positively correlate with breast-feeding behavior include (a) early maternal-child contact, (b) rooming-in and breast-feeding guidance, and (c) breast-feeding on demand. Variables that negatively correlate with breast-feeding behavior are (a) supplementation and (b) commercial discharge packs. The variation in definitions of breast-feeding plagues researchers and interferes with the ability to synthesize findings. In addition, the studies in this section focused on a specific timeframe in which an intervention or institutional practice occurred but did not follow the participants for any significant length of time. However, the findings do support the recommendations made by the Baby Friendly Hospital Initiative in terms of which institutional activities will promote breast-feeding.

Post-Discharge or Later Post-Partum Variables

Additional post-partum variables, which may have been initiated during the in-hospital time period but which continued into the post-discharge period, can also be associated with breast-feeding behavior. Positive factors include (a) direct assistance and support with breast-feeding (Bourgoin et al., 1997; Chezem & Friesen, 1999; Grossman et al., 1990), (b) social support (Brent et al., 1995; Curry & Hammond, 1988; Dix, 1991; Johnson et al., 1984; Sciacca et al., 1995), (c) consistently and correctly positioning the baby at the breast (Righard & Alade, 1992), and (d) maternal satisfaction (Humenick et al., 1997; Riordan, Woodley, & Heaton, 1994; Schlomer, Kemmerer, & Twiss, 1999).

Negative factors include (a) pacifier use (Gomes Victoria et al., 1997; Howard, Howard, Lanphear, et al., 1999), (b) limitation of feedings to reduce sore nipples (Lavergne, 1997), (c) forceps delivery (Goodine & Fried, 1984), (d) early discharge from the hospital (Quinn, Koepsell, & Haller, 1997), (e) perception of inadequate milk supply (Grossman et al., 1990; Quinn et al., 1997; Renfrew & Lang, 1994), (f) ease of formula use (Coreil & Murphy, 1988; Grossman et al., 1990; Johnson et al., 1984; Quinn et al., 1997; Wright, et al., 1996), and (g) return to work (Quinn et al. 1997). The factors that remain to be discussed in detail are maternal satisfaction (positive) and pacifier use, limitations of feedings to prevent sore nipples, and early discharge (negative).

Maternal satisfaction. Three studies examined the predictive value of maternal satisfaction on breast-feeding duration (Humenick et al., 1997; Riordan et al., 1994; Schlomer et al., 1999). Riordan et al. (discussed above in detail), measured three variables: (a) maternal satisfaction with breast-feeding, (b) encouragement or discouragement of breast-feeding by others, and (c) level of breast-feeding. Women were assessed during home visits at 1, 2, 3, 4, and 6 weeks post-partum. The most consistent and strongest factor predicting sustained breast-feeding was the mother's reported satisfaction with it. This occurred in all three groups of women: (a) first-time mothers, (b) mothers who had never breast-fed before but had at least one other child, and (c) mothers who had previously breast-fed.

In this study, Riordan et al. hypothesized that maternal satisfaction with breast-feeding was positively correlated with the amount of time that women expected to breast-feed and the amount of time they actually did. The purpose of the study was to examine predictors of maternal breast-feeding satisfaction and duration as well as to test the reliability and validity of

the Maternal Breast-Feeding Evaluation Scale (MBFES). Reliability and validity for the overall questionnaire and its subscales was demonstrated.

A convenience sample of 73 women participated. The women were generally European-American, married, 18 years of age or older (average age 28), primiparous, English-speaking, and had given birth to a full-term infant. The participants completed demographic data at the end of a breast-feeding class and were contacted a second time at 4 months post-partum to complete the MBFES. Those women still breast-feeding at 4 months were contacted 2 months later and asked to again complete the MBFES. The study found that maternal satisfaction was correlated with both the intended and the actual length of time she breast-fed. However, one out of four women weaned at 6 weeks, a point in time assumed to reflect the moment when mothers returned to work; half of these mothers had not intended to wean at that point. This finding might have been caused by inadequate breast-feeding knowledge and/or decreased social support.

Schlomer et al. (1999) recruited a convenience sample of 30 first-time breast-feeding mothers and assigned them to two groups. The purpose of this pilot study was to assess the effectiveness of two breast-feeding tools in predicting maternal breast-feeding satisfaction and breast-feeding problems. Each group used a different tool to self-assess breast-feeding, and both groups responded to the same questions about breast-feeding problems and maternal satisfaction. The women were assessed at 12 hours after birth and at 1 week post-partum. There was no difference in groups based on the self-assessment tools. Both groups showed a positive correlation between increasing breast-feeding ability with higher maternal satisfaction over the one-week period. Higher scores on the breast-feeding assessment tools were associated positively with fewer breast-feeding problems and increased satisfaction. This association, however, was not significant, and as this was only a pilot study, its results cannot be generalized.

Pacifier use. The relationship of pacifier use to a shorter duration of breast-feeding was examined in three studies (Gomes Victoria et al., 1997; Howard et al., 1999; Kramer et al., 2001). Gomes Victoria et al. evaluated 450 Brazilian women four times between the birth of their infant and 6 months of age. The purpose of the study was to evaluate the Baby-Friendly Hospital Initiative recommendation that pacifiers not be used because of a hypothetical correlation between pacifier use and shorter duration of breast-feeding. Despite the South American sample, this study is included here as data were collected both by interview and by ethnographic observations from a large number of participants. Pacifier use was defined as a dichotomous variable: (a) full-time user (infants who used a pacifier day and night and until they fell asleep) and (b) part-time user (all other users). All 450 mother-infant pairs were breast-feeding at 1 month and had not previously reported breast-feeding problems, and 85% of the infants were using pacifiers by 1 month of age but that pacifier-use and pacifier-non-use was flexible, with babies starting and stopping at any age. Full-time pacifier users breast-fed less frequently in 24 hours, were more likely to be supplemented with non-human milk, and were 4 times more likely to stop breast-feeding by 6 months of age.

Predictive factors for pacifier use in the Gomes Victoria et al. study were younger mother, low birth-weight baby, male child, baby not breast-fed in the hospital, and baby breast-fed on schedule rather than on demand. Women whose breast-feeding style was observed to be less flexible, more rigid, more controlling, and less interactive with their infants were noted to use pacifiers at a higher rate. Breast-feeding and bottle-feeding babies were examined separately. Pacifier users were more likely to be receiving water and teas while non-pacifier users were more likely to be receiving non-human milk.

In a prospective design, Howard et al. (1999) interviewed 265 breast-feeding mother-infant dyads at delivery; at 2, 6, 12, and 24 weeks; then every 90 days until breast-feeding ended. The purpose of the study was to evaluate the timing of the introduction of the pacifier and the effects of pacifier use on the duration, problems, and frequency of breast-feeding. Before 6 weeks post-partum, 68% of the mothers had introduced a pacifier. These dyads were significantly at risk for shortened duration both of exclusive breast-feeding and of breast-feeding over all. Similar to the Brazilian women, these women breast-fed their babies less frequently, were more likely to report breast-feeding as inconvenient, and were more likely to perceive that they had an inadequate milk supply.

Kramer et al. (2001) carried out a randomized controlled trial in Quebec. The purpose of the study was to test whether regular pacifier use is causally related to weaning within the first 3 months. The study included 258 healthy, term, and breast-feeding mother-infant pairs assigned randomly to one of two interventions. Both groups received a breast-feeding promotion counseling intervention, but the study group received additional information to assist in avoiding pacifier use and using alternative methods to soothe a crying/fussing baby. Women kept a diary for 3 consecutive days, including 2 weekdays and 1 weekend day when their infants were 4, 6, and 9 weeks of age. At the end of the study, the two groups of breast-feeding women were compared for the rate of breast-feeding, frequency and duration of crying/fussing behavior among the infants, and pacifier use at 4, 6 and 9 weeks post-delivery.

Fewer women in the study group used pacifiers (39% versus 16%), and the rate of daily pacifier use was less for the study group. There were no differences between groups in the rate of weaning by 3 months of age or the crying/fussing patterns of the infants. However, when pacifier use among all mother-infant pairs was compared with the outcome of weaning before 3 months,

a strong observational association was noted. That is, while a causal relationship could not be established, the more frequent use of a pacifier was associated with earlier weaning. The authors suggested that pacifier use might be a marker of breast-feeding problems or reduced motivation to breast-feed. The study was limited by the use of self-reported interval data from the mother and a declining rate of diary-keeping over the 9 weeks of the study (71% at 4 weeks, 61% at 6 weeks, and 57% at 9 weeks). There were 28 women who were interviewed by phone at 3 months to confirm what they had written in the diaries, but it is not clear who the women were or why or how they were chosen. Among the respondents who did not complete the study, the women were less likely to be married, more likely to smoke, and less likely to work outside the home.

Frequency of feedings. Frequency of feedings has been associated with continuation and duration of breast-feeding. Multiple factors that affect frequency of feedings have already been addressed, including pacifier use. Positive factors that contribute to the increased frequency of feedings are correct positioning at the breast (Frantz, 1991; Goodine & Fried, 1984; Renfrew & Lang, 1994) and correct suckling technique (Righard & Alade, 1992). Negative factors that contribute to decreased frequency of feedings are sore nipples (Lavergne, 1997), supplementation (Bourgoin et al., 1997; Duckett, 1992; Goodine & Fried; Gross et al., 1998; Grossman et al., 1990; Perez-Escamilla et al., 1998; Riordan, 1998; Snell et al., 1992), and feeding concerns, particularly the mother's perception of an inadequate milk supply (Graef et al., 1988; Snell et al.).

Two common concerns expressed by women are nipple problems and breast discomfort (Graef et al., 1988). Clinically, limiting the number of feedings or the length of feedings is often recommended as a treatment for sore nipples; however, this has not been shown to be effective in reducing the discomfort (Lavergne, 1997).

Righard and Alade (1992) observed the technique of 82 normal mothers and babies to examine the long-term effects among infants who correctly suckled from the start of breast-feeding. Their assumption was that babies who suckled correctly from initiation or who were corrected to suckle appropriately would nurse better, longer, and with fewer problems. They also assumed that pacifier use would interfere with the natural course of breast-feeding. At 4 months, babies who suckled appropriately or who were corrected to do so had fewer breast-feeding problems than a control group whose suckling had not been corrected. The latter group was 10 times more likely to be bottle-fed at 1 month of age. The higher rate of breast-feeding continuation was equal for the correct and corrected groups but significantly less in the uncorrected group at 4 months. Regular use of a pacifier (>2 hours a day) was correlated with an increase in breast-feeding problems.

Graef et al. (1988) assessed 32 first-time breast-feeding women from hospital discharge through 4 weeks post-partum to identify the post-partum concerns of breast-feeding mothers. Of these mothers, 97% expressed concerns regarding their infants, 81% reported concerns for themselves, and 19% reported concerns about their interactions with family and friends. The most common concerns were feeding concerns, including frequency of feeding, maternal perception of an inadequate milk supply, and supplementation.

Supplementation has been suggested as yet another mechanism whereby the frequency of feedings is reduced. In a prospective study of Hispanic women in Southern California, Snell et al. (1992) compared 38 women randomly given a hospital gift pack containing formula at discharge to 50 women who received a non-formula gift pack. There was no difference in the rate of breast-feeding at 1 week, and 66 (75%) of the women reported exclusively breast-feeding at that time. When women in the study were asked specifically if they were giving a bottle, 67%

of the exclusively breast-feeding mothers reported they were giving a bottle, supplementing with formula, tea, or water. The same pattern was found at 3 weeks post-partum. A total of 54% of all mothers reported exclusive breast-feeding, but 85% of the breast-feeding mothers responded yes to the question asking if they were giving a bottle. By 3 weeks post-partum, the receipt of a formula gift pack at discharge was significantly correlated with increased supplementation or weaning. At the final interview, the three primary reasons for supplementing in both the formula-gift-pack and the non-formula-gift-pack group were (a) the mother's perception of insufficient milk, (b) the mother's report of a fussy baby, and (c) the mother's return to work.

These findings are similar to findings among studies with non-Hispanic women. Snell et al. recommended that elimination of the formula gift pack would support increased duration of breast-feeding. The issue of non-milk supplementation with water or teas, such as chamomile tea to aid digestion or boiled water with corn syrup to prevent constipation, was not addressed. Data were not provided to allow a comparison of breast-feeding frequency among women who exclusively breast-fed and never supplemented with women who considered themselves as exclusively breast-feeding but who in fact gave their infants bottles.

Early hospital discharge. Finally, it has been hypothesized that early discharge from the hospital may be associated with early weaning. If the mother and infant go home before breast-feeding is well established, the woman may not have the knowledge or support to continue. Research has generally focused on the neonatal risk to early discharge, measuring the outcome variable of readmission to the hospital. One study specifically examined this hypothesized association. Quinn et al. (1997) evaluated the difference in breast-feeding duration between mothers who went home in less than 24 hours with a follow-up home visit on the third day and those who stayed 48 hours but had no follow-up home visit. The authors found no differences in

the initiation and continuation of breast-feeding, which may be explained by added support either in-hospital for those who stayed longer or the home visit for those women who were discharged early.

Summary of the post-discharge or late post-partum variables. In the post-partum period, after discharge from the hospital and within the first 4 to 6 weeks, variables positively correlated with continuation of breast-feeding are (a) direct assistance with breast-feeding, (b) social support, (c) correct position and suckling technique, and (d) higher maternal satisfaction. Practices and conditions that limit frequency of feedings such as pacifier use, sore nipples, supplementation, and intent to return to work or school are associated with earlier weaning and shorter duration of breast-feeding.

The studies in this section are marked by the same problems as in the previous two sections. The definition of breast-feeding remains confounded and contributes to difficulty in interpreting results. In fact, a narrower definition of breast-feeding would result in a lower rate of breast-feeding. In addition, samples tend to be small, convenient, and lacking in ethnic diversity, limiting the ability to generalize to the larger population or to women of a different culture. An example are the results from Snell et al. (1992) indicating that what a Mexican-American woman considers exclusive breast-feeding may not be what the researcher believes. Finally, the use of water and/or ritual feeds, while reported in the literature, has not been studied for types, amounts, and timing to determine if they are correlated—positively or negatively—with breast-feeding behavior.

The lack of longitudinal follow-up on the variables of choice is consistent in the post-partum period with the prenatal and in-hospital periods. To truly reflect longitudinal patterns, a 1-week, 3-week, or even 4-month follow-up may not be adequate. At the same time, maturation,

even over a 4-month period, may interfere with outcome results. The longer a study continues, the more intervening variables may account for the outcome, not just the variable of choice. The need to lower attrition rates and to decrease economic costs in order to conduct a longitudinal study must be considered against the very real clinical need to find ways that promote exclusive, long-term breast-feeding as recommended by the WHO.

Finally, while the variables documented in the literature explain some of the variance in positive breast-feeding behaviors, they do not explain it all. This researcher has observed in clinical settings that women with a history of CSA appear to have difficulty with the physical act of breast-feeding. To that end, the next four sections (a) review the CSA literature for the incidence and prevalence of CSA among adult women; (b) discuss the definition of CSA and how it has been measured; (c) review the empirically demonstrated effects of CSA on adult women, including those suggested to be specific to or relevant for pregnant women, and (d) review the theoretically suggested effects of CSA on adult women.

Overview of the Child Sexual Abuse Literature

Historically, the first published research on the prevalence of child sexual abuse was by Hamilton in 1929 (Finkelhor et al., 1986; Wyatt & Peters, 1986). By the late 1970's, reported cases of child sexual abuse began to appear in large numbers in the United States (Finkelhor et al.). Since that time, the number of research studies and theoretical papers on CSA have increased. Initially, the studies attempted to describe what appeared to be a growing public problem. Next, the focus of both research and theory was to demonstrate or suggest an association between the occurrence of CSA and a wide variety of long-term effects. More recently, researchers have responded to a body of criticism regarding methodological issues and have begun to use more advanced techniques for statistical analysis.

Studies are now beginning to confirm and contrast the findings of earlier incidence and prevalence rates while seeking ways to identify CSA survivors, predict long-term effects, and implement interventions. Closely allied are theoretical papers that address clinical issues and/or conceptual modeling to help providers improve caregiving to the woman survivor. Yet, despite an expanding body of literature, the exact numbers of women affected by CSA remain unclear.

Incidence and Prevalence Rates

Rates of child sexual abuse are reported as either an incidence or prevalence rate. Wynkoop, Capps, and Priest (1995) defined incidence as the "number of victimizations that occur during a specified period of time, typically a year" while prevalence was defined as the "number of individuals who have been victimized over the course of a childhood (i.e., lifetime occurrence)" (pp. 50-51). Incidence rates come from data collected by local, state, and federal agencies such as law enforcement or child protective services. Prevalence rates, on the other hand, come from surveys of child, adolescent, and adult samples drawn from the general public.

Agencies that collect data and report incidence rates of CSA include the National Child Abuse and Neglect Data System (U.S. Department of Health and Human Services), the American Association for the Protection of Children, The Children's Defense Fund, and the National Incidence Studies. The incidence rates from actual reported cases of CSA range from 0.86 per 10,000 in 1976 to 21.01 per 10,000 in 1994 (National Center on Child Abuse, 1996a, as cited in Leventhal, 1998).

The most recent incidence rates indicate that in the 1990's a dramatic shift occurred. Data from child protective service agencies across the country reported a 39% decrease in substantiated child sexual abuse, falling from a peak of 149,800 cases in 1992 to 92,000 in 1999. The rate of decline for sexual abuse was much higher than the rate of decline for physical abuse

and/or neglect. Jones, Finkelhor, and Kopiec (2001) conducted telephone interviews with child protection administrators in 43 states in an attempt to (a) gather state-level information about possible sources of the sexual abuse decline, (b) identify child protection trends that might be contributing to the trend, and (c) assess the level of awareness of the decline in state child protection offices. The researchers found that more than half of the officials interviewed were unaware of the decline and unaware of any discussion within their agencies or in the public at-large. When asked to explain the decline, officials suggested that the decline might not be real and that possible alternative causes for the decline could include (a) increased evidentiary requirements to substantiate cases, (b) increased caseworker caution due to new legal rights for caregivers, and (c) increasing limitations on the types of cases that agencies accept for investigation.

Prevalence rates of CSA also have a wide range. Rates in the general population for men were noted as low as 4.3% (MacMillan et al., 1997) but have been reported as high as 27.5% (Bernstein et al., 1997). Rates in the general population for women were reported as low as 10.7% (Anderson, Martin, Mullen, Romans, & Herbison, 1993) and as high as 68% (Briere & Runtz, 1989). There is a common theme among the reports of both incidence and prevalence rates: the actual number of children sexually abused is unknown and probably underreported. Literature reviews estimate the prevalence of CSA among women from 15% to 62% (Bohn & Holz, 1996; Kendall-Tackett, 1998; Roberts, Reardon, & Rosenfeld, 1999; Seng & Hassinger, 1998). Bohn and Holz found the highest prevalence rates in psychiatric studies examining depression, suicide, substance abuse, eating disorders, Post-Traumatic Stress Disorder, and multiple personality disorder.

Across all studies, girls are sexually abused as children at a higher rate than boys; an estimated 85% to 95% of the children who are sexually abused are female (Finkelhor & Dziuba-Leatherman, 1994; Nieves-Khouw, 1997). Of the abusers, 90% are male, and for girls, 33% to 50% of the abusers have a biological or relational connection to the victim, such as an adoptive, biological, or stepparent (Finkelhor & Dziuba-Leatherman).

Methodological explanations for the range of rates include better data collection techniques or an actual increase in reporting, both as a result of more public awareness. Researchers also have suggested that despite the trend of decreased incidence of child sexual abuse, there is still an underreporting of abuse to child protective service agencies, which the national incidence studies do not capture (Wynkoop et al., 1995). Another methodological issue is how CSA is defined and measured. The next section will discuss these.

Definition of Child Sexual Abuse

Definitions of CSA have been influenced by the history of CSA research, the perception of the victim herself as to what constitutes abuse, and the bias of the researcher or agency collecting the data. Definitions have been based on both legal and conceptual definitions of CSA. In some studies, researchers asked if the respondent had been sexually abused or asked the respondent to identify whether a specific behavior had occurred that they now identified as sexual abuse (Bernstein et al., 1994; Bernstein et al., 1997; Finkelhor, Hotaling, Lewis, & Smith, 1990; Silverman, Reinhera, & Giacona, 1996). Other studies asked respondents to identify which specific behaviors had happened to them (Koss & Gidyez, 1985; Koss & Oros, 1982; Romero, Wyatt, Loeb, Carmona, & Solis, 1999; Roosa, Reyes, Reinholtz, & Angelini, 1998; Wyatt, 1985; Wyatt, Lawrence, Vodounon, & Mickey, 1992).

An effective definition of CSA begins by specifying who is a victim and who is an abuser. Five additional variables affect the first two variables (who is a victim and who is an abuser): (a) the age of the victim, (b) the age of the abuser, (c) the relationship between the victim and the abuser, (d) levels of coercion or force, and (e) those behaviors conceptualized as abusive. The implicit age of consent and differentiation between abuse and peer experimentation have both been considered in the definition of CSA. These variables overlap and are often used in different combinations.

Age of victim. The broadest definition of CSA is sexually abusive behavior that occurs to any child under the age of 18, as individuals 18 and over are commonly defined legally as adults. Within this definition, sub-categories can be constructed.

CSA has also been defined as sexually abusive contact with a child 12 or younger, despite the victim's perception that it was consensual (Wyatt, 1985; Wyatt, Guthrie, & Notgrass, 1992; Wyatt, Loeb, Solis, & Carmona, 1999). Incest, a subcategory of CSA in which the victim and abuser are related either biologically (parent to child) or relationally (step-parent to child), is generally defined as abusive, despite age or level of coercion. The issue centers on whether the young child is able to legally provide consent. Does she have the power to refuse? Is she developmentally able to understand what she appears to be consenting to (Roosa et al., 1998)? Other researchers define CSA as occurring to children 12 and under only if the age discrepancy between victim and abuser is more than 5 years, no matter the relationship (Finkelhor, 1979, 1984; Roosa et al., 1998; Russell, 1983; Wyatt & Peters, 1986). Russell used a narrow definition of extrafamilial contact abuse, including all contact abuse up to age 13. Non-contact abuse was included up to age 17 if it was intrafamilial but excluded by age 13 if the perpetrator was extrafamilial.

Some researchers have defined sexual behavior for children older than age 12 as abusive only if it was unwanted or coercive. The issue was to allow for a category of sexual experimentation among peers that conceptually was not considered abusive but developmentally appropriate. Wyatt, Lawrence, et al. (1992), Wyatt et al. (1999), and Wyatt and Peters (1986) placed peer contact within a category of "exploratory sexual experimentation before age 12 or consensual sexual activity with peers [after age 12]" (Wyatt, Lawrence et al., p. 54). Russell (1983) limited the definition of sexually abusive behavior to attempted or completed forcible rape between ages 14 to 17.

Other researchers have restricted the definition of CSA to an upper age limit of 15 or 16. In effect, this disregards a category of victims who are 16 to 18, a time when abuse has been found to be more traumatic than at a younger age (Anderson et al., 1993; Briere & Runtz, 1988; Calam, Horne, Glascow, & Cox, 1998; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Finkelhor, 1979; Gallop, McKeever, Toner, Lancee, & Lueck, 1995; Greenwald, Leitenberg, Cado, & Tarran, 1990; Martin, Anderson, Romans, Mullen, & O'Shea, 1993; Mullen, Martin, Anderson, Romans, & Herbison, 1996; Mullen, Romans-Clarkson, Walton, & Herbison, 1988; Roche, Runtz, & Hunter, 1999; Wind & Silvern, 1994).

Age of the abuser. Originally, Finkelhor (1979) considered contact and non-contact experiences as abusive only if the age discrepancy between victim and abuser was more than 10 years. Later, Finkelhor (1984) reduced the age discrepancy to 5 years, if the victim considered the experience to have been sexually abusive. The prevalence rate of CSA has been shown to drop when the variables of force, coercion, or sexual contact with someone less than 5 years difference in age are not included in the definition (Roosa et al., 1998). Roosa et al. suggested

that underestimating the prevalence rate of CSA might result in decreased assessment of the long-term effects and intervention needs for adult female survivors.

Relationship between victim and abuser. The conceptualization of CSA addresses basic societal taboos. Sexual contact, whether consensual or not, is abusive if it occurs between a child and someone related to the child (Russell, 1983). Sexual contact is also abusive if it occurs between a victim and someone from whom the victim would normally expect a protective relationship rather than an exploitive one, such as a teacher, religious leader, or employer (Russell).

Coercion and force levels. There are three levels of force: coercion, threat of force, and actual force. Coercion involves behaviors such as the promise of a gift, the giving of something to the victim, or lying to the victim. Threat of force involves behaviors by the abuser suggesting that the victim is at risk, such as threatening to hurt a victim unless she does what he wants. Finally, actual force involves the implementation of force to gain the abuser's objective, such as holding the victim down (Koss & Dinero, 1989; Koss & Gidyez, 1985; Koss & Oros, 1982; Roosa et al., 1998; Wyatt, Guthrie et al., 1992; Wyatt et al., 1999).

Abusive behaviors, The final variable used to define CSA involves the selection of behaviors defined as abusive. The two major categories are non-contact abuse and contact abuse. Non-contact abuse includes exhibitionism, photography [of the child], or pornography [showing sexualized material to the child] (Boyer & Fine, 1992). Contact abuse includes contact molestation [someone touching or fondling the victim or making the victim fondle or touch them]; attempted rape [attempted vaginal, oral, or anal intercourse but not completed]; and rape [completed vaginal, oral, or anal intercourse] (Anderson et al., 1993; Boyer & Fine; Finkelhor et

al., 1990; Kenney, Reinholtz, & Angelini, 1997; Koss & Oros, 1982; Roosa et al., 1998; Wyatt & Peters, 1986; Wynkoop et al., 1995).

Summary. This section summarizes the definition of CSA used in empirical research. It is reasonable to conclude that a narrower definition will result in lower prevalence rates while a broader definition should and does result in higher rates. The argument has been made, and this author agrees, that the broader definition is the better choice. The most inclusive definition was suggested by Roosa et al. (1998), who defined CSA as "unwanted sexual events that occurred before age 18, the age at which people are legally considered adults for most purposes" (p. 227). While the age of the abuser may suggest a difference between consensual sexual activity, peer experimentation, and actual abuse, the final definition should not be limited to the variable of age difference. Coercion, force, an unwanted sexual experience with an abuser of any age, or repeated abuse have all been suggested as increasing the severity of long-term effects (Boyer & Fine, 1992; Kenney et al., 1997; Roosa, Reinholtz, & Angelini, 1999; Roosa et al.; Roosa, Tein, Reinholtz, & Angelini, 1997). These variables have also been found to affect the victim's perception of the level of severity (Draucker, 1993; Russell, 1983). Therefore, a CSA definition with multi-level behavioral variables results in a higher prevalence rate and also provides greater latitude for statistical analysis. This broader definition can be expected to affect the variation of prevalence rates as well as to direct how CSA can be measured (see next section).

Child Sexual Abuse Measurement, Reliability, and Validity

A number of tools and a variety of approaches have been used to measure CSA. Studies have included national, regional, community, and clinical samples. Most studies have been retrospective, examining the prevalence rates in a target population or searching for an association between the history of CSA and outcomes in the adult survivor. Variation in

prevalence rates has been due to differences in definitions of CSA, in the population sampled, and in how CSA was measured. The focus of tool development has been to develop reliable and valid tools that could be used across samples to predict CSA and/or its effects. This section provides an overview of four such tools: (a) the Childhood Trauma Questionnaire (CTQ), (b) the Trauma Symptom Checklist (TSC), (c) the Wyatt Sexual History Questionnaire (WSHQ), and (d) the Sexual Experiences Survey (SES). A modification of the latter tool, the SES, was selected for this investigator's proposed project (see Methodology).

Childhood Trauma Questionnaire. The CTQ was developed to identify a history of childhood trauma, including a factor of child sexual abuse, and six items on the CTQ assessed for CSA. The CTQ was tested for reliability and validity in two target populations: adult outpatient substance abusers [N=238] (Bernstein et al., 1994) and adolescent psychiatric inpatients [N=398] (Bernstein et al., 1997). Principal-components analysis revealed four factors that explained 47.6% of the variance for childhood trauma, 5.9% of which could be explained by CSA. The factors were physical and emotional abuse, sexual abuse, emotional neglect, and physical neglect. The authors found that a cut-off score of 9 on the factor of sexual abuse "correctly classified more than 4 out of 5 sexually abused patients, based on their therapist's ratings, and about 3 out of 4 patients without sexual abuse" (Bernstein et al., 1997, p. 345). The range of scores was not given. The CTQ has reliability and validity in indicating if there is a history of sexual abuse; however, it does not differentiate between past or, in the case of the adolescents, ongoing abuse.

Trauma Symptom Checklist. The TSC was designed to identify survivors of CSA based on their current symptomatology (Briere & Runtz, 1989). Initial tool development began with a 24-item Crisis Symptom Checklist (CSC) intended to discriminate between adults with and

without a history of CSA. The CSC was expanded to 33 items (Briere & Runtz, 1989) and eventually to 40 items (Briere & Runtz, 1996). It can be self-administered in 10 to 15 minutes. The target populations for studies of initial reliability and validity were several crisis intervention centers (N=195 and N=80), Canadian women (N=345), and a university (N=227). Some 40 to 50 studies have used some version of the TSC and reported validity and reliability, available in summary through the website of the primary author (http://members.aol.com/jbriere/Page7.html).

Wyatt Sexual History Questionnaire. The WSHQ was initially developed as a research tool to assess sexual socialization of women (Wyatt, 1985). The initial version contained 478 items, and the variables were generated from focus groups and then piloted on a sample of 16 women and a second sample of 77 women. The target population for the initial studies was racially diverse women from community and university sites in Los Angeles; reliability and validity were initially established with a sample of 248 women. The tool was later updated to include both consensual and non-consensual sexual incidents among community samples of women. Care was taken to place items chronologically to improve consistency of responses and to differentiate between coercive and consensual experiences. In the tool, variables are behaviorally oriented and descriptive of a type of incident. The revised format of the questionnaire allows affirmative answers to be followed up with additional questions for each reported incident. Reliability and validity of the revised tool were established in a second sample of 74 female volunteers.

Sexual Experiences Survey. The original SES was developed as a self-reporting instrument that would "reflect various degrees of sexual aggression and victimization" (Koss & Gidyez, 1985, p. 422). It was designed to identify rape victims and undetected offenders for participation in research. Based on the assumption that women are victims and men are the

aggressors, the original 12-item SES was formatted in two versions: one for women and one for men. Women were classified into four levels of victimization: nonvictimized, sexually coerced, sexually abused, and sexually assaulted. Men were classified into four levels of sexual aggression: non-sexually aggressive, sexually coercive, sexually abusive, and sexually assaultive (Koss & Oros, 1982). The authors continued to develop the measure and reworked the questions into a 10-item tool that was used with men and women in a college setting (Koss & Gidyez, 1985). The target populations for the initial studies included general university students (N=138 and N=386) and psychology students (N=448). The tool has established reliability but not validity.

Sexual Experiences Survey, Modified. The modified SES is a 14-item, self-reporting instrument that has been used with English- and Spanish-speaking women for research purposes (Boyer & Fine, 1992; Kenney et al., 1997; Roosa et al., 1997; Roosa et al., 1998; Roosa et al. 1999). Boyer and Fine eliminated two of the original items because the behavioral descriptions were vague. In return, they added four items to expand the levels of victimization to include non-contact molestation and a broader category of contact molestation. The modified SES was simplified for better understanding by women with more limited reading abilities and was translated and back-translated to provide a Spanish-speaking version. The modified SES has been shown to have adequate internal consistency (Cronbach's alpha = .84)

Each item of the modified SES provides a clear behavioral description of an unwanted sexual experience and the level of force employed. An example of a question for the category of coercion is "Has a male ever used force (twisting your arm, holding you down, etc.) to kiss or pet (feel) you?" There is no assumption that women understand technical terms such as "coercion" and "rape" or that women share a definition for the phrase "unwanted sexual event." Instead, the

individual items represent experiences that include levels of force, which allows the 14 items to be classified into one of six severity levels. The levels of severity of sexual abuse include no abuse, non-contact molestation, contact molestation, coercion, attempted rape, and rape.

There is one major disadvantage of the modified SES: criterion-related validity and construct validity have not been established. Major advantages, however, guided the selection of the modified SES for the current project. The tool does have content and face validity. The variables chosen do reflect similarities to variables used in the other tools and shown in the literature to be content-appropriate. What's more, there are methodological issues associated with establishing criterion and construct validity. The retrospective nature of data collection, the dependence upon a woman's own self-report (sometimes years after the event), the intervening or mediating factors (see discussion below), and difficulty verifying the woman's answers all contribute to questions about validity and reliability. A prospective study design might determine whether a tool administered to an adult reflected abuse previously documented as occurring to the child. However, such a design would have to allow for the difficulty of identifying children at the moment of abuse, following them for the intervening years, identifying modifiers that could influence them, and then assessing them at some point in the future. Methodologically, there also remains the difficulty of identifying adult survivors whose abuse was not reported as children and determining if adult responses differ between survivors whose abuse was reported and those whose abuse was not.

The advantages of the modified SES outweigh the lack of established criterion-related or construct validity. It is relatively quick and easy to administer, either as a self-reporting questionnaire or in an interview. The sixth-grade reading level makes it attractive for the targeted population, which has a broad socio-economic range. The behaviors are described in a non-

judgmental manner, allowing a standardized definition of CSA to be determined conceptually rather than through the perception of the respondent. The tool has been translated into Spanish and used with two different Hispanic populations without problems. It has an established reliability with European-American and Mexican-American women.

Long-Term Effects of Child Sexual Abuse on Adult Female Survivors

Researchers have suggested categorizing the sequelae of child sexual abuse by psychological, emotional, and physical symptomology. Other models include classifying by symptoms or classifying by treatment or intervention method. This section summarizes the long-term general-outcome effects on female adult survivors and reviews the variables that appear to mediate the outcome effects of CSA on adult women survivors. Second, the outcome effects specific to the subsample of pregnant women are reviewed.

General effects. The research studies that found long-term effects of CSA are categorized into psychological, physical, and sexual. They are summarized below with a basic definition provided.

The major affects of child sexual abuse for women appear to be psychological. A cognitive distortion occurs when the woman makes assumptions about herself after negative experiences of childhood abuse; these assmptions reflect an over-estimation of the amount of adversity and danger in the world with an underestimation of self-efficacy and self-worth (Briere & Elliot, 1994). Many women experience avoidance and dissociation, incorporating behaviors into their lifestyle as coping mechanisms. The avoidance behaviors are developed to cope with the chronic trauma associated with childhood abuse, including behaviors that avoid abuse-specific memories, dissociation, substance abuse, suicide ideation, and various tension-reducing activities [compulsive and indiscriminate sexual activity, eating disorders, self-mutilation]

(Briere & Elliot, 1994). Dissociation occurs when the woman experiences disruption in the normally occurring connections between self-awareness, thoughts, feelings, memories, and behavior, such as derealization, depersonalization, spacing out, alterations in bodily perceptions, emotional numbing, out-of-body experiences, amnesia, and multiple personality disorder (Briere & Runtz, 1988, 1989; Briere & Elliot; Cassin, 1990; Cole, Scoville, & Flynn, 1996; Farley & Keaney, 1997; Irwin, 1999). For these women, the behaviors may impact their ability to focus and concentrate, thereby putting them perhaps at risk for school problems, including poor grades, a higher drop-out rate, or non-completion of an educational program (Berenson, Miguel, & Wilkinson, 1992; Calam et al., 1998).

Many female survivors of child sexual abuse suffer from decreased self-esteem, emotional distress, depression, interpersonal difficulties, and suicidal tendencies. Women survivors underestimate any sense of personal self-importance, feeling that they are worth little or nothing, that they are without value (Beitchman, Zucker, Hood, daCosta, & Akman, 1991; Bohn & Holz, 1996; Boyer & Fine, 1992; Brayden, Dietrich-MacLean, Dietrich, Sherrod, & Altemier, 1995; Collins, 1998; Esperat & Esparaza, 1997; Farley & Keaney, 1997; Finkelhor, 1990; Fleming, Mullen, Sibthorpe, & Bammer, 1999; Kendall-Tackett, 1998; Mullen et al., 1996; Roberts, 1996). They may or may not identify an acute or underlying emotional distress, experiencing an emotional pain that may lead to increased depression, anxiety, or anger (Beitchman et al., 1992; Briere & Elliot, 1994; Finkelhor, 1990; Glod, 1993).

For adult women survivors, major depression may be chronic. In fact, adult survivors of CSA have a four-fold greater risk for major depression than non-abused adults (Bassuk, Melnick, & Browne, 1998; Beitchman et al., 1991; Beitchman et al., 1992; Brayden et al., 1995; Briere & Runtz, 1988; Briere & Elliot, 1994; Calam et al., 1998; Coombs, Reynolds, Joyner, & Blankson,

1998; Esperat & Esparaza, 1997; Finkelhor, 1990; Glod, 1993; Kendall-Tackett, 1998; Mullen et al., 1996; Rew, 1989; Roberts, 1996; Silverman et al., 1996). The immediate cognitive and conditioned response to victimization can extend into the long term and lead to interpersonal difficulties, including distrust of others, fear of and anger with others who have more power, perceptions of injustice, concerns about abandonment, and responses to ongoing abuse of passivity, avoidance, or sexualization (Beitchman et al., 1992; Briere & Elliot; Glod). Finally, women with a history of sexual abuse can experience suicide ideation or an actual suicide attempt. They may think about or plan ways to commit suicide, or actually attempt to kill themselves (Briere & Elliot; Finkelhor; Glod; Silverman et al.).

The effects of sexual abuse on children have been described as physical, although it is often difficult to separate the physical effects from the psychological overlay. Adult women survivors may have eating disorders (Bassuk et al., 1998; Bohn & Holz, 1996; Briere & Elliot, 1994; Calam et al., 1998; Glod, 1993; Kendall-Tackett, 1998; Mullen et al., 1996; Rew, 1989; Seng & Hassinger, 1998), substance-abuse problems (Bassuk et al.; Beitchman et al., 1991; Bohn & Holz; Boyer & Fine, 1992; Brayden et al., 1995; Briere & Elliot; Calam et al.; Collins, 1998; Finkelhor, 1990; Glod; Mullen et al., 1996; Rew, 1989; Silverman et al., 1996), increased risk of other types of abuse or revictimization (Beitchman et al., 1992; Bohn & Holz; Boyer & Fine; Collins; Fleming et al., 1999; Kendall-Tackett; Mullen et al.; Seng & Hassinger), or post-traumatic stress disorder (Beitchman et al., 1991; Beitchman et al., 1992; Briere & Elliot; Finkelhor, 1990; Rodriguez, Kemp, & Foy, 1998). Eating disorders can include compulsive overeating, bingeing, or bulimia, all behaviors that may fulfill a need to decrease chronic abuse-related stress. Substance abuse includes addictive patterns of use for substances, such as tobacco, alcohol, prescribed and non-prescribed drugs, including street drugs; such substances are often

used to decrease or cover the abuse-related pain and stress. Having been abused once appears to put women at risk of being sexually abused again or of experiencing other types of abuse, including physical abuse. Post-traumatic stress disorder stems from a known traumatic event and leads to frequent and reoccurring flashbacks or re-experiencing of the event. There is also dissociation or avoidance of current events and persistent symptoms of disruptive, somatic complaints such as sleep disturbances, hypervigilance, and/or poor concentration.

Finally, it has been reported that there may an increased use of health care services by survivors. Women survivors of sexual abuse as a child may present more often in a health care setting with what appear to be somatic complaints (Bohn & Holz, 1996; Glod, 1993).

The combined physical and psychological effects of child sexual abuse often alter a woman's sexuality. Women may be sexually active earlier (Esperat & Esparaza, 1997) and do so without the use of protection (Bohn & Holz, 1996; Esperat & Esparaza) or have an increased frequency of sexual activity (Rind & Tromovitch, 1997) that may result in increased risk for adolescent pregnancy (Boyer & Fine, 1992; Briere & Elliot, 1994; Collins, 1998; Esperat & Esparaza; Mullen et al., 1996). These risks may be related to low self-esteem or avoidance of anxiety-causing situations, such as mandatory participation in a health care system to obtain the physical exam necessary to access contraception.

Women may also experience sexual dysfunction and gender identity disturbance. Sexual dysfunction includes decreased or absent libido, frigidity, promiscuity, decreased sexual satisfaction, or confusion over sexual orientation (Beitchman et al., 1992; Briere & Elliot, 1994; Finkelhor, 1990; Fleming et al., 1999; Mullen et al., 1996). The victims of CSA are more likely to develop some type of sexualized behavior. There is a slightly higher risk that female victims

of father-daughter incest and of penetration may develop same-sex relationships (Beitchman et al., 1991; Beitchman et al., 1992).

Across all studies, regardless of how CSA was measured, women with a history of CSA reported more long-term psychological effects than non-abused women. The differences between abused and non-abused women remained whether the CSA was defined by the woman or by the researcher.

Mediator variables. More recently, mediator variables that can negatively or positively influence the outcomes of CSA have been identified. These include (a) age of child at onset of abuse, (b) severity/penetration, (c) frequency, (d) duration, (e) perpetrator, (f) lack of support, (g) force, (h) child's attitudes, and (i) coping style (Beitchman et al., 1991; Beitchman et al., 1992; Kendall-Tackett, Williams, & Finkelhor, 1993; Wind & Silvern, 1994; Wyatt & Newcomb, 1990).

Wyatt and Newcomb examined whether various circumstances of CSA contributed directly to adult problems or if there were intervening conditions that mediated the effect of later outcomes. They hypothesized that CSA was a major stressor from which other sexual, psychological, and relationship problems would follow. They interviewed 248 women, 111 of whom reported sexual abuse. Study variables were coded into four domains: (a) circumstances of abuse, (b) mediators, (c) outcome, and (d) variables deleted from the final analyses. The outcome variable was classified into four domains: (a) negative effects of the abuse, (b) initial effects of the abuse on the victim, (c) overall lasting effects of the abuse, and (d) effects of the abuse on feelings toward men.

Wyatt and Newcomb reported the following variables as mediating the effect of later outcomes. The severity of the abuse and the closeness of the perpetrator were found to mediate

and directly influence the negative effects of abuse. Immediate negative responses and internal attributions functioned as the most important internal mediator variables, explaining the impact on negative outcomes of age of last abuse, duration of abuse, and psychological coercion. The authors reported that the predictors for immediate negative responses to victimization were being older at the time the abuse ended, being abused by someone close, being abused for a short duration of time, and being abused through psychological coercion. Abuse that continued until a woman was older was indirectly associated with later negative outcomes, but the offender's age did not matter. Women sexually abused as adolescents reported more negative impact than those who had been abused at an earlier age.

The victim's relationship to the abuser complicated disclosure. Incest survivors who were abused in their own home had the most difficulty disclosing. Conversely, survivors who were abused away from home were more likely to internalize the abuse as their own fault. Finally, the effects of the abuse were minimized if the victim's first allegation of abuse was believed (Coffey et al., 1996; Tremblay, Hebert, & Piche, 1999; Wind & Silvern, 1994).

Summary. This section has listed the general long-term effects on adult female survivors of CSA. Long-term effects appear to be primarily psychological and include depression, cognitive distortion, avoidance behaviors, interpersonal difficulties, substance abuse, and eating disorders. Variables have also been reviewed that may mediate those effects, including (a) age of child at onset of abuse, (b) severity /penetration, (c) frequency, (d) duration, (e) perpetrator, (f) lack of support, (g) force, (h) child's attitudes, and (i) coping style.

Child Sexual Abuse and Childbearing

The effects of CSA specific to pregnant women have been less studied. It is reasonable to conclude that many of the effects would be similar and raises the question: What is the impact of

CSA on childbearing? Three studies have purposefully examined self-reported pregnancy experiences and outcomes in adult survivors of CSA. A much larger number of studies have examined the correlation of abuse with pregnancy. Each is reviewed here.

Jacobs (1992) examined the correlation of prior sexual abuse with pregnancy and childbirth experiences. A convenience sample of 15 women with a history of CSA was recruited from mental health sites and 13 women without a history of CSA were recruited from an evening psychology class as a control group. All women completed a survey that asked questions about demographics; substance use; stressors, medical, and psychological problems during pregnancy and birth; and a detailed obstetric history.

The two groups were similar in age, income, and number of pregnancies. Use of tobacco or alcohol and treatment history for substance abuse were also similar between the two groups. There were no significant differences between survivors and non-survivors reporting a past experience of physical abuse; however, there were some group differences among women who reported a past experience of sexual abuse. Women with a history of CSA were more likely to be younger at first pregnancy, have more pregnancy terminations, more ultrasounds in the first pregnancy, higher birth-weight babies, longer pregnancies, longer labors, and more medical problems. Survivors were (a) less likely to be married and (b) more likely to have been divorced, (c) to be victims of current or past verbal abuse, (d) to have one or more alcoholic parents, (e) and to have a greater history of mental health treatment. (This last is not surprising since the survivors were recruited from a survivor's mental health treatment group.)

This study had numerous methodological problems. The very small convenience sample limited analysis and generalization, and the results were compromised by an inappropriate use of multiple regression and stepwise analyses with an inadequate sample size. The study would have

been strengthened if the author had used a conceptual framework and a clear definition of CSA. The number of variables studied required a large sample for the type of statistical analyses used. Finally, the author drew conclusions beyond the ability of the data to support.

Berenson et al. (1992) examined a sample of 342 ethnically diverse teenagers who entered prenatal care in a teen clinic over a 7-month period. The purpose of the study was to determine the following: (a) the prevalence of sexual and physical abuse in a population of pregnant teenagers, (b) the relationship between victim and abuser, (c) if the pregnancy modified the pattern of abuse, and (d) demographic characteristics associated with abuse. Routine interviews were done in English or Spanish upon admission to the teen clinic. Interviews collected data on the teen's history of both physical and sexual assault. The research did not discuss issues of reliability and validity, but the example of the question on physical abuse suggests that the Abuse Assessment Screen was part of the survey questions (McFarlane, Parker, Soeken, & Bullock, 1992).

The study sample included all but 5% of the target population. However, generalizability was limited as the sample all attended the same clinic. The overall prevalence of abuse in this study sample was 25%: 8% reported a history of sexual but not physical assault, 9% reported physical but not sexual assault, and 8% reported both. Perpetrators were intrafamilial (parents, stepparents, or siblings) and extrafamilial (spouses or boyfriends). Five of the 23 women experiencing physical abuse reported that it increased in frequency or severity during the pregnancy. Demographically, there were no significant differences in patient age, gravity, parity, number of abortions, or number of living children between the abused and non-abused teens. European-American teens were more likely to report sexual abuse, and Hispanics were less likely to report combined forms of abuse. Teens who had been sexually assaulted sought prenatal

care earlier (18.5 weeks gestational age) than those who did not have a history of sexual assault (22.0 weeks gestational age). The authors suggested that the sexual assault questions identified victims of severe abuse or rape but did not reveal the timeframe within which the sexual abuse had occurred. Those young women who reported either sexual abuse or a combination of sexual and physical abuse had a two-fold increased risk of dropping out of school than their non-abused counterparts.

The purpose of Grimstad and Schei's study (1999) was to determine if a history of CSA placed a woman at increased risk of delivering a low birth-weight baby. Secondarily, the authors asked about the relationship between CSA and smoking habits, obstetric complications, use of health care services, and health complaints during pregnancy. Mothers of low birth-weight babies were recruited and then matched with the next woman who delivered a normal birth-weight baby. A total of 178 women were interviewed, 110 in-hospital and 68 a year after delivery. The women interviewed a year later were recruited to ensure an adequate number of mothers with low birth-weight babies. There were 86 women interviewed in the case group and 92 women in the control group. Differences, if any, between those women interviewed in hospital and those women interviewed a year later were not reported. There was no relationship between CSA and low birth-weight, possibly as a result of the limited sample size. The study did find an association between women with a history of abuse and smoking, discomfort in pregnancy, unemployment, earlier menarche, earlier onset of sexual activity, and more frequent use of the health care system during pregnancy. The study design would have been strengthened if all participants had been interviewed at the same time to remove any historical or maturational effect.

Numerous studies have used the Abuse Assessment Screen to examine physical and sexual abuse during pregnancy and the year prior to pregnancy (Covinton, Diehl, Wright, & Piner, 1997; Curry, Doyle, & Gilhooley, 1998; Curry, Perrin, & Wall, 1998; Parker, McFarlane, & Soeken, 1994). Several studies included teens who might also have been current victims of CSA. In all studies, abuse in the previous year was significantly associated with abuse during the pregnancy. These studies consistently found an association between women who had been abused in the year prior to or during the current pregnancy with an increased likelihood of smoking, using alcohol or drugs during pregnancy, experiencing a higher rate of first- or second-trimester bleeding, and having a poor obstetric history. Abuse also was associated with an increased risk of delivering a low birth-weight baby (Covinton et al.; Curry, Doyle, et al.; Curry, Perrin, et al.; Parker et al.).

Over all, the CSA and childbearing literature needs to be expanded. This subcategory of the CSA literature is limited in the number of studies and in the number of women included in them. As of yet, no body of knowledge has consistently found a direct causal relationship between a woman's history of CSA and negative effects on the adult survivor, pregnant or not. The explanations for the long-term effects of CSA on women have primarily been described in theoretical papers.

Child Sexual Abuse Conceptual Models

Theoretically, CSA has been described as a traumatic event that disrupts a child's normal growth and development, although the ways in which this occurs are not totally understood. Likewise, the long-term effects of this childhood experience are hypothesized to affect later adult development. This section first reviews the Post-Traumatic Stress Disorder (PTSD) Model and the Traumagenic Dynamics Model, two of the primary conceptual models used in current

research. Next, the theoretical links between CSA and the events of pregnancy and childbirth are reviewed, followed by a description of a conceptual model specifically developed to explain the impact of a history of CSA on a woman's breast-feeding behavior.

Post-Traumatic Stress Disorder Model

Briere (1989) has suggested that it is the power differential between the abuser and her perpetrator that causes the subsequent difficulties of PTSD for the victim. The abusive behavior associated with the power differential traumatizes the child, instilling fear, betrayal, and helplessness, which in turn are compounded by psychological and physiological responses that restructure the child's world. Briere's assumption is that the abuse itself is a traumatic psychological stressor. By definition, for PTSD to exist, there must be a known traumatic event plus frequent and reoccurring flashbacks or re-experiencing of the event, associated with dissociation or avoidance of current events and persistent symptoms of disruptive, somatic complaints such as sleep disturbances, hypervigilance, and/or poor concentration (Long, 1995-1997).

Rodriguez et al. (1998) reviewed 33 empirical research studies that investigated PTSD in survivors of CSA and childhood physical abuse. They examined studies that described PTSD in children, PTSD in adults and the combined effect of CSA, and childhood physical abuse and PTSD. The section summarizing PTSD in adult survivors of CSA is addressed here, wherein the participants were primarily women. The authors commented on the lack of a standardized CSA definition and standardized measures, which limited comparisons between studies and prevented a summary of prevalence rates for CSA and PTSD and of PTSD diagnosis. Other methodological issues included a lack of control groups for comparison purposes, not assessing women from a multiple-trauma perspective, a lack of standardized measurement tools, and a retrospective

approach that often asked women to self-report behaviors from many years earlier. Despite these limitations, there was a positive relationship between the intensity of PTSD and increased severity, duration, and frequency of CSA; exposure to multiple types of abuse; and older age at onset.

Finkelhor's (1987) review of the PTSD Model outlined five attributes of the model, which were presented primarily as tools for therapists. These attributes provide (a) a clearly defined label, (b) a mechanism for structuring symptomatology, (c) a way to place CSA hierarchically into a broader context and link it to abuse, (d) a way to draw attention to sexual abuse, and (e) a way to decrease some of the stigmatization of victims with a history of CSA. Finkelhor also had three criticisms of the model. First, it does not always explain all the effects seen in adult survivors or account for all their symptoms. Second, as a collection of symptoms, its theory cannot explain the dynamics by which CSA leads to subsequent symptomatology. Finally, it does not offer an explanation for women who report a history of CSA but are asymptomatic as adults.

Traumagenic Dynamics Model

The Traumagenic Dynamics Model (Finkelhor, 1987; Finkelhor et al., 1986) was developed as an alternative to the PTSD model that could explain the complexity of CSA and long-term effects. A traumagenic dynamic is defined by this model as an experience that "alters a child's cognitive or emotional orientation to the world and causes trauma by distorting the child's self-concept, worldview, or affective capacities" (Finkelhor, 1987, p. 354). Thus, this model incorporates the concept of PTSD but identifies, in addition, four ways in which trauma can have an effect on the child: sexualization, stigmatization, betrayal, and powerlessness.

Sexualization occurs as a result of the trauma of the incident(s) so that the child's sexuality is shaped in a way that is developmentally and interpersonally inappropriate and dysfunctional. Stigmatization occurs as the child integrates the negative connotations of the childhood sexual exploitation within her developing sense of identity and self-concept; such women are more likely to internalize the message and develop an identity of "different" from others. Betrayal occurs when the child realizes the loss of trust and innocence after being manipulated and exploited by a family member or trusted adult; this dynamic can occur at the time of the first abuse or years later when the child (or adult) realizes that someone upon whom they were so totally dependent caused them or wished to cause them harm. Finally, powerlessness occurs when the child's rights to privacy and control of her life are disregarded by a parent or other adult. She is placed in a position of not wanting the sexually abusive relationship but cannot leave it because she is dependent in the relationship. Her will and wishes are usually frustrated and overruled repeatedly; at the same time, she may experience threat of personal harm or annihilation, or experience it.

This model appears to better capture the complexity of symptoms or long-term effects as described in the literature. It includes the concept of PTSD but expands to involve the level of complexity necessary to cover the broad range of effects described in the literature.

Theoretical Links Between Child Sexual Abuse and Childbearing

Experiences within the childbearing year, such as invasive examinations, new body sensations, and the actual labor and birth are believed to act as triggers for a post-traumatic stress response and/or distress for women with a history of CSA (Bohn & Holz, 1996; Cassin, 1990; Courtois & Riley, 1992; Grant, 1992; Kitzinger, 1992; Rose, 1992). Even if women have acknowledged the CSA event(s) in their lives, the level of severity may be buried so deeply

within them that the impact remains unknown until a precipitating event, such as pregnancy, childbirth, or breast-feeding occurs (Seng & Hassinger, 1998). It is hypothesized that these events can trigger the following post-traumatic stress responses: (a) intrusive reliving, such as flashbacks or body memories; (b) autonomic arousal, causing fight or flight symptoms; and (c) numbing or avoidance efforts, such as dissociation. In these instances, pregnancy is complicated by the emotional challenges of unexplained feelings and the eruption of abuse memories that had been previously repressed.

In response to one woman's history of her birthing experiences after a severe history of CSA (Rose, 1992), Simkin (1992) hypothesized that seven issues arise for women during childbirth: (a) confusion and anxiety over body "boundaries," (b) control issues, (c) fear of pain or injury in sexual body parts during labor and birth, (d) unwillingness to trust those in authority, (e) resistance to the language and expectations of childbirth classes, (f) flashbacks or body memories in labor, and (g) shutting down of labor progress at a level of pain where the woman can maintain control.

Heritage (1998) reiterated many of these same areas when she suggested guidelines for providers and nurses working with CSA survivors during pregnancy, labor, delivery, and the post-partum period. She hypothesized that, given the scope of the childbirth experience, the consequences of CSA could negatively impact the process of childbearing. The prime factors she raised were (a) issues of boundary confusion, (b) need for control, (c) anxiety or fear of examination, (d) dissociation, (e) inability or discomfort in attending childbirth classes, and (f) the triggering sensations involved with pregnancy, birth, and breast-feeding. Among the signals that can suggest the possibility of a sexual abuse history are sexual problems and difficulty or avoidance of pelvic exams, even though the women may deny a history of CSA.

Kendall-Tackett's Breast-Feeding Model

Kendall-Tackett (1998) applied the theoretical links described above between CSA and childbearing to hypothesize how CSA can influence a woman's breast-feeding behavior. In summary, they posited that breast-feeding may trigger flashbacks to the abuse or recall of past negative sensations, thereby emphasizing and intensifying the powerlessness that a CSA survivor may routinely experience during CSA or randomly in her life. Kendall-Tackett identified seven domains of functioning that can be impacted by CSA, many of which are conceptually congruent with Finkelhor's category of powerlessness (1987): (a) PTSD, (b) cognitive distortion, (c) emotional distress, (d) impaired sense of self, (e) avoidance, (f) interpersonal difficulties, and (g) physical health and susceptibility to illness. Further, all of Kendall-Tackett's seven domains can be placed within Finkelhor's concept of powerlessness. Each domain as described by Kendall-Tacket is presented here.

Post-Traumatic Stress Disorder. If the CSA involved the breast in any way, from fondling to frontal ejaculation, the effects of the CSA may be re-experienced during breast-feeding. Flashbacks can be triggered by sensory stimuli, including touch (tactile), smell, taste, texture, or sound. Pain can also trigger flashbacks. Depending upon a woman's individual experience and how much of the abuse experience she has processed, she may have some control over the flashback or she may be suddenly pushed forward into a state of re-experiencing the trauma as if it were actually occurring at that moment. A woman's ability to access early and consistent prenatal care or prenatal breast-feeding education may be impacted by her difficulties with physical examination, intrusive touch, and other boundary issues manifested in fear, anxiety, and inability to accept touch. Her desire for early maternal-child contact, ability to tolerate placing the baby on the breast, and the associated physical symptoms that occur when the baby actually

breast-feeds, including the milk let-down reflex and the sensation of milk on the breast or hands, may also be affected.

Cognitive distortions. Feeling a loss of personal control as a result of the abuse, women may internalize a sense of helplessness, powerlessness, and loss of control over themselves and their body. They may underestimate their own confidence and ability to handle danger, actual or perceived. With regards to breast-feeding, a woman may be hyper-vigilant, unusually worried about her capacity to breast-feed, and worried that she has an inadequate milk supply; therefore, she may be more likely to decide or be persuaded to supplement. She may not have accessed prenatal education regarding breast-feeding; and if she has, she may integrate that knowledge incorrectly. She may place value on one aspect of breast-feeding, such as never using a pacifier, but not recognize the need for frequent feedings and offering the breast on demand. She may have difficulty making the transition from the perception of her breasts as sexualized objects to objects intended to nurture a baby. She may verbalize her desire to breast-feed but at the same time assume that a negative breast-feeding experience is to be expected and is unavoidable, and she may appear unmotivated to be successful (Kendall-Tackett).

Emotional distress. Much of the CSA literature reports depression in some form as both a short- and long-term outcome (Bassuk, Melnick, & Browne, 1998; Beitchman et al., 1991; Beitchman et al., 1992; Brayden et al., 1995; Briere & Runtz, 1988; Briere & Elliot, 1994; Calam et al., 1998; Coombs et al., 1998; Esperat & Esparaza, 1997; Finkelhor, 1990; Glod, 1993; Mullen et al., 1996; Rew, 1989; Roberts, 1996; Silverman et al., 1996). Associated symptoms may include eating disorders, anxiety disorders, panic disorder, inability to sleep or sleeping all the time, fatigue, anxiety, and inability or diminished ability to think or concentrate. At the same time, women may experience feelings of worthlessness that are compounded by negative birth

experiences, guilt feelings, agitation; or a perception of a poor relationship with her newborn (Kendall-Tackett, 1998). If the breast-feeding itself is not going well, all of these feelings may be intensified. The initial neonatal period is already a time of stress; it is normal for mothers to experience sleep disturbances, sleep deprivation, and a sense of self-redefinition as they take on parenting. A woman with a history of CSA may find herself in a position of experiencing rage, anger, or irritability that she may or may not be able to safely vent (Kendall-Tackett). For example, human infants need to be fed frequently and repetitively, and the infant's needs for frequent feedings may trigger a conflict between the anger the mother views as inappropriate and her desire to continue breast-feeding.

Impaired sense of self. If the CSA has led to an impaired sense of self-awareness, the mother may have a decreased ability to discriminate who and what will be helpful to her in maintaining breast-feeding. As noted, social support, particularly from the woman's partner, is an important factor for a woman who wants to successfully breast-feed. If the woman has boundaries that are not well established or that are easily broached, she may overextend herself in helping others but be unable to ask for help back. The woman with an impaired sense of self may be unable to integrate multiple external suggestions on how to breast-feed into an internal pattern that works for herself and her newborn. Additionally, she may feel guilty for not being able to perform as she perceives others wish her to perform. Perhaps more importantly, she may be unable to verbalize what it is she wants for herself, only repeating what she thinks others want her to say, despite the physical message her body gives when faced with the breast-feeding demands of her baby.

Avoidance. Dissociation is documented as one of the major long-term effects of CSA (Briere & Runtz, 1988, 1989; Briere & Elliot; Cassin, 1990; Cole, Scoville, & Flynn, 1996;

Farley & Keaney, 1997; Irwin, 1999). If the issues of emotional, psychological, and physical pain have not been dealt with, a woman may simply separate emotionally, psychologically, or physiologically from the perceived cause. Women survivors may be unable to breast-feed, or if they initiate breast-feeding, they may be unable to continue if the sensations of breast-feeding become a trigger point for flashbacks. Kendall-Tackett hypothesized That these sensations might include suckling, milk let-down reflex, leaking milk, or the uncontrolled touch on the breast when the infant demands to be repetitively fed in a manner the mother may perceive as unpredictable.

Interpersonal difficulties. The boundary issues reported in the sexual abuse literature may carry over into interpersonal relationships. Women may either inappropriately intrude into or avoid personal relationships, suspending boundaries that never merged within them as children or rigidly maintaining them as a self-protective mechanism (Kendall-Tackett). This author hypothesizes that these boundary confusions could extend to the mother's relationship with her child and might place the child at risk for subsequent abuse or neglect.

Abuse survivors often do not have a good networking system in place (Kendall-Tackett). They may have poor interpersonal skills and/or a limited number of safe people with whom they have a trusting relationship. If they have maintained control over their life by being the caretaker, they may be uncomfortable in the hospital situation, which that casts them as the dependent. They may be unwilling and unable to ask for breast-feeding assistance because of a combination of poor interpersonal skills and a desire to avoid anxiety-producing situations.

Physical health and susceptibility to illness. The consequences of CSA on physical health are well-documented and include poor nutrition associated with eating disorders and depression; substance use and abuse; persistent fatigue, insomnia, and somatic complaints; and chronic stress

and anxiety over real or perceived revictimization. The additional physical demands of being a new parent may result in little energy left over for breast-feeding. Breast-feeding may carry its own physical complaints such as nipple pain, engorgement, or symptoms of mastitis; breast-feeding may also provoke sexual or intimacy confusion. Women may experience a higher likelihood of inadvertently weaning based on advice from well-meaning but uninformed health care providers, family members, or friends who recommend supplementation, pacifiers, limitations on length of feedings, or feeding on a schedule rather than on demand in order to deal with physical complaints.

Summary

Of the three conceptual models that could be used to examine the impact of CSA on a woman's breast-feeding behavior, no single model seems to adequately explain the complexity of the hypothesized correlation between CSA with breast-feeding. PTSD explains some CSA outcomes but does not explain women who appear asymptomatic, making it a less inclusive model. The Traumagenic Dynamics Model does encompass the PTSD concept as well as other variables but does not specifically address breast-feeding. Because Kendall-Tackett's model deals specifically with a hypothesized relationship between breast-feeding and CSA, it is the basis for this author's conceptual/theoretical framework.

Conceptual/Theoretical Framework

This section reviews and summarizes the major factors found in the empirical and theoretical breast-feeding and CSA literature and organizes them into the model (see Figure 1) that was used as the basis for this study. For these purposes, it is important to shift the perspective from *when* a given factor might be influential (prenatally or in early or late post-partum) to *how* and *in what capacity* it might be influential. This section also examines the

theoretical effect that each category of variables (maternal variables, infant-feeding practices, and abuse history) has on a woman's breast-feeding behavior. Finally, it suggests the research questions that can be drawn from this review of the literature and the conceptual framework.

The variables that may impact a woman's breast-feeding behavior can be categorized into three major areas: (a) maternal characteristics, (b) infant-feeding practices, and (c) abuse history. As seen in Figure 1, each category of variables is hypothesized to impact a woman's infant-feeding behavior. As noted above, the impact of maternal variables and infant-feeding practices has been documented in the empirical literature. The impact of abuse history on women's infant-feeding behavior at 4 to 6 weeks post-partum has been described in the theoretical literature (see above Kendall-Tackett's Breast-Feeding Model).

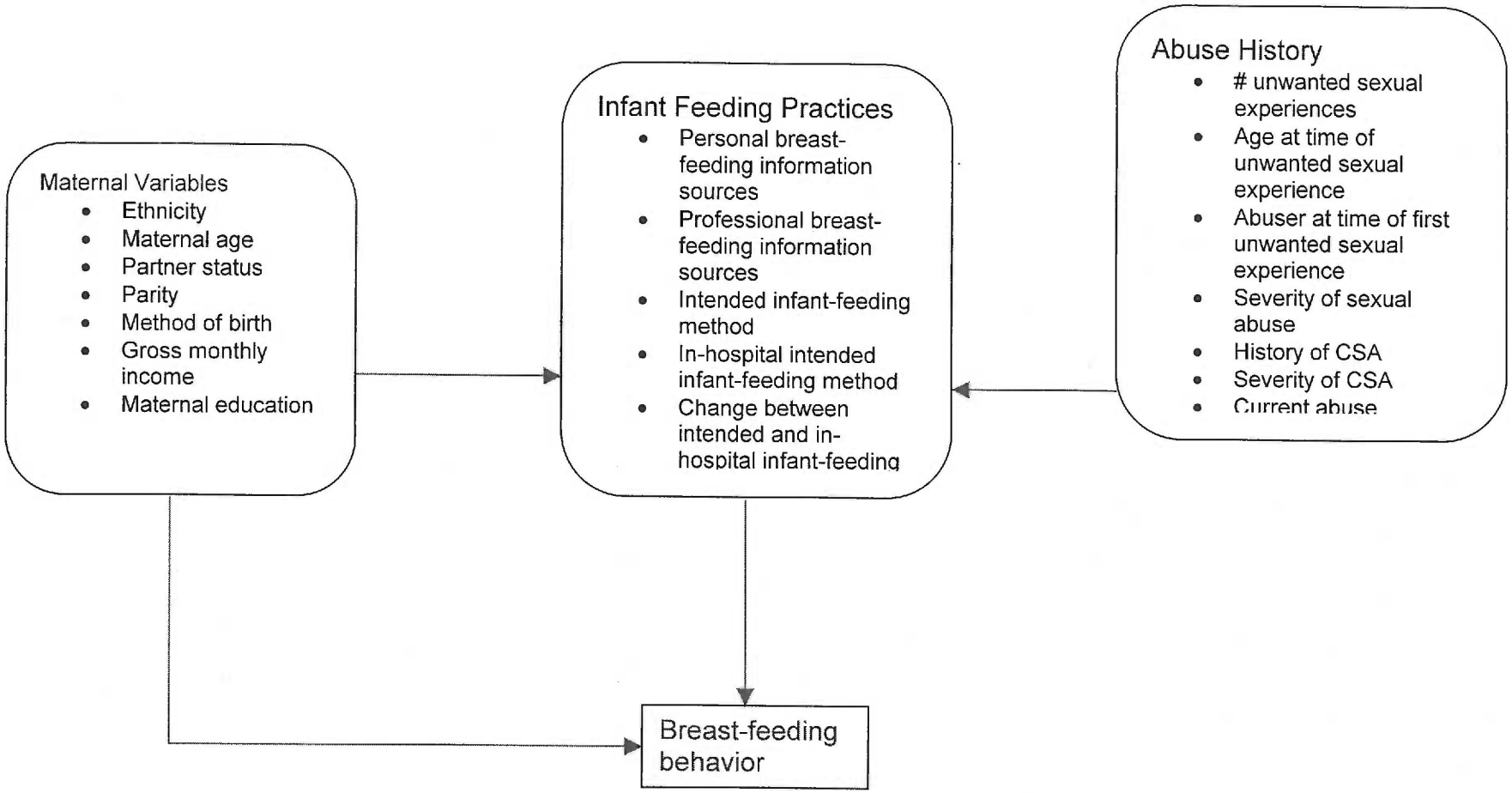

Figure 1. Conceptual Model: The Impact of Child Sexual Abuse on a Woman's Breast-Feeding Behavior

Relationship of maternal variables to infant-feeding method at 4 to 6 weeks post-partum.

Maternal variables include empirically documented maternal characteristics associated with women's infant-feeding methods at 4 to 6 weeks post-partum. The maternal variables included in this current study are (a) ethnicity, (b) maternal age, (c) partner status, (d) parity (e) gross monthly income, (f) maternal education, and (g) method of birth. The maternal variables associated with not breast-feeding include younger age, non-partnered status, non-European, less education, less income, and first child or not having breast-fed before. These characteristics may reflect less social support, less knowledge of options, less experience, and less knowledge of the mechanics necessary for successful breast-feeding. Conversely, the maternal variables associated with successful breast-feeding include older age, being partnered, from the dominant culture (European-American), more education, more income, and previous experience parenting and/or breast-feeding.

This author also hypothesized that the chosen maternal variables are associated with women's infant-feeding practice variables prior to the cut-off point of 4 to 6 weeks post-partum designated for this study. A less educated and/or younger woman with fewer financial resources may interpret the supplementation given by the professionals in the hospital and the gift pack of formula at discharge as essential for her baby's success in the first few days of life. Or she may request supplementation because she lacks the knowledge needed to correctly interpret a fussy newborn as having an immature neurological system. She may automatically think the baby is hungry because she has either no milk or an inadequate supply. This same woman may misinterpret her baby's needs and behaviors and be unable to correctly identify a developing problem and respond appropriately.

Ethnic barriers may arise with cultural and language differences. Access to formal and some informal breast-feeding information may not be available. A low-income WIC participant may not have access to community education resources because of financial problems but will receive a breast-feeding class through her WIC participation, something not available to her non-WIC counterpart.

A committed, loving, and knowledgeable partner may provide reassuring, positive messages that limit the negative factors and positively reinforce breast-feeding. Conversely, if the woman is experiencing current abuse from her partner, that partner may be a negative factor in her success with breast-feeding. Last, if the woman has no partner at all, she may feel vulnerable and isolated.

Parity suggests a level of experience related to the number of children a woman has. If a woman has had a vaginal birth before, she is more likely to have one the second or third time she births. If she has breast-fed successfully before, she is more likely to maintain her planned infant-feeding method in-hospital as well as successfully process and internalize breast-feeding information. If she was previously unsuccessful at breast-feeding, she may have completely changed her infant-feeding method with the subsequent pregnancy and be even more committed to the new one.

Relationship of infant-feeding practices to infant-feeding method at 4 to 6 weeks post-partum. The variables selected were based on factors in the literature review that could influence breast-feeding behaviors. They include (a) informal breast-feeding information sources, (b) formal breast-feeding information sources, (c) intended infant-feeding method, (d) in-hospital feeding method, and (e) change between intended and in-hospital feeding method. Maternal satisfaction was considered an additional intervening variable but not included in this study

because of the author's narrow focus on examining the relationship between CSA and breast-feeding behavior. A potential difficulty is associated with conceptualizing and measuring maternal satisfaction with breast-feeding as it might be impacted by CSA. Admittedly, a woman with a positive history of CSA could intend to breast-feed prenatally, find she cannot, and yet be satisfied with her decision to stop. In contrast, the scope of this study is limited to determining whether there exists an association between the hypothesized negative factor of CSA with women's infant-feeding behavior.

Informal and formal breast-feeding information is assimilated by women prior to conception, during pregnancy, and post-partum. The variables as operationalized in this study ask only whether the woman received positive breast-feeding information. The sources for this information include significant others and professionals, with no degree of importance attached to any one source. It is assumed that the more positive information a woman receives, the more likely she is to initiate and continue breast-feeding.

The in-hospital feeding method directly impacts breast-feeding behavior. There is a greater chance of inadvertently weaning if a bottle is once introduced (Snell et al., 1992). Conversely, there is a greater chance of continuing to breast-feed or bottle-feed if either method is exclusively done during the hospital stay.

Relationship of abuse history to infant-feeding method at 4 to 6 weeks post-partum. The variables selected concerning abuse history include (a) number of overall unwanted sexual experiences, (b) number of unwanted sexual experiences per respondent, (c) age at time of each unwanted sexual experience, (d) the abuser at the time of the first unwanted sexual experience, (e) severity of sexual abuse, (f) history of CSA, (g) severity of CSA, and (h) current abuse. This author found no published studies that focused on the effects a history of CSA has on a woman's

choice to initiate and continue with an infant-feeding method. In her theoretical paper, Kendall-Tackett presented an excellent summary of one theoretical perspective. The normal experience for all women in the early days of initiating and establishing breast-feeding includes sleep disturbances, fatigue, post-partum "blues" (depression), and increased fear and anxiety over their ability to feed and care for their child. For women with a history of CSA, the author of the present study hypothesized that these normal responses may be exaggerated or compounded, along with unusual body sensations, pain, and discomfort.

The constant interruption of maternal body space by the frequently nursing newborn may create tension for the CSA victim who cannot tolerate what may feel like an invasion of her personal boundaries. This lack of control over her own body may recall the powerlessness she experienced during her abuse. Overly vigilant women or those who dissociate when overwhelmed by pain or unpleasant sensations may experience compounding sensations of hopelessness, helplessness, and a sense of a loss of control. If the woman's personal psychological and physiological boundaries remain rigid because of her history of CSA, she may not even initiate breast-feeding or may stop before the behavior is truly established. If her boundaries are nonexistent or overly flexible, intimate relationships may actually be harmful to the woman and her child, particularly if she is unable to appropriately distinguish and maintain an environment that is safe, meets her needs and her child's, and allow for the normal completion of parenting tasks necessary to her survival and that of her child. A more extensive history of CSA will suggest a greater difficulty in establishing and continuing breast-feeding behavior.

A history of CSA, often hidden or taboo, can act as a barrier for access to care and prenatal or postnatal education. Women may be unwilling or unable to disclose information as intimate as their abuse history. They may stay away from or delay contact with places where

they can receive care and information out of a fear of discovery. They may experience self-doubts, shame, and a fatalistic perception that they cannot control their own lives. The lack of education may prevent these women from acquiring the necessary knowledge to initiate and continue breast-feeding.

Abused women may disassociate and avoid painful situations, placing themselves at increased risk for labor problems, including prolonged labor, difficulty in pushing the baby out, or increased interventions. They may appear unresponsive to educational information and change their in-hospital infant-feeding method. They may misinterpret the information within the context of their own experience, or they may place emphasis inappropriately on one aspect of breast-feeding to the exclusion of another. The sense of powerlessness may rest at the base of their misperception and may be further compromised by what Finkelhor (1984) named as the sexualization of victims. They may have a different perception of their breasts, not as objects of nurturance but as objects for someone else's sexual satisfaction.

The literature has indicated that women with a history of CSA have an increased risk for current abuse (Irwin, 1999; Wyatt, Gutherie, et al., 1992). This author hypothesizes that current abuse affects breast-feeding behavior in several ways. A woman in a currently abusive situation is more at risk for social isolation that limits her social support. Often totally dependent upon the abusive partner, she may not have accessed formal breast-feeding information or she may have been limited in receiving positive informal information. Additionally, a partner's preference has been shown to influence a woman's choice. The woman in a currently abusive situation may be at more risk if she is breast-feeding from a partner who desires control over her, her child, and the infant-feeding method. The woman's breasts may also be seen as sexualized objects belonging to the partner and not to the newborn.

Conclusion

It is clear that multiple variables impact a mother's infant-feeding behavior. This study focuses on determining which of the selected variables are significantly associated with breast-feeding behavior, controlling for those variables statistically, and then examining whether CSA by itself is correlated with the initiation and continuation of breast-feeding. This study does not include mediator variables that might affect how women internalize a history of CSA and subsequently influence women's breast-feeding behavior. For example, when the woman first revealed CSA, was she believed and did she receive help through interventions such as counseling? Such mediator variables are beyond the scope of this descriptive study, the aim of which is to examine if there is an association between a woman's history of CSA and her breast-feeding behavior.

Research Questions

To answer the research questions of the study, infant-feeding methods, CSA, and severity of CSA are operationally defined. Prenatal and in-hospital infant-feeding behaviors are described as *breast-feeding exclusively*, *breast- and bottle-feeding*, or *bottle-feeding exclusively*. The infant-feeding method at 4 to 6 weeks post-partum was defined in the following three ways. Data were collected to allow infant feeding to be categorized into a 7-point scale of infant-feeding behavior that ranged from bottle-fed exclusively to breast-fed exclusively. Infant feeding was defined in the same three categories of *breast-fed exclusively*, *breast- and bottle-fed*, or *bottle-fed exclusively*. Finally, the infant-feeding method is defined as a dichotomous variable, *exclusively breast-fed* and *all other infant-feeding methods*.

The operational definition of CSA for this study is any unwanted sexual experience that occurred to a woman prior to her 18th birthday. The severity of CSA is defined as the most severe

level of unwanted sexual experience prior to her 18th birthday on a 6-point scale ranging from *no abuse* to *rape*.

The research questions were as follows:

1. What are the maternal characteristics of women who prenatally intended to breast-feed, breast- and bottle-feed, and bottle-feed?
2. Is there a change from the intended method of infant feeding to the in-hospital method of infant feeding; if so, does this change differ for women with and without a history of CSA?
3. Is there an association between maternal characteristics and infant-feeding practice variables?
4. Is there an association between maternal characteristics and women's infant-feeding behavior at 4 to 6 weeks post-partum?
5. Is there an association between the infant-feeding practice variables with women's infant-feeding behavior at 4 to 6 weeks post-partum?
6. Is there an association between CSA and the infant-feeding practice variables?
7. Is there an association between the severity of CSA and the infant-feeding practice variables?
8. Is there an association between the severity of CSA and women's infant-feeding behavior at 4 to 6 weeks post-partum?
9. After controlling for maternal characteristics and intervening variables, is there an association between the severity of CSA and women's infant-feeding behavior at 4 to 6 weeks post-partum?

Chapter 3: Methods

This descriptive study was designed to examine whether Child Sexual Abuse (CSA) is associated with women's infant-feeding behavior. This chapter describes the research design, setting, and sample of the study. The ethical considerations, data collection procedures, and data analysis are also discussed.

Design

A retrospective correlational design was used to determine if a woman's history of CSA was related to her infant-feeding behavior. Participants were interviewed one time between 4 to 8 weeks post-partum. Questions were asked in three areas. The first area included maternal variables: ethnicity, maternal age, partner status, parity, gross monthly income, maternal education, and method of birth. The second area included the variables of infant-feeding practices: personal/informal breast-feeding information sources, professional/formal breast-feeding information sources, the intended infant-feeding method, the in-hospital feeding method, the change between intended and in-hospital infant-feeding method, and the infant-feeding method at 4 to 6 weeks post-partum. The third area included the variables that described the women's abuse history: number of overall unwanted sexual experiences, number of unwanted sexual experiences per respondent, age at time of each unwanted sexual experience, abuser at time of first unwanted sexual experience, severity of sexual abuse, history of CSA, severity of CSA, and current abuse.

A prospective design that began with women prenatally and followed them through delivery into the post-partum period was beyond the scope of this study. While a retrospective design has methodological concerns, many studies have found that women are able to recall preconceptual or prenatal decisions regarding infant-feeding method and are able to describe

their behavior in the hospital as well as again in the early post-partum period (Avery, Duckett, Dodgson, Savik, & Henly, 1998; Brandt et al., 1998; Goodine & Fried, 1984; Graef et al., 1988; Hill, Humenick, Argubright, & Aldag, 1997; Howard et al., 1999; Humenick et al., 1997).

Setting

The setting for this project was a semi-rural county in the Pacific Northwest. This county has a dominant population of European-Americans with a growing population of Hispanics. A few Native-American, African-American, and Asian-American also live in the county. The average number of births in the county is around 90 per month, predominantly at one of the two hospitals in the county. The WIC Program has two offices within the county, and there is a county-sponsored program of prenatal care for indigent women as well as multiple obstetric providers including nurse midwives and physicians. This setting offered an opportunity to examine the research question within a diverse and broad socioeconomic setting with a variety of potential recruitment sites.

Participants

The target population was women living in the county who had delivered within the previous two months. Participants were a convenience sample of women from the population who met the criteria and agreed to participate. Women were recruited by the use of flyers and staff announcements distributed to (a) one local hospital, (b) the childbirth educators within that hospital, and (c) private and public providers of obstetrical care, including certified nurse midwives, family practice doctors, and OB/Gyn specialists. The second hospital was not a recruitment site as hospital administrators did not respond to the request to participate; however, one certified nurse midwife in that hospital did accept flyers. The criteria for inclusion were women who were (a) 18 years or older; (b) 4 to 8 weeks post-partum; (c) parenting a singleton,

healthy baby; and (d) English- or Spanish-speaking. The criteria for exclusion were women who (a) had delivered an infant at less than 37 weeks of age and/or (b) who were separated in the hospital from their newborn after birth for more than 12 hours.

A power analysis was done. Using a small effect rate with a power of .80 and an alpha of .05, the projected sample size was 68.

Ethical Considerations

Women who are survivors of CSA are considered a vulnerable population. In addition, they have an increased risk of experiencing current abuse (Beitchman et al., 1992). Parker and Ulrich (1990) developed a protocol of safety for research on the abuse of women designed "to insure an ethical approach to the safety and autonomy of participants and the researcher during the research process" (p. 248). This protocol was used in the study.

Protecting the Research Participants

The guidelines used to protect the participants are described in the data collection procedures and summarized in Appendix B. These guidelines addressed how participants were recruited, how contacts were initiated, how safety was maintained, and when or if interventions were mandated. These guidelines were approved by the Oregon Health and Science University Institutional Review Board (IRB) [Portland, Oregon] and by the IRB of the local county hospital where primary recruitment took place.

Protecting the Researcher

Parker and Ulrich (1990) described emotional exhaustion as the primary safety concern for the researcher when doing research with women on abuse. There is a condition of neutrality that is expected among researchers, a component of the ethical principle of justice where researchers are expected to be non-judgmental. At the same time, listening to repetitive stories of

violence and abuse, particularly from CSA survivors, can be emotionally fatiguing as well as cause a heightened awareness of any personal abuse history that the researcher may have. Interviews were scheduled so that there was adequate time during the interview to allow the researcher and the participant to deal with any complex issues that might arise. The researcher also arranged with her doctoral committee to provide support, guidance, and time to debrief as needed.

Protecting the Data

Safety of the data was critical for reassuring each participant that whatever information she wished to share was protected. All data were recorded on interview forms coded with an identification number. The only time a woman's identifying information was used was to address one or two envelopes. The first envelope was mailed to every woman after the interview. It included a $20.00 gift certificate for her participation. In addition, if requested, a copy of the informed consent and/or a pocket card containing breast-feeding and CSA resources were included. A second envelope was also addressed at the time of the interview for mailing a one-page summary of the study if requested. A Master Log was maintained using the coded numbers only. The data, the Master Log, and all unmailed envelopes were kept in a separate locked file accessible only to the researcher. Women were reassured that all data would be reported in the aggregate to protect their individual identity.

Data Collection Procedures

This section includes a description of recruitment and data collection procedures. A detailed description of the instrument and the variables that were used concludes the section.

Recruitment

A convenience sample of women who were between 4 to 8 weeks post-partum was recruited. Voluntary initial contact was left to the woman, who could respond to a recruitment flyer, announcement, or an individual working at a contact site. Contact sites included hospital-based childbirth educators from one community hospital, the post-partum unit of the same hospital, the County Health Department prenatal program, and the private offices of local health care practitioners who provide pre- and post-natal care and pediatric care. The investigator briefly trained all volunteer recruiters regarding the purpose of the study, their role in recruiting, and safety, ethical, and confidentiality issues. Primary recruiters were certified nurse-midwives or their office support staff; the midwives worked for the two largest obstetrical practices in the county. Secondary recruiters included a bilingual medical assistant in the County Health Department program, one family-practice physician, two pediatricians in private practice, and several hospital nurses. No flyers were returned from the certified nurse midwife who worked at the smaller community hospital.

The recruitment flyer briefly described the purpose of the study and the criteria to participate (Appendix C). The primary recruitment mechanism was the use of volunteers at potential contact sites who handed out flyers and encouraged women who showed interest in the study to establish contact with the investigator if they wished to learn more. A woman who expressed interest in the project could contact the investigator in one of two ways. She could take the recruitment flyer with her and contact the investigator directly on her own, or she could complete the blank form at the bottom of the flyer requesting that the investigator call her directly, then return it to the place or person where she had obtained it. In this case, the

researcher contacted her directly. To preserve confidentiality, the researcher maintained a dedicated phone line with voice mail accessible only to her.

Procedures

The researcher initiated all contacts in response to completed forms returned by recruiters. No one called the researcher directly in response to a flyer. At each initial contact, eligibility was determined first. If a woman was not eligible, this was explained to her and she was thanked for her interest. Once eligibility was established, the woman was asked if now was a good time to proceed with the phone interview or if she wanted to set up a separate interview time.

Prior to all interviews, the participant's situation was assessed for safety. Parker and Ulrich (1990) suggested that interviews be held with a plan in place should an abuser interrupt. Correspondingly, a plan was discussed for follow-up contact by phone if the woman opted to set a different time for the interview. The safety issues were discussed and a plan made if it became apparent that the woman was no longer safe. This included (a) how the researcher should identify herself when she called, (b) what the woman would like the researcher to do if the phone went dead in the middle of an interview, and (c) what the woman wanted the interviewer to do if the interviewer overheard an altercation.

All interviews were conducted by phone. All data were collected orally in English or Spanish by the bilingual investigator, who did not require the use of a translator.

If possible, informed consent was obtained at the time of the initial contact (Appendix D). The consent form was read to the woman in the language of her choice, and she was given the option of having a copy of the consent form mailed to her. The original was kept in a locked file accessible only to the researcher. The consent form explained that the primary risk to the

participant was that discussion of CSA and current abuse could be upsetting and might create emotional distress. Participants were advised that while the interviews could not be used to report abuse, the researcher was legally mandated to report any current child or elder abuse if it were disclosed. At the end of the interview, the woman was told how to contact the researcher with any further questions or concerns regarding the study. All but four of the women who completed the interview accepted the offer of a one-page summary of the final study to be mailed once the study was completed. Finally, women were provided with an incentive of a $20.00 gift certificate for a completed interview.

As noted above, the interview occurred at the same time as the initial contact or at another agreed-upon time. Women had also included the best time to be called on the recruitment form. Once informed consent was obtained, the interview proceeded then or at the subsequent appointment time. If a separate time was requested and scheduled, the researcher verified the phone number where the woman could be reached and asked how the researcher should identify herself when the second contact was made. Of the respondents, 51 completed the interview at the time of initial contact and the remaining 5 completed it during a second contact. Interviews averaged 19 minutes (SD = 4 minutes) with a range of 15 to 30 minutes. The length of each interview included time for the interview and time for the participant to recover if the interview was upsetting. Only one woman became emotional and tearful, whereupon the interviewer stopped and allowed her to recover her composure. Given the option to restart the interview, reschedule the interview for another time, or terminate the interview, the woman chose to restart the interview. She completed it without further difficulty.

The researcher developed and had available upon request a resource list with local breast-feeding resources and county referrals for abuse concerns, including 24-hour crisis hot-line

numbers for English- and Spanish-speaking women. Information was disseminated through a wallet-sized card (Appendix E) that could be easily concealed. All women were offered the resource card, and the card was mailed to the 21 women who requested it.

Measurement

This section describes the Interview Guide used for data collection. Besides demographic and infant-feeding questions, the interview guide included the 14-item, modified Sexual Experiences Survey (Boyer & Fine, 1992; Kenney et al., 1997; Roosa et al., 1999; Roosa et al., 1998; Roosa et al., 1997) and three items from the Abuse Assessment Screen (Curry, 1998; McFarlane et al., 1992).

Interview Guide. The researcher administered the Interview Guide (Appendix F) during the telephone interview. A standardized interview guide was used to decrease measurement error. Three pilot interviews for each version (English and Spanish) were conducted to ensure that the tool could be used consistently and correctly in either language. These interviews are not included in the final data.

The first section of the Interview Guide included questions about the woman and her family (items 1-8), her estimated due date, and prenatal plans for infant-feeding method (items 9-11). The second section (items 12-29) asked about sources of breast-feeding information. Questions regarding the birth of the baby (items 30-31) and types of infant-feeding behavior, both in the hospital (item 32) and at 4 to 6 weeks post-partum (items 33-45), constituted the third section.

The final section of the Interview Guide (items 46-76) asked about unwanted sexual experiences and current abuse. The modified SES was used to assess unwanted sexual experiences and has been shown to have adequate internal consistency (Cronbach's alpha = .84).

The original SES was developed as a self-report instrument to "reflect various degrees of sexual aggression and victimization" (Koss & Oros, 1985, p. 422) and was designed to identify rape victims and undetected offenders for participation in research. Based on the assumption that women are victims and men are the aggressors, the original 12-item SES was formatted in two versions: one for women and one for men. Women were classified into four levels of victimization: nonvictimized, sexually coerced, sexually abused, and sexually assaulted. Men were classified into four levels of sexual aggression: non-sexually aggressive, sexually coercive, sexually abusive, and sexually assaultive (Koss & Gidycz, 1982). The authors continued to develop the measure and reworked the questions into a 10-item tool that was used with men and women in a college setting (Koss & Oros, 1985).

The modified SES is a 14-item, self-report instrument that has been used with English- and Spanish-speaking women for research purposes (Boyer & Fine, 1992; Kenney et al., 1997; Roosa et al., 1999; Roosa et al., 1998; Roosa et al., 1997). Roosa and colleagues eliminated two of the original items because the behavioral descriptions were vague. They added four items to expand the levels of victimization to include non-contact molestation and a broader category of contact molestation. The modified SES was simplified for better understanding by women with more limited reading abilities and was translated and back-translated to provide a Spanish-speaking version. Additionally, researchers have collected demographic information to aid in interpreting findings. These variables are age at first intercourse, age at first pregnancy, age of abuser, and relationship of the abuser to the victim.

Each item of the SES provides a clear behavioral description of an unwanted sexual experience and the level of force employed. There is no assumption that women understand technical terms such as "coercion" and "rape" or that women share a definition for the phrase

"unwanted sexual event." Instead, the individual items represent experiences with predetermined levels of force embedded in them, which allows the experiences to be classified into six severity levels. The levels of severity of sexual abuse include no abuse, non-contact molestation, contact molestation, coercion, attempted rape, and rape. CSA is defined as unwanted sexual experiences that occur to a woman prior to her 18th birthday. In the modified SES, each participant is scored for her level of severity of CSA based on her highest reported level of unwanted sexual experience. The 14 items are listed by sexual abuse category in Table 1.

Table 1

Categories of Sexual Abuse and Corresponding SES Items

Level of Severity of Sexual Abuse	Item/Question
No abuse	Negative answer to all 14 items
Non-contact molestation	1. Did someone ever make you look at them naked or look at you naked when you did not want them to?
	2. Did someone ever take sexual photographs of you when you did not want them to?
Contact abuse molestation	3. Did someone ever make you touch their body or touch your body when you did not want them to?
	4. Did someone ever make you touch their breasts or genitals or touch yours when you did not want them to?
Coercion	5. Has a male ever had sex with you when you did not want to because he threatened to break up with you?
	6. Has a male ever had sex with you when you did not want to because you felt pressured by the reasons he gave (everyone's doing it; I'll die if you don't, etc.)?
	7. Has a male ever has sex with you by saying things that he didn't really mean (I love you; I'll marry you, etc.)?
	8. Has a male ever used force (twisting your arm, holding you down, etc.) to kiss or pet (feel) you?
Attempted rape	9. Has a male ever threatened to use force (twist your arm, hold you down, etc.) to have sex with you, but sex did not happen?
	10. Has a male ever used force (twisting your arm, holding you down, etc.) to try to get you to have sex with him when you didn't want to, but sex did not happen?
Rape	11. Has a male ever had sex with you when you didn't want to because he threatened to use force (twist your arm, hold you down, etc.)?
	12. Has a male ever had sex with you when you didn't want to because he used force (twisting your arm, holding you down, etc.)?
	13. Has a male ever had anal or oral sex with you when you didn't want to by using threats?
	14. Have you ever been raped (That is, have you ever had oral, anal, or vaginal sex with a male when you didn't want to because he forced you.)?

(Boyer & Fine, 1992; Kenney et al., 1997; Roosa et al., 1997; Roosa et al., 1998; Roosa et al. 1999).[1]

[1] A copy of the complete modified SES in English and in Spanish was obtained directly from Dr. Mark Roosa, Arizona State University, October, 1999

Three items drawn from the Abuse Assessment Screen (items 74-76 of the Interview Guide) assessed current abuse. The Abuse Assessment Screen is a screening tool with well-established reliability and validity in culturally diverse populations, including Hispanic women (Curry, 1998; McFarlane et al., 1992). A final question (item 77) was an open-ended question asking if the woman wished to add anything else about her childhood experiences or her infant-feeding experience.

Study Variables

The variables fell into three categories: maternal characteristics, infant-feeding practices, and abuse history. The maternal characteristics included ethnicity, maternal age, partner status, parity, gross monthly income, maternal education, and method of birth. The infant-feeding practice variables included personal and professional breast-feeding information sources; intended prenatal infant-feeding method, in-hospital feeding method, and 4 to 6 weeks post-partum feeding method, and the change between intended and in-hospital feeding method. Abuse history variables included the number of overall unwanted sexual experiences, the number of unwanted sexual experiences per respondent, age at time of each unwanted sexual experience, the abuser at the time of the first unwanted experience, severity of sexual abuse, history of CSA, severity of CSA, and current abuse. The maternal characteristics, infant-feeding practices, and abuse history variables were analyzed for mean, standard deviation, range, or frequencies and compared by ethnicity.

Internal and External Validity

One of the concerns mentioned in previous studies was the difficulty of establishing validity and controlling for threats to internal and external validity. There was no way to retrospectively determine if a woman's memories of abuse were accurate. This author recognizes

that there were issues of report biases, including an amnesia effect and the effect of time (including both the passage of time and the developmental time of life during which the abuse occurred). Both effects could impact what was recalled.

Data Analysis

The researcher entered all data. She also verified and corrected all data with a second person in order to insure accuracy of data entry. The data were analyzed using the Statistical Program for Social Sciences 10.0 (SPSS). All variables were examined for patterns of missing data. The statistical procedures used to answer the research questions are described in Chapter 4.

Conclusion

In summary, the aim of this study was to examine the relationship between a woman's history of CSA and her infant-feeding behavior. The research design, variables measured, and the measurement tool were chosen with the primary aim of association. A convenience sample was obtained from a semi-rural county in the Pacific Northwest. The retrospective design was a pragmatic choice that had inherent but unavoidable limitations.

Chapter 4: Results

This chapter reports the results of the data analyses. Descriptive findings are provided for the sample of mothers, their infant-feeding practices, and abuse history. Findings for the research questions are also described. All data were collected and entered by the researcher and verified by the researcher with a second person. Data were analyzed using the Statistical Program for Social Sciences, version 10.0 (SPSS). Three considerations dictated the process of analyzing data: the small sample size, the small effect size, and the preponderance of women who chose to breast-feed, which skewed the sample.

Participants

There were 62 women who responded to the recruitment flyer. Three respondents were never available to the researcher. One had moved out of state according to a relative who answered the phone; two others had phone numbers and/or message numbers that were no longer functioning when the researcher attempted to contact them. Of the remaining 59 women, one woman had difficulty setting up a time for the interview. When contact was finally made, her baby was too old for her to be included. One English-speaking and one Spanish-speaking woman each declined to participate after reviewing the consent form. This left 56 women who successfully completed the interview.

Maternal Characteristics

This section describes the maternal characteristics of the participants, which are summarized in Tables 2 and 3. Because the target population was primarily European- American or Hispanic, the variable of ethnicity was dichotomous. Women reported themselves as Hispanic or on-Hispanic (non-Hispanic included European-Americans and all other ethnic groups); 14 out of 56 women who described themselves as Hispanic (25%), and 42 who identified themselves as

non-Hispanic (75%). Given the choice to complete the interview in English or Spanish, the majority (87.5%) chose English. This included all non-Hispanics and seven of the Hispanics (N = 49). The remaining seven Hispanic respondents (12.5%) chose Spanish.

Maternal variables were examined by ethnicity and reported only if there were significant differences between non-Hispanic and Hispanic women. Table 2 illustrates the variables of age, maternal education, and income.

Table 2

Maternal Characteristics: Age, Education, Income

	Total (N = 56)			Hispanic (N = 14)			Non-Hispanic (N = 42)		
Maternal characteristic	**Range**	**M**	**(SD)**	Range	M	(SD)	Range	M	(SD)
Age	18–47	25.1	(5.8)	18-31	24.6	(4.4)	18–47	25.3	(6.3)
Maternal education in years	3–26	12.1	(2.94)	3-14	10.4	(2.7)	8-26	12.6	(2.8)
Monthly income in $'s	248-5800	2502	(1504)	1408-3800	1058	(1382)	248-5800	1971	(1757)

M = Mean, SD = Standard Deviation

Maternal age was collected as a continuous variable. The women in this sample ranged in age from 18 to 47 years, with a mean age of 25.11 (SD = 5.84). Data were subsequently coded by category: (a) 18-19 years, (b) 20-29 years, (c) 30-39 years, and (d) 40> years of age. The sample reflected women in their childbearing years: 7 women (12%) were in their late teens, 37 (66%) in their 20s, 11 women (20%) in their 30s, and one woman (2%) in her 40s.

Family gross monthly income was collected and coded as a continuous variable. There were 17 of the 56 women (30%) who did not know their gross monthly income. Hispanic women (N = 8, 57%) were less likely to know their income then non-Hispanic women (N = 9, 21%). Of

the 70% (N = 39) who did report their income level, the range was $248 to $5800 per month, with a mean income of $2502 (SD = $1504.33) per month.

Maternal education was also collected as a continuous variable. The years of completed education ranged from 3 to 26 years, with the mean at 12.5 years (SD = 2.94). Education was subsequently coded by category: (a) <6 years of education, (b) 6-12 years education without GED or high school diploma, (c) 6-12 years of education with GED or high school graduation, or (d) 12> years of education. Half of the 56 women (N =28, 50%) had a high school diploma, and 13 women (23%) had 6-12 years of education but no GED or diploma. Of the remainder, 14 (25%) had completed education beyond the high school level; only one woman (2%) had completed less than 6 years of education. Non-Hispanic women were more likely to have a higher level of education, χ^2 (3, N =56) = 7.722, $p < .05$. Of the non-Hispanic women, 35 of the 42 (83%) had a high school diploma or more than 12 years of education compared with 7 Hispanic women (50%) who did.

Table 3 details the variables of partner status, parity, and method of birth.

Table 3

Maternal Characteristics: Partner Status, Parity, and Method of Birth

Maternal Characteristics	N	%
Partner status		
Partner	49	88
Single	7	12
Children		
= 1	24	43
> 1	32	57
Method of birth		
Vaginal	42	75
All others	14	25

The variable of partner status was measured with four categories: (a) married, living alone; (b) married, living with husband; (c) single, living alone; (d) or single, living with partner.

Data was subsequently coded as a dichotomous variable: living alone or living with partner. Of the 56 women, 49 (88%) reported living with a partner. The remaining 7 women (12%) reported living alone or with family.

The information for the variable of parity was collected in actual numbers of children but was coded as a dichotomous variable: one child or more than one child. Of the 56 respondents, 24 (43%) were parenting their first child and 32 (57%) were parenting more than one child.

The respondents' methods of birth were analyzed as either a spontaneous, vaginal birth or all other methods of birth (vacuum-assisted, forceps-assisted, or cesarean birth). Of the 56 women, 42 (75%) had had normal spontaneous vaginal births. The remaining 14 (25%) had had some type of operative birth, including vacuum-assisted or cesarean birth.

Infant-Feeding Practices

This section describes the infant-feeding practices. Infant-feeding practices were also examined by ethnicity.

Breast-Feeding Information Sources

Personal/informal and professional/formal breast-feeding information sources were both summative variables. There were nine possible sources for positive personal/informal breast-feeding information: (a) none, (b) baby's father, (c) woman's mother, (d) woman's father, (e) partner's mother, (f) partner's father, (g) other relative, (h) friend, or (i) other. There were seven possible sources for positive professional/formal breast-feeding information: (a) none, (b) woman's health care provider, (c) nurse or doula, (d) childbirth educator, (e) WIC counselor, (f) breast-feeding class, or (g) other.

Each possible information source was coded as *present* or *not present*. The final score in each category of personal or professional information source was the sum of the number of

sources a woman identified as having given her positive breast-feeding information. The score of personal/informal breast-feeding sources ranged from 0 (no information received from any personal source) to 8 (information received from all listed sources). The score of professional/formal breast-feeding sources was calculated in the same manner, with a range from 0 to 6. Finally, the two scores were added together to reflect an overall score of breast-feeding information sources. Women who received a total score of 14 were women who had heard a positive breast-feeding message from every listed source. There was an underlying assumption that the more positive messages about breast-feeding a woman received, the more likely she would be to initiate and continue breast-feeding. Among the 56 mothers in the sample, 46 (82%) reported receiving positive information from informal breast-feeding sources and 53 (95%) had received positive information from formal breast-feeding sources. The most frequently reported sources from both categories were the woman's healthcare provider (N = 50, 89%), a nurse (N = 43, 77%), her mother (N = 37, 66%), a friend (N = 33, 59%), and a relative (N = 32, 57%). Women were least likely to report receiving positive breast-feeding information from their father (N = 9, 16%), other personal sources (N = 2, 4%), or their partner's father (N = 1, 2%). All sources of positive breast-feeding information are shown in Table 4.

Table 4

*Percentage of Women Who Received Positive Breast-Feeding Information by Source**

Breast-feeding information source	Percent
Health care provider	89%
Nurse/doula	77%
Mother	66%
Friend(s)	59%
Other relative	57%
WIC counselor	41%
Other professional source	41%
Partner's mother	37%
Father of baby	36%
Childbirth educator	32%
Breast-feeding class	20%
Father	16%
Other personal source	4%
Partner's father	2%

*N = 56

Over all, Hispanic women received slightly less positive breast-feeding information than non-Hispanic women. Among the 14 Hispanic women, 3 (21%) reported they had received no positive information from informal breast-feeding sources, and one (7%) reported not having received positive information from formal breast-feeding sources. Among the 42 non-Hispanic women, 7 (16%) reported they had not received any positive information from informal sources and 2 (5%) reported they had not received any positive information from formal breast-feeding sources. Non-Hispanic women more frequently reported receiving information from their

partner's mother than did Hispanic women: 19 out of 42 women (45%) compared to 2 out of 14 (14%). Otherwise, the frequency rate for information sources was similar for both groups. Figures 2 and 3 show the frequency of informal and formal breast-feeding sources for Hispanic and non-Hispanic women.

Infant-Feeding Methods

The intended infant-feeding method during pregnancy was assessed in three categories: breast-feed exclusively, breast- and bottle-feed, and bottle-feed exclusively. Women had no difficulty recalling their intended infant-feeding method. The vast majority, 47 out of 56 women (84%), planned to breast-feed their babies exclusively; 6 (11%) planned to both breast- and bottle-feed; and 3 (5%) planned to exclusively bottle-feed.

The duration of intended exclusive breast-feeding was collected as a continuous variable in number of months. When asked how long they planned to breast-feed, women reported a planned duration of breast-feeding from 0 to 16 months. The average time was 5 months (SD = 4 months). Only 17 out of 56 women (30%) planned to breast-feed the recommended 6 months. However, 11 women (20%) had set a goal of exclusively breast-feeding for 12 months. In the total sample, slightly more non-Hispanic women (88%) planned to breast-feed than Hispanic (71%). Among the Hispanic women, 7 of 14 (50%) planned to breast-feed less than 6 months compared with 18 of 42 non-Hispanic women (43%). There were 3 Hispanic women (21%) who set a breast-feeding goal of 6 months compared with 14 non-Hispanic women (33%) with that goal, and four Hispanic women (29%) who set a breast-feeding goal of more than 6 months compared with 10 non-Hispanic women (24%).

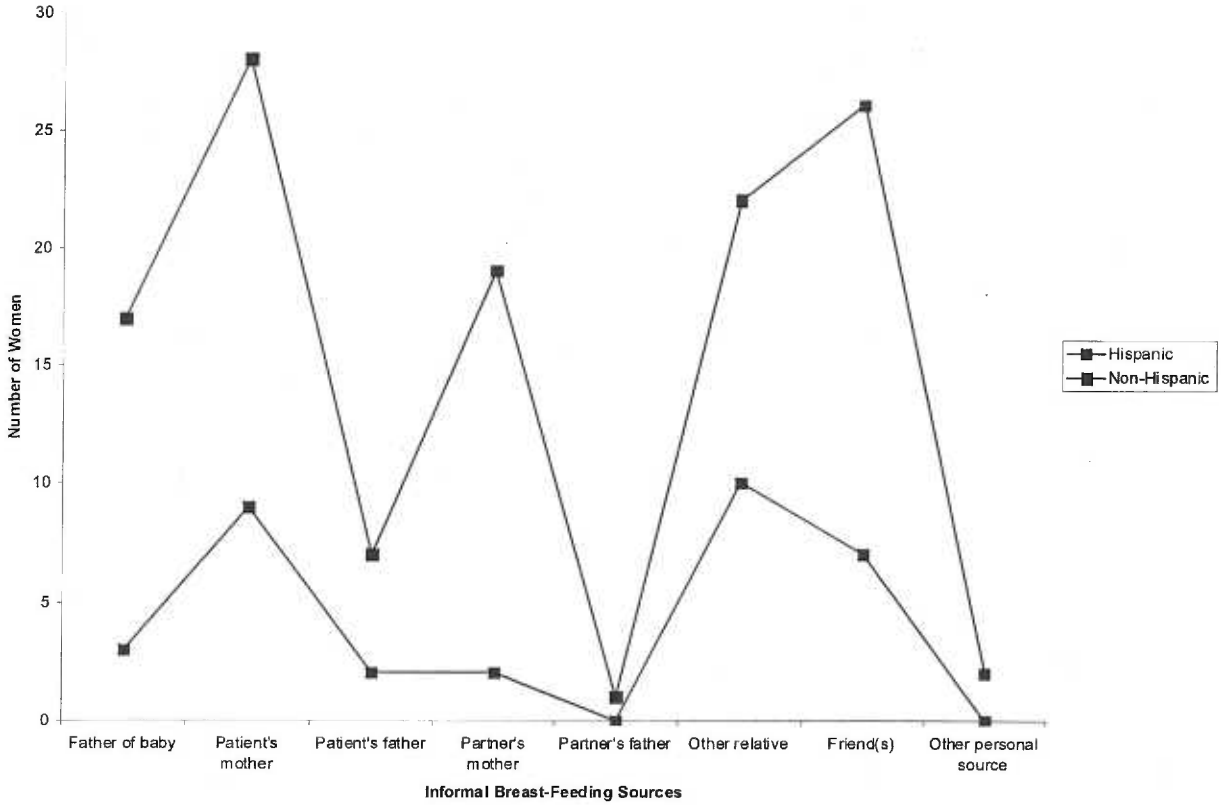

Figure 2. Comparison of frequency of informal breast-feeding sources between Hispanic and non-Hispanic women.

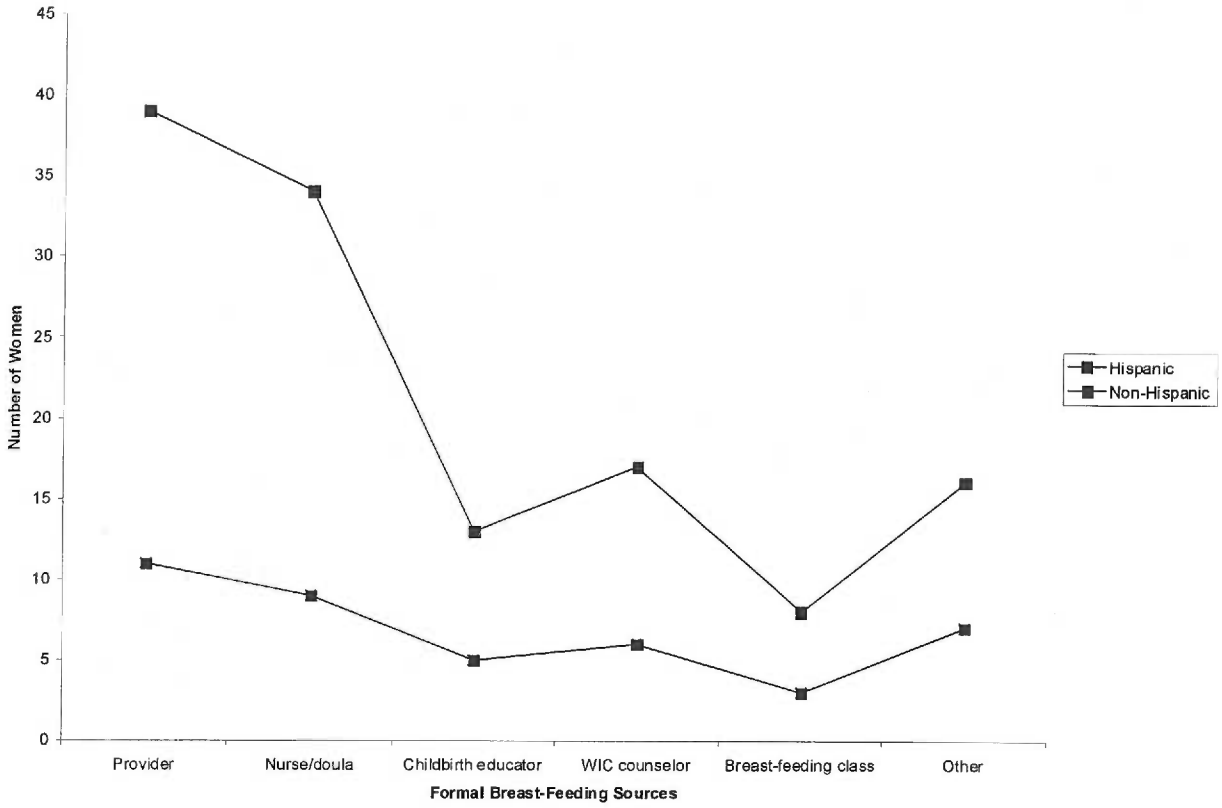

Figure 3. Comparison of frequency of formal breast-feeding sources between Hispanic and non-Hispanic women.

The actual in-hospital feeding method included the same three categories: breast-fed, breast-and bottle-fed, and bottle-fed. Among the total sample of 56 women, 50 (90%) exclusively breast-fed in-hospital, 3 (5%) exclusively bottle-fed, and 3 (5%) breast- and bottle-fed. Data were then coded into a dichotomous variable of change between the prenatal infant-feeding method and the in-hospital feeding method: yes or no. There were 7 women (13%) in the sample whose intended and actual in-hospital feeding method changed, and the pattern was toward more women breast-feeding, not fewer. This change was significant: ($\chi 2$ (4, N = 56) = 57.6, $p < .01$). However, the results should be interpreted with caution due to small cell sizes and the large number of women who intended and initiated breast-feeding. Among the 7 women whose infant-feeding method did change, 2 who planned to breast-feed exclusively were supplementing with a bottle while still in-hospital. The remaining 5 mothers whose infant-feeding method changed had originally planned to breast- and bottle-feed but ended up breast-feeding exclusively while in-hospital. There was no change among the women who had intended to bottle-feed.

In the post-partum period, women's infant-feeding methods were analyzed in three ways. First, infant-feeding was coded as a continuous ascending variable of breast-feeding behavior at 4-6 weeks post-partum. There were seven categories ranging from 0 (exclusive bottle-feeding) to 6 (exclusive breast-feeding). The levels of the breast-feeding scale used at 4-6 weeks post-partum are detailed in Table 5. For comparison purposes, the same previously described categories *of breast-fed, breast- and bottle-fed,* and *bottle-fed* were used. Finally, the infant-feeding method at 4-6 weeks post-partum was dichotomized into *breast-fed* and *not breast-fed.* All three ways of categorizing infant-feeding behavior are reported here and are grouped by ethnicity.

Table 5

Levels of Infant Feeding at 4-6 Weeks Post-Partum

Name of level	Definition of level	Code
Exclusive bottle-feeding	The mother gives no breast milk at all.	0
Token breast-feeding	The infant's breast-feeding is minimal, occasional, and irregular.	1
Low-partial breast-feeding	Less than 20% of the feeds are from the breast. *	2
Medium-partial breast-feeding	Between 20 to 80% of the feeds are from the breast. *	3
High-partial breast-feeding	At least 80% of the feeds are from the breast. *	4
Almost exclusive breast-feeding	The mother almost exclusively breast-feeds her infant. +	5
Exclusive breast-feeding	The mother gives no other liquid or solid to the infant.	6

* Calculated by taking the number of breast-feeds in 24 hours over the total number of feeds in a day.
+ She gives infrequent feedings of water, juice, vitamins, minerals, or ritualistic feeds such as water with karo syrup or herbal teas.

The clearest picture of what infant-feeding method women were using at 4-6 weeks post-partum is presented through the use of a continuous scale of infant feeding with a range from 0 to 6. The seven ascending categories within the scale *include bottle-feeding*, *token breast-feeding*, *partial-low breast-feeding*, *partial-medium breast-feeding*, *partial- high breast-feeding*, *almost exclusively breast-feeding*, and *breast-feeding*. Figure 4 summarizes the data by percentages for Hispanics, non-Hispanics, and the total sample. The categories of *token breast-feeding* and p*artial-low breast-feeding* were not included because there were no women in those categories. The mode fell within the partial-high breast-feeding category. In all of the breast- and bottle-feeding categories, more Hispanic women supplemented their babies than their non-Hispanic peers. Chi-square analysis was not carried out for infant-feeding methods and ethnicity because

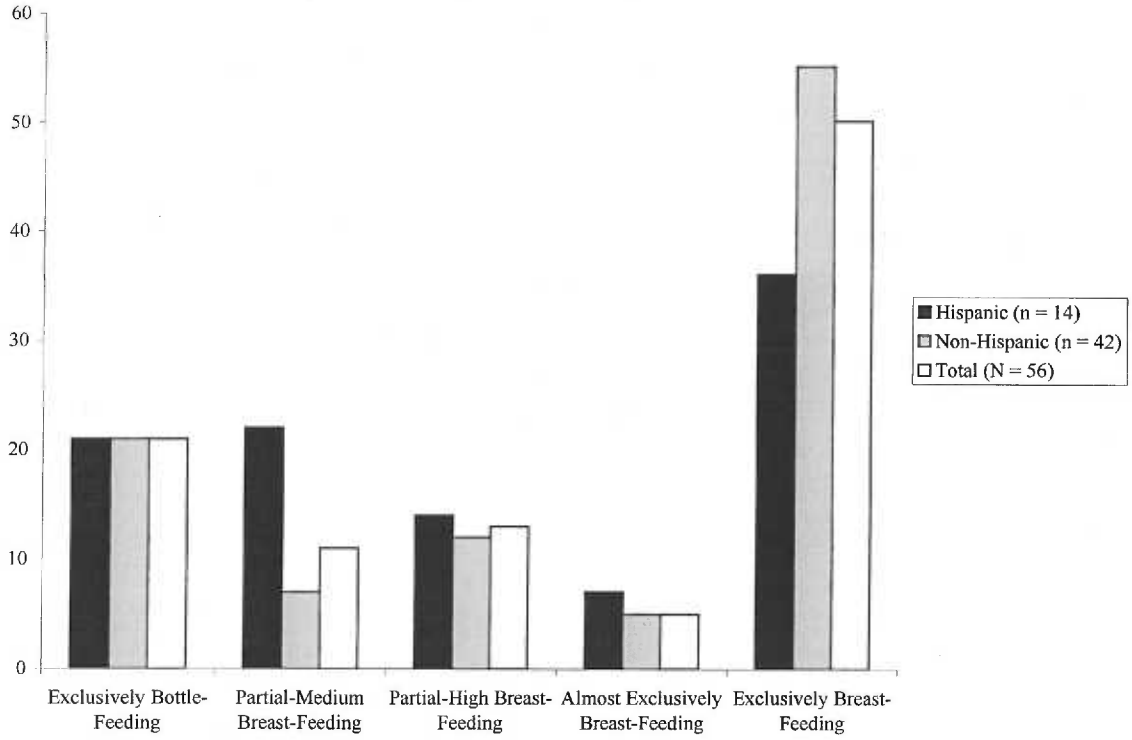

Figure 4. Comparison of percentages of women by infant-feeding scale categories at 4-6 weeks post-partum, ethnicity, and total number of participants in partial-high breast-feeding category.

the high number of women who both intended to breast-feed and continued to do so resulted in cell sizes of non-breast-feeding women too small to accurately use the chi-square statistic.

Of all 56 women, 29 women (52%) were breast-feeding exclusively at 4-6 weeks post-partum, 15 (27%) were breast- and bottle-feeding, and 12 (21%) were bottle-feeding exclusively. Of the 47 women who initially intended to breast-feed, 25 (53%) were still breast-feeding exclusively in the post-partum period, 14 (30%) were supplementing with a bottle, and 8 (17%) were bottle-feeding exclusively. Of the 6 women who had initially planned to breast- and bottle-feed, 1 was exclusively bottle-feeding and 2 were exclusively breast-feeding. The remaining 3 women (50%) were breast-feeding and supplementing with a bottle. Finally, of the 3 women who had prenatally planned to only bottle-feed, 2 were bottle-feeding while the third was breast- and bottle-feeding.

The rate of exclusive post-partum bottle-feeding was the same (21%) for Hispanic (N = 3) and non-Hispanic (N = 9) women. The rate of exclusive breast-feeding among Hispanic women (N = 6, 43%) was less than among non-Hispanic women (N = 24, 57%). Hispanics (N = 6; 43%) were more likely to still be breast-feeding while also supplementing than the non-Hispanics (N = 9; 24%). Figure 5 shows the percentages of post-partum infant-feeding method for Hispanics, non-Hispanics, and the total sample of participants.

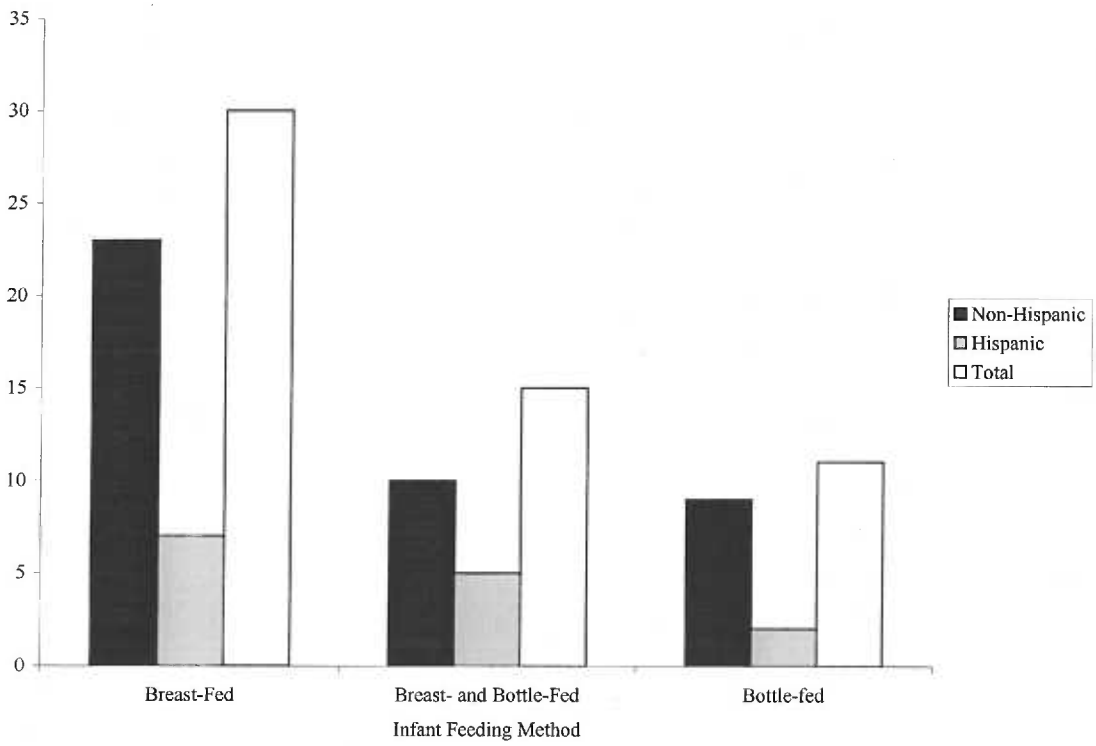

Figure 5. Comparison of categorical infant-feeding method at 4-6 weeks post-partum by ethnicity and total number of participants.

Abuse History

This section describes the abuse history of the participants as derived from the modified SES and three items from the Abuse Assessment Screen. Seven of the Interview Guides were missing a page, which included two items from the modified SES. Because women were coded at the highest level of severity of sexual abuse, a decision had to be made on how to handle the missing data. Two women reported unwanted sexual experiences at a higher level than the missing items would have elicited. The experiences were coded at the higher level of severity of sexual abuse. Two women reported unwanted sexual experiences at a lesser level than the missing items would have elicited and were coded at that level of severity of sexual abuse. The other 3 respondents reported no unwanted sexual experiences; consequently, their level of severity of sexual abuse was recorded as no abuse.

The variable of severity of sexual abuse was an ordinal variable measured using the modified SES (Boyer & Fine, 1992; Kenney et al., 1997; Roosa et al., 1999; Roosa et al., 1998; Roosa et al., 1997). As described earlier, this 14-item self-reporting research instrument measures six levels of sexual abuse in all ages of women: (a) no sexual abuse, (b) non-contact molestation, (c) contact molestation, (d) coercion, (e) attempted rape, and (f) rape. While categorical, the levels of severity of abuse do have an ascending order of severity from no sexual abuse to rape. This variable was coded as a scale from 1 to 6. Women were placed into the category that represented their *most severe* level of sexual abuse ever experienced (see Table 1). To allow use of the chi-square statistic, sexual abuse was subsequently recoded to a dichotomous variable of sexual abuse: yes or no.

Sexual Abuse Data

This section describes the number of overall unwanted sexual experiences, the number of unwanted sexual experiences per respondent, age at the time of each unwanted sexual experience, the abuser at the time of the first unwanted experience, CSA, severity of CSA, and severity of abuse. Finally, Hispanic and non-Hispanic respondents are compared within each described area.

The numbers of unwanted sexual experiences reported here are by incidence within the overall sample and by individual respondent. Women responded simply to whether a behavior had ever happened to them, without indicating the frequency of occurrence of the behavior. There were 91 total responses to behaviors describing unwanted sexual experiences. The number of unwanted sexual experiences ranged from 1 per woman to 12 per woman. Of the 28 women who reported unwanted sexual experiences, 13 (46%) reported a single unwanted experience and 15 (54%) reported multiple unwanted sexual experiences. The frequency and types of unwanted sexual experiences are summarized in Table 6. The four most frequently reported unwanted sexual experiences were abuser lying to the respondent to have sex, sexual touch, pressure to have sex, and rape. There were no women who reported having sexual photographs taken of themselves.

Table 6

*Frequency of Unwanted Sexual Contacts**

Behavior	Number of unwanted sexual contacts	Percentage of unwanted sexual contacts
Has a male ever had sex with you by saying things he didn't really mean?	13	14%
Did someone ever make you touch their body or touch your body when you did not want them to?	10	11%
Has a male ever had sex with you when you didn't really want to because you felt pressured by the reasons he gave?	9	10%
Have you ever been raped?	9	10%
Did someone ever make you look at them naked or look at you naked when you did not want them to?	8	8%
Did someone ever make you touch their breasts or genitals or touch yours when you did not want them to?	8	8%
Has a male ever had sex with you when you didn't want to because he used force?	7	8%
Has a male ever had sex with you when you didn't want to because he threatened to use force.	6	7%
Has a male ever had anal or oral sex with you when you didn't want to by using force?	6	7%
Has a male ever used force to kiss or pet (feel) you?	5	6%
Has a male ever used force to try to get you to have sex with him when you didn't want to, but sex did not happen?	5	6%
Has a male ever had sex with you when you did not want to because he threatened to break up with you?	3	3%
Has a male ever threatened to use force to have sex with you, but sex did not happen?	2	2%
Did someone ever take sexual photographs of you when you did want them to?	0	0%
Total	91	100%

*N = 91

When a woman reported she had experienced one of the events, she was asked her age at the moment she first experienced that event. Respondents experienced these events at the following ages: 9 years or less (N =11), 10-13 years (N =4), 14-17 years (N =15), and 18 years and older (N = 9). Table 7 details this information.

Table 7

*Unwanted Sexual Contacts by Ethnicity and Age**

	Hispanic N = 10		Non-Hispanic N = 18	
Age	n	(%)	n	%
≤ 9 years	11	(41)	28	(44)
10 – 13 years	2	(7)	2	(3)
14-17 years	12	(45)	22	(34)
≥ 18 years	2	(7)	12	(19)
Total	27	(100)	64	(100)

*N = 91

Without regard to their ethnicity, women whose unwanted sexual experiences occurred at 9 years old or younger and those with unwanted experiences in their later teens reported more unwanted sexual experiences than those with experiences between ages 10 and 13, or 18 years or older. Among all the respondents who reported unwanted sexual experiences, 39 of the 91 experiences (43%) occurred when the women were 9 or younger. There were four (5%) unwanted sexual experiences reported by women between the ages of 10 and 13, and 34 (37%) unwanted sexual experiences that occurred between the ages of 14 and 17. There were 14 (15%) unwanted sexual experiences reported by women as occurring when they were 18 or older. Although not significant, non-Hispanic women were more likely to report abuse as adults than Hispanics.

The variable of abuser at the first time any of the unwanted experiences occurred was categorized as (a) family member/relative, (b) friend/acquaintance, (c) authority figure (boss, teacher, etc.), (d) boyfriend/husband, and (e) stranger/other. For women with multiple unwanted sexual experiences, only the abuser at the time of her first unwanted experience was identified. Among the 28 sexually abused women, 12 (43%) named their abuser as boyfriend/husband, and 8 (29%) named their abuser as family member/relative. There were four abusers (14%) described as friend/acquaintance, and four (14%) named as stranger/other. As seen in Table 8, the pattern of abusers was similar between Hispanics and non-Hispanics, but Hispanic women were more likely to be abused by someone they knew intimately.

Table 8

Abuser at Time of First Incident and Ethnicity

	Hispanic N = 10		Non-Hispanic N = 18		Total N = 28	
Abuser at time of first incident (N = 28)	N	(%)	N	(%)	N	(%)
Boyfriend/husband	5	(50)	7	(39)	12	(43)
Family member/relative	3	(30)	5	(27)	8	(29)
Stranger/other	1	(10)	3	(17)	4	(14)
Friend/acquaintance	1	(10)	3	(17)	4	(14)

In contrast, the pattern of abusers among non-Hispanics was more diffusely spread across the four categories. Finally, younger women were more likely to be abused by a family member/relative while women who were older teens or adults were more at risk for abuse by a boyfriend/husband (Table 9).

Table 9

*Total Number of Unwanted Sexual Contacts. Abuser, and Age at Occurrence**

Age Abuse Occurred	≤ 9 years		10-13 years		14-17 years		≥ 18 or older	
Abuser	n	%	n	%	n	%	n	%
Family member/relative	28	72	1	20	13	38	-	-
Friend/acquaintance	4	10	1	20	4	12	6	46
Boyfriend/husband	-	-	2	40	11	32	7	54
Stranger/other	7	18	1	20	6	18	-	-
Total	39	43%	5	6%	34	37%	13	14%

*N = 91

Child sexual abuse (CSA). CSA was limited to those women who reported unwanted sexual experiences prior to age 18. The rate of CSA among all participants was 34% (N = 19/56) or 67% (19/28) among the participants who reported abuse.

The severity of CSA was determined by assigning women to the highest level of unwanted sexual experiences that occurred for them before age 18. There were six levels of severity of CSA: (a) no sexual abuse, (b) non-contact molestation, (c) contact molestation, (d) coercion, (e) attempted rape, and (f) rape (see Table 1). This variable was coded as a scale from 1 to 6. The most common form of CSA was rape (N = 11, 58%), followed by coercion (N = 5, 26%). There was one response in each category of attempted rape, contact molestation, and non-contact molestation. Figure 6 displays CSA by category of abuse.

Sexual abuse. The modified SES measured the variable of severity of sexual abuse for women of all ages; 28 (50%) of the participants reported sexual abuse. To determine the severity of the sexual abuse, women were categorized at their highest level of severity for unwanted sexual experiences. Thirteen of the 28 abused women (46%)

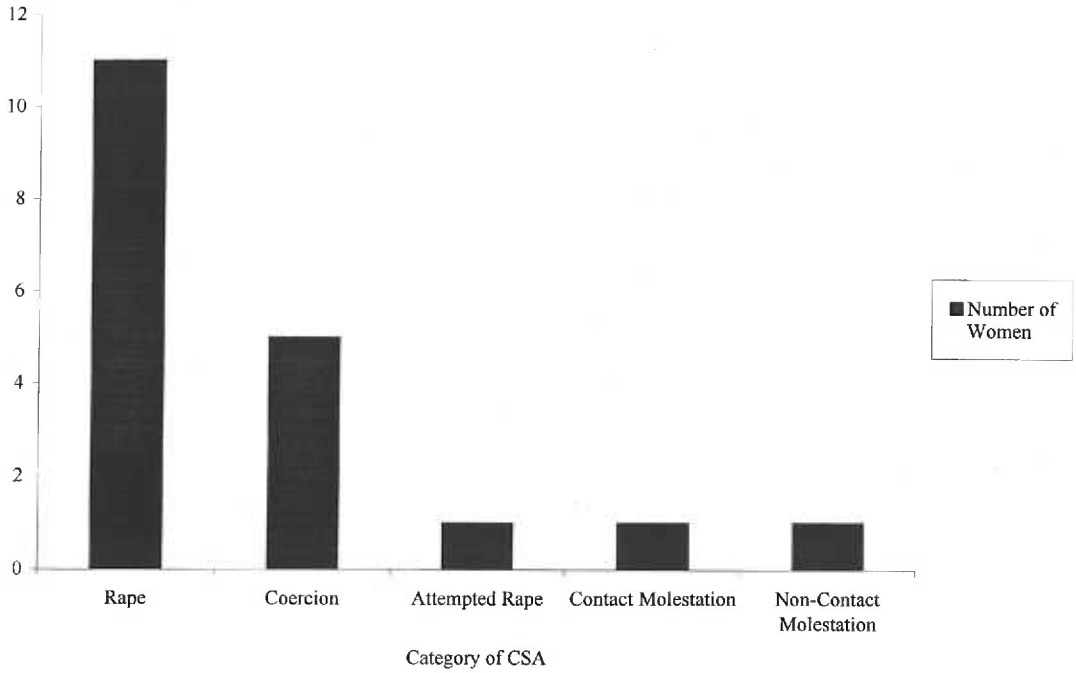

Figure 6. Frequency of types of child sexual abuse

had experienced coercion and 12 (43%) had been raped. There was one woman each in the categories of non-contact abuse, contact abuse, and attempted rape. Women who were abused as children were at higher risk for rape and coercion than women who had experienced abuse as adults.

Current abuse. The variable of current abuse was dichotomous and consisted of 3 yes/no items from the Abuse Assessment Screen (Curry, 1998; McFarlane et al., 1992). The first item assessed physical abuse in the year prior to the pregnancy. The second item asked about physical abuse after the pregnancy began. The final item asked about forced sexual activity in the past year. Any positive response to one or more of the 3 items was coded *yes*. If all three responses were negative, the variable was coded *no*. Five women (9%) reported current abuse, including 4 who reported a history of some type of sexual abuse. Four participants reported physical abuse the year before their pregnancy began and 2 who reported physical abuse after the pregnancy began. No participants reported sexual abuse in the past year. Three of the current abuse victims had a history of CSA and the fourth had experienced sexual abuse as an adult. The ages of the current domestic violence victims ranged from 18-27 years. Two of the five women were Hispanic.

Overall abuse in the sample. Over half of the 56 respondents (N = 29) reported some type of abuse, including sexual abuse as a child, sexual abuse as an adult, and/or current abuse. Among these 29, 19 women reported sexual abuse before age 18, 9 reported their only sexual abuse as adults (age 18 or older), and 5 reported current abuse. Among the women reporting current abuse, all but one also had a history of some type of sexual abuse.

Ethnicity was cross-tabulated with severity of sexual abuse, current abuse, and CSA. Note: These results should be interpreted with caution because of the small cell sizes. Sexual

abuse was significantly associated with ethnicity: $\chi 2$ (1, N = 28) = 3.43, $p < .05$. Hispanics experienced sexual abuse at any age at a higher rate (71%) than non-Hispanics (43%). Current abuse was not significantly associated with ethnicity. CSA, however, was significantly associated with ethnicity, $\chi 2$ (1, N = 19) = 4.49, $p < .05$. Again, Hispanics experienced CSA at a higher rate (58%) than non-Hispanics (26%).

Research Questions

The research questions were based on the hypothesis that women with a history of CSA would be less likely to initiate breast-feeding and, if they did initiate it, would breast-feed for a shorter period of time than women without a history of CSA. Because of the large number of women who prenatally intended to breast-feed and the even higher number of women who actually breast-fed in-hospital, the remaining cells of breast- and bottle-feeding and bottle-feeding women were too small to analyze statistically. However, the number of women who were exclusively breast-feeding at 4-6 weeks post-partum was more variable. Likewise, the number of women who were or were not sexually abused was more variable, allowing for statistical analysis. The research questions and the results of the analyses are stated below.

1. What are the maternal characteristics of women who prenatally intended to breast-feed, breast- and bottle-feed, and bottle-feed? Using chi-square, the maternal variables of ethnicity, maternal age, partner status, parity, income, and maternal education were cross-tabulated with the prenatal intended infant-feeding methods of breast-feeding exclusively, breast- and bottle-feeding, and bottle-feeding exclusively. No significant relationships were found.

2. Is there a change from the intended method of infant feeding to the in-hospital method of infant feeding; and if so, does this change differ for women with and without a history of CSA? Using chi-square, the prenatal intended infant-feeding method was cross-tabulated with

the actual in-hospital infant-feeding method. There was a significant change between intended and actual infant-feeding methods: $\chi 2$ (4, N = 56) = 57.6, $p < .01$. More women breast-fed exclusively than originally planned. There was no association between women who changed their infant-feeding method and a history of CSA.

3. Is there an association between maternal characteristics and infant-feeding practice variables? Individual one-way ANOVAs were conducted to determine if each of the number of personal/informal positive breast-feeding sources and professional/formal positive breast-feeding sources differed significantly by ethnicity, partner status, parity, or vaginal birth (yes/no). Only parity, described below, revealed significant differences.

Using Pearson's correlation, relationships between personal/informal positive breast-feeding sources and the continuous variables of maternal age ($r = -.18$. $p > .05$), maternal education ($r = -.03$, $p > .05$), and income ($r = .08$, $p > .05$) were examined. No significant correlations were found.

Using chi-square, the maternal characteristics of ethnicity, maternal age (categorized), partner status, parity, maternal education (categorized), income (above median point/median point and below), and vaginal birth were cross-tabulated with personal and professional breast-feeding information sources (present/absent). The maternal characteristics were also cross-tabulated with the intended infant-feeding method, the actual in-hospital infant-feeding method, and the change between the intended and actual in-hospital feeding method, again using the chi-square statistic.

Personal/informal breast-feeding sources were significantly associated with parity: $\chi 2$ (1, N = 56) = 5.37, $p < .01$. Significant differences were found between the means of women with one child (M = 3.29, SD – 1.49) and women with more than one child (M = 2.31, SD 1.93), F

(1,54) = 4.28, p = .043). Women with multiple children received less positive breast-feeding information from personal breast-feeding sources. No other maternal characteristics were significantly associated with personal/informal breast-feeding sources.

Professional/formal breast-feeding information sources were significantly associated with age: $\chi 2$ (3, N = 56) = 21.16, p < .00 and with maternal education: $\chi 2$ (3, N = 56) = 22.19, p < .01. Women in their 20s and women with a high school education or post-secondary education were more likely to have received information from professional breast-feeding sources. While parity was not significantly associated with the presence or absence of professional breast-feeding information sources, a one-way ANOVA revealed significant differences between respondents with one child (M = 3.46, SD = 1.10) and respondents with more than one child (M = 2.56, SD = 1.39), F (1,54) = 6/77, p < .012. Women having their first child were more likely to receive positive breast-feeding information from professional sources. No other maternal characteristics were significantly associated with professional/formal breast-feeding sources.

The prenatal intended infant-feeding method was significantly associated with maternal age: $\chi 2$ (6, N = 56) = 10.808, p < .05. Women in their 20s were again more likely to intend to breast-feed exclusively. There were no other maternal characteristics significantly associated with the prenatal intended infant-feeding method.

The actual in-hospital infant-feeding method was significantly associated with ethnicity: $\chi 2$ (2, N = 56) = 6.22, p < .05. Non-Hispanic women breast-fed exclusively in the hospital at a higher rate than Hispanic women. The in-hospital feeding method was also significantly associated with maternal education: $\chi 2$ (6, N = 56) = 23.40, p < .01. Women with a high school education or post-secondary education were more likely to breast-feed exclusively in-hospital.

There were no other maternal characteristics significantly associated with the actual in-hospital feeding method.

A change (yes/no) in infant-feeding method from that intended to the actual in-hospital feeding method served as a grouping variable for maternal age, maternal education, and gross monthly income. An ANOVA revealed no significant differences between those who changed their infant-feeding method and those who didn't. Using chi-square, the variable of change of infant-feeding method from intended to actual in-hospital method was cross-tabulated with ethnicity, partner status, parity, and method of birth. Only parity was significantly associated with a change of infant-feeding methods: $\chi 2$ $(1, N = 56) = 2.67$, $p = .05$. Participants with more than one child were more likely to have changed their infant-feeding method from what they initially planned to do and what they actually did in-hospital. No other maternal characteristics were significantly associated with a change of infant-feeding methods between prenatal intent and the actual in-hospital method used.

4. Is there an association between maternal characteristics and women's infant-feeding behavior at 4-6 weeks post-partum? Using a chi-square, the following variables were analyzed for the dichotomous outcome variable of breast-feeding at 4-6 weeks post-partum: ethnicity, partner status, parity, and method of birth. The results revealed no significant associations. The t-test was used to assess differences between women who were breast-feeding exclusively at 4-6 weeks post-partum and all other women in terms of maternal age and maternal education. Only maternal education significantly differed between infant-feeding methods: $t (54) = 2.004$, $p < .05$, suggesting that women with more education were more likely to be breast-feeding exclusively.

5. Is there an association between infant-feeding practice variables with women's infant-feeding behavior at 4-6 weeks post-partum? The chi-square statistic was used to assess the association between the dichotomous infant-feeding method at 4-6 weeks post-partum with personal and professional breast-feeding information sources (present/absent), the prenatal intended infant-feeding method, and the actual in-hospital infant-feeding method. There were no significant associations. However, when the in-hospital infant-feeding method was cross-tabulated with the three categories of post-partum infant-feeding at 4-6 weeks (breast-feeding, breast- and bottle-feeding, and bottle-feeding), the association was significant: $\chi 2$ (4, N = 56) = 10.46, $p < .05$. As might be expected, women who breast-fed in the hospital were more likely to be breast-feeding at 4-6 weeks post-partum. However, of the 50 women who breast-fed exclusively in-hospital, 29 were still breast-feeding exclusively at 4-6 weeks post-partum.

6. Is there an association between CSA and the infant-feeding practice variables? Chi-square statistic was used separately to determine the relationship between the presence of CSA with the dichotomous infant feeding variables of personal/informal breast-feeding sources (present/absent) and professional/formal infant-feeding sources (present/absent). Chi-square was also carried out to assess the association between the presence of CSA and the prenatally intended, in-hospital, and 4-6 weeks post-partum infant-feeding practices. There were no significant associations.

7. Is there an association between severity of CSA and the infant-feeding practice variables? The severity of CSA was assessed in relation to the number of personal breast-feeding sources and the number of professional breast-feeding sources. There were no significant associations found. Prenatal intended infant-feeding method and the actual in-hospital feeding

method served as grouping variables to assess differences in severity of CSA; an ANOVA revealed no significant differences between feeding groups.

8. Is there an association between the severity of CSA with women's infant-feeding behavior at 4-6 weeks post-partum? There was no significant association between women's severity of CSA and infant-feeding behavior at 4-6 weeks post-partum: ($r = .11$, $p < .22$). The t-test was also used to assess the differences between women who were breast-feeding exclusively at 4-6 weeks post-partum and all other women in relationship to the severity of their CSA. There was no significant difference revealed: $t(54) = .873$, $p < .20$.

9. After controlling for maternal characteristics and intervening variables, is there an association between severity of CSA with a women's infant-feeding behavior at 4-6 weeks post-partum? This question could not be answered as there was no association between CSA and infant-feeding behavior.

Summary

The primary aim of this research was to determine if an association existed between a woman's history of CSA and her breast-feeding behavior at 4-6 weeks post-partum. In this sample, there was no significant association. Despite one out of two women reporting some type of abuse, 90% of the women in this study initiated breast-feeding. As expected, having more education and breast-feeding in-hospital were both positively associated with breast-feeding at 4-6 weeks post-partum. Almost all respondents reported receiving positive breast-feeding information from either personal or professional sources. Despite the 90% rate of exclusive breast-feeding in-hospital, only 50 % of participants were still breast-feeding exclusively at 4-6 weeks post-partum. This change was significant. The next chapter discusses possible explanations for these findings.

Chapter 5: Discussion

This chapter discusses the findings in relation to the research questions. This discussion includes an overview of the participants, with attention to the abuse history of the participants, their infant-feeding practices, and the results of the research questions. The discussion also includes the implications for professional practice, the limitations of the study, and recommendations for future research.

Participants

For the most part, demographic characteristics of the participants reflected the target population of the Pacific Northwest county from which it was drawn. The demographic characteristics of the participants were compared with the same characteristics for the target population of women who delivered babies, using the most recently available vital statistics from 2000 (J. A. Grant-Worley, Oregon Department of Human Services, personal communication, April, 2002). There was a slight overrepresentation within the sample of women in their 20s, fewer married women, and slightly more women having their first child. The percentage of Hispanic women in the study (25%) was slightly higher than the percentage of Hispanics in the target population (20%). Fewer women in the sample (75%) had a vaginal birth than in the target population (83%). Table 10 compares the sample with the target population in this project.

Table 10
Comparison of the Sample Population with the Target Population by Maternal Characteristics

Variable	Population	Sample
Ethnicity		
Hispanic	20%	25%
Non-Hispanic	80%	75%
Age		
18 – 19	9%	12%
20 – 29	57%	66%
30 – 39	29%	20%
≥ 40	2%	2%
Partner status		
Married	72%	64%
Unmarried	28%	36%
Parity		
one child	37%	43%
≥ one child	63%	57%
Method of birth		
Normal vaginal birth	83%*	75%
Other	17%*	25%
Maternal education		
≥ High school education	71%	75%
< High school education	29%	25%

*Local hospital data obtained from Connie Pullen, Risk Manager, Willamette Valley Medical Center (personal communication, 19 April 2002).
All other data from J. A. Grant-Worley, Oregon Department of Human Services (personal communication, 19 April 2002).

Other researchers have voiced concerns about the recruitment of vulnerable populations such as Hispanics, suggesting that research difficulties may be attributed to immigration status, unfamiliarity with the research process, issues with authority, and level of acculturation (Kenney et al., 1997; Lira, Koss, & Russo, 1999; Romero et al., 1999). The use of a bilingual researcher with an established reputation within the community and bilingual recruiters who were also known and respected within the community may well have been the reasons for the favorable level of Hipanic participation in this study.

There were some differences between Hispanic and Non-Hispanic women, although the only maternal variable that was significantly different between the two groups was education. Hispanic women were significantly less educated than their non-Hispanic counterparts. This was

not an unexpected finding given that the Hispanic women were immigrants from Mexico where the required minimum level of education is six years of primary school. Recruiters noted that Hispanic women required more explanation about the research project and its purpose before accepting a flyer. Non-Hispanic women were more likely to accept a flyer whether or not they intended to return it. Although this difference was partially cultural, it also most likely reflects variations in life experience and educational level.

Abuse History

A most startling finding was that slightly over half of the participants in this study reported some type of abuse. The most commonly reported abuse was CSA: one-third of the participants reported sexual abuse that had occurred before age 18. This is slightly more than Finkelhor's (1990) findings in a national telephone survey in which one-fourth of participants reported a history of CSA. This finding is also consistent with Bohn and Holz's (1996) conclusion from their review of the abuse literature that not only do one-third to one-half of women experience some type of abuse during their lifetime but one-fourth to one-half experience that abuse before age 18.

The rate of CSA in this study was less than the range that other studies have found (59% to 66.2%) when using the same definition and instrument (Boyer & Fine, 1992; Kenney et al., 1997; Roosa, Reinholtz et al., 1999; Roosa, Reyes et al., 1998; Roosa, Tein et al., 1997). Boyer and Fine studied women who had been pregnant for the first time before age 17 and who were under 21 at the time of the interview. Kenney et al, Roosa, Reinholtz et al, Roosa, Reyes et al, and Roosa, Tein et al were reporting statistics on college-aged women ages 18-22. In both instances, the participants were younger women who reported a higher rate of CSA.

The rate of 34% of women who reported CSA is somewhat higher than the 27% reported by Finkelhor et al. (1990). Finkelhor et al. used a telephone survey instrument with four questions that requested the participant to state whether they remembered a specific behavior that they would now consider abusive. Without asking women to judge whether the behavior was abusive, the modified SES in the current study uncovered CSA in one out of three women in this community-based, non-psychiatric population.

Of the five women who reported abuse within the past year, four also had a history of CSA, pointing out the vulnerability of women with a history of CSA to later abuse. Of the women who reported sexual abuse that occurred after age 18 (16%), none of them had a previous history of CSA. Nonetheless, the 16% rate of sexual abuse experienced as an adult is almost triple that found by Mullen et al. (1988), who reported that 4-6% of adult women were victims of sexual abuse. In contrast, Boyer and Fine (1992) found a 62% rate of sexual abuse prior to a first pregnancy among parenting and pregnant adolescents and young women; the authors did not differentiate between sexual abuse and CSA, which may account for their higher number.

Using the same three items form the Abuse Assessment Screen, Curry, Perrin, et al (1998) interviewed women during pregnancy and reported that 37.6% of the adolescent and 22.6% of the adult participants had reported current abuse during or within the past year of the pregnancy. Using 5 items from the Abuse Assessment Screen, McFarlane et al. (1992) and Parker et al. (1994) found that current abuse impacted 20.6% of the teens they surveyed and 14.2% of the adults. Three of the items were the same and the two added items questioned emotional abuse and fear of the partner. From their review of the literature, Ballard, Saltzman, Gazmarian, et al. (1998) found that the range of abuse during pregnancy was 0.9% to 20.1%. Berenson, Miguel, and Wilkinson (1992) reported similar rates of sexual abuse (8%), physical

abuse (9%), and sexual and physical abuse (8%) among adolescents interviewed during pregnancy. The rate of 9% for current abuse in this current study appears to fall within the parameters of what other researchers have found. In this study, younger women were more at risk for current partner abuse, suggesting a population that needs to be both assessed for and educated about domestic violence.

The total number of unwanted sexual experiences was also surprisingly high. Over half of the women who were sexually abused reported they had more than one unwanted experience, with one woman reporting 12 unwanted sexual experiences. The number of these unwanted experiences that occurred before the age of 18 was about double that of the unwanted sexual experiences that occurred to women at age 18 or older. The high rate of sexual abuse, whether CSA or abuse as an adult, might be construed to reflect the broad definition of abuse. However, nearly half of the women reported that their most severe sexual abuse was at the level of attempted rape (threat to use force or use of force but sex did not happen) or rape (threat to use force or use of force and anal, oral, or vaginal sex did happen). Nearly half also reported coercion (promise of a gift, use of lies, or use of pressure to have sex, or use of force to kiss or feel a victim). The remaining victims (8%) reported non-contact molestation, which involved exhibitionism, photography (of the child), or pornography (showing sexualized material to the child) and contact molestation (touching or fondling the victim or making the victim touch or fondle the abuser).

Both the timing of unwanted sexual experiences reported in this study and the victim's relationship to her abuser are very disturbing. The literature suggests the effects of CSA can be more severe for the younger child or the adolescent (Wyatt & Newcomb, 1990). In this community-based sample, participants were most often abused when they were very young (≤ 9

years) or in their middle teen years (14-17). Not only were these women at particularly vulnerable ages when they experienced the abuse, but a surprisingly high number of abusers were known to the women in this study. They were not strangers or friends, but either boyfriends/husbands (43%) or family members/relatives (29%). As might be expected, women at a younger age were more often abused by family members while women abused as older adolescents were more often abused by men they described as boyfriends/husbands. These rates and patterns of abusers are similar to those reported in other studies (Bagley, 1982; Berenson et al, 1992; Finkelhor et al., 1990).

It is not difficult to imagine the betrayal involved and the intensity it brings to an already unacceptable experience when a trusted individual abuses the victim. Certainly for any woman whose abuser is still involved with her, such as those women who are victims of current abuse or who live with their families, the ability of the woman to successfully initiate and continue with breastfeeding would seem compromised by her abuse history.

The rate of CSA among Hispanic women in this study was nearly two-thirds as compared to the rate of one-third reported by Romero et al. (1999). Although the number of Hispanic women within this sample was small, the Hispanic respondents experienced childhood sexual abuse at a significantly higher rate than their non-Hispanic counterparts. For Hispanics, a history of CSA brings to the woman more than just the stigma and psychological sequelae all victims carry. The stigma and psychological effects become compounded by a fear of the authorities should the abuse become public. Further, the CSA occurs in the context of a cultural belief that if a bad (sexual) thing happens to a female child, that somehow the child did something to cause or deserve it. This stigma of CSA leaves the woman socially isolated, damaged psychologically, and at risk for revictimization.

The psychological sequelae is a concern for both Hispanic and non-Hispanic women as the literature suggests that the major effects of CSA appear to be psychological. The ability to successfully initiate and continue breast-feeding is only one of many parenting skills that a new mother must demonstrate but it is a critical one for the mother and the baby. This parenting task can certainly be impacted by long-term effects of CSA such as decreased self-esteem, depression, interpersonal difficulties (Beitchman et al., 1991; Bohn & Holz, 1996; Boyer & Fine, 1992; Brayden et al., 1995; Collins, 1998; Esperat & Esperaza, 1997; Farley & Keaney, 1997; Finkelhor, 1990; Fleming et al., 1999; Kendall-Tackett, 1998; Mullen et al., 1996; Roberts, 1996), cognitive distortion (Breiere & Elliot, 1994), and dissociation (Briere & Runtz, 1988, 1989; Briere & Elliot; Cassin, 1990; Cole, et al., 1996; Farley & Keaney; Irwin, 1999. The post-partum mother with a history of depression is at increased risk for post-partum depression. A mother with dissociation may be at risk for withdrawing from a difficult and overwhelming task. Often unable to ask for help, these women would be identified as those who were at risk to stop breast-feeding early. It is impressive that the women in this study were all doing as well as they were, given the high level of severity of CSA among the participants. In summary, the rate of overall abuse in this sample was high, as measured by a well-designed, easy-to-administer tool.

Infant-Feeding Practices

Over all, participants in this study had a high rate of breast-feeding. Prenatally, 84% of the participants planned to breast-feed exclusively and even more (90%) actually initiated breast-feeding in the hospital. By 4-6 weeks post-partum, 50% of the women were exclusively breast-feeding. This is consistent with the high rate of breast-feeding reported for women in the Pacific Northwest region, where 75% of new mothers were reported to initiate breast-feeding and 31% were still breast-feeding at 6 months (Ryan, 1997).

Only maternal education was significantly associated with breast-feeding at 4-6 weeks post-partum. Similar to other studies, women with a high level of education were more likely to be breast-feeding at 4-6 weeks post-partum (Barber et al., 1997; Duckett, 1992; Evers et al., 1998; Goodine & Fried, 1984; Grossman et al., 1990; Hellings, 1985; Matich & Sims, 1992). The remainder of the maternal characteristics (maternal age, partner status, ethnicity, parity, type of birth, and gross monthly income) that the literature suggested could impact the initiation and duration of breast-feeding were not significant in this study. This may be partially attributed to a fairly high rate of personal, professional, and institutional support for breast-feeding, which is discussed below.

There was a statistically significant change in infant-feeding method by some participants from prenatal intention to actual in-hospital method. The change, however, was not in the anticipated direction. More women breast-fed exclusively in-hospital. Hispanic women (14%) more often planned to supplement than non-Hispanic women (2%). Some Hispanic women cited a need to return to work at 6 weeks post-partum or a desire to give their baby commercial milk until their own milk came in, a belief that is cultural and may reflect a lack of knowledge around the mechanisms of milk stimulation and production.

As noted above, the high rate of breast-feeding may be partially explained by the high level of personal, professional, and institutional support participants received. Almost all of the participants received positive breast-feeding information from personal sources. The sources of informal breast-feeding information between both groups were consistent except for friends and the partner's mother. These people were mentioned as resources for non-Hispanic women but considerably less so for Hispanic women. Hispanic women were more likely to have received positive breast-feeding information from their own mother or another relative.

In the interval between in-hospital and 4-6 weeks post-partum, there was a larger drop in exclusive breast-feeding among non-Hispanic women (from 95% to 55%) than among Hispanic women (from 71% to 50%). This difference may be accounted for by the differences in personal information sources. Friends and/or their partner's mothers may have been positive information sources for non-Hispanic women, but this support may not have been readily accessible in the early days home from the hospital. The patient's mother or other relatives, who were mentioned more often by Hispanic women, were also those women more likely to be assisting a new mother in her first post-partum days. Culturally, Hispanics have been thought to depend more on the extended family for support, which these study results suggest.

Nearly all (95%) of the participants received positive breast-feeding information from professional sources. The most frequently named professional source of positive breast-feeding information for both Hispanic and non-Hispanic women was the women's health care provider, confirming what other research has shown (Wiemann et al., 1998), while 77% of the participants reported receiving positive breast-feeding information from nurses. The questions, however, did not ask who most influenced women to initiate breast-feeding. Thus, it is unknown whether a health care provider or a nurse made a difference in a participant's decisions, or if these providers were perceived as simply a consistent source of positive breast-feeding information.

Finally, a major source of support was the institutional support available to women in this population, both in the hospital and in the community through WIC. In the past 3-5 years, there has been a concerted effort on the part of the hospital administration, staff, and providers to (a) standardize the breast-feeding policy, (b) educate the nurses using a standardized breast-feeding curriculum, (c) sponsor childbirth classes with a free extra class in the series solely on breast-feeding, (d) educate three full-time nurses as lactation consultants, (e) provide intensive

one-on-one support for mothers and babies before discharge and 24 hours a day after discharge, and (f) begin a New Mother's Group that primarily attracts breast-feeding mothers. In addition to hospital support, 41% of the participants received positive breast-feeding messages from a WIC counselor.

Despite the high level of personal, professional, and institutional support, the drop in exclusive breast-feeding among all participants was statistically significant, from nearly all women at initiation to one-half of them at 4-6 weeks post-partum. While only 30% of the sample planned to breast-feed for 6 months and only 20% planned to breast-feed for 12 months, both rates were under the national objectives established by Healthy People 2010. There were no maternal or abuse variables that were significantly associated with this outcome, except maternal education. In light of the increased rates of breast-feeding in-hospital, perhaps the short duration of breast-feeding among the participants may better be explained by motivational or post-partum factors that were not assessed in this study. Such factors might be the timing and type of educational efforts, maternal satisfaction with breast-feeding, or peer and professional support available to the mother and infant at home.

Data were available to compare the rates of initiation and continuation of exclusive breastfeeding by women in this sample with similar rates of exclusive breast-feeding by women in the county over a 3-month period in 1990. The newborn's infant-feeding method (breast-feeding, breast- and bottle-feeding, and bottle-feeding) was collected from the PKU test forms at time of hospital discharge and again 10 to 14 days later at the time of the second PKU testing. In 1990, 83% of the women were breast-feeding exclusively at the time of discharge from the hospital and 26% were still exclusively breast-feeding at 10 to 14 days post-partum (Oregon State Health Division statistician, personal communication, 1990). These improvements in both

the rates of initiation and continuation suggest that institutional changes have been effective in prolonging the duration of breast-feeding. In summary, the number of women who exclusively breast-fed in-hospital was even higher than the number who prenatally had planned to initiate breast-feeding. Despite this gain, however, there was still a significant decline in the number of women breast-feeding exclusively by 4-6 weeks post-partum.

History of CSA and Breast-Feeding

The primary aim of this research was to determine if there was an association between a woman's history of CSA and her breast-feeding behavior. The conceptual framework guiding this study hypothesized that, as the severity of CSA increased, there would be a corresponding decrease in breast-feeding behavior. It was conceptualized that this was the result of the powerlessness women experienced after being sexually abused as children (Finkelhor, 1987; 1990). However in this study, women's history of CSA was not associated with their prenatal intended infant-feeding method, their in-hospital feeding method, or their infant-feeding method at 4-6 weeks post-partum.

There are several possible explanations for the lack of association found in this study. These include the possibility that (a) there were unmeasured intervening factors that influenced women to choose breast-feeding even when it was not actually their choice, (b) the conceptual framework was inappropriately hypothesized, or (c) the conceptual framework was appropriately hypothesized but there were intervening factors that mediated the powerlessness women experience after experiencing CSA.

The amount of personal, professional, and institutional support for breast-feeding was exceptional in the county where the study took place. This support, coming as it did from multiple sources, may have empowered women, particularly those with a history of abuse, to be

able to do something positive for their children. During the last 10 to 12 years in the county, emphasis has been placed on the communication of a strong public health message that "Breast is Best." The respondents reported receiving a high number of positive breast-feeding messages, particularly from their health care providers. Women also accessed positive breast-feeding messages through the WIC program, childbirth classes, and the nursing staff. If the support did encourage women to initiate breast-feeding when it was a default choice rather than a motivated choice, this may explain the considerable decline in exclusive breast-feeding in the first 4-6 weeks post-partum.

A second explanation for the lack of association between women's history of CSA with their infant-feeding method is that the hypothesized association within the conceptual framework was inappropriate. Kendall-Tackett (1998) suggested that the overwhelming experiences of new motherhood and the frequency and demands of breast-feeding might recreate feelings experienced by CSA victims. The powerlessness that has been hypothesized to occur after an abuse incident is partially related to the inability of the victim to prepare for and cope with the reshaping of her life by an abuser who should have been there to protect her rather than abuse her. In contrast, childbirth and breast-feeding are tasks for which women can prepare. While nursing an infant can be a challenge, women appeared to integrate the cultural value that "breast is best," at least to the point were they could initiate breast-feeding.

Also, initiating breast-feeding may be different from continuing to nurse. If Kendall-Tackett was correct that the actual act of breast-feeding causes a recreation of unpleasant sensations similar to those experienced as a victim of CSA, this phenomenon may be neutralized by community expectation or by education, or it may occur in the later post-partum period when

women have left the hospital and its strong institutional support, explaining the significant decline in exclusive breast-feeding found at 4-6 weeks post-partum.

Therefore, the concept of powerlessness was not manifested in an avoidance of breast-feeding. It appears that there may be factors that mediate the effects of CSA and allow the initiation of breast-feeding. Such variables include the age at which the abuse began and ended, the severity and duration of the abuse, and the relationship of the victim to the abuser, particularly as it impacted the ability of the victim to disclose (Wyatt & Newcomb, 1990). It has also been suggested that parental support can mediate the relationship of abuse with depression and self-esteem (Wind & Silvern, 1994). Unfortunately, data were not collected that would allow such an explanation. The clinical question was emphasized by one case in which a woman reported 12 different types of unwanted sexual experiences and yet was successfully breast-feeding her second child. Clearly, for that woman, there were mediator variables not identified during this project and not included in the conceptual framework suggested by this researcher and other authors (Heritage, 1998; Kendall-Tackett, 1998; Simkin, 1992) that would explain her success.

In summary, despite a disconcertingly high rate of abuse, women initiated breast-feeding at a rate that surpassed the national objectives for initiation but subsequently fell short of the objective for 6 months post-partum. The data reported here has clinical implications for nursing and raises questions both for the profession and for research.

Implications for Professional Practice

This section discusses the implications for professional practice. It is divided into two areas: (a) assessing women for a history of sexual abuse and current domestic violence and (b) promoting the initiation and continuation of breast-feeding.

Abuse History

It was surprisingly easy to ask women about their abuse history. The researcher had not anticipated that it would be as comfortable. The very process of designing a study and going through the requirements to insure the rights of vulnerable women strengthened the concern that asking women intimate questions would be difficult. Yet, because one out of two women responded in this survey with a history of some sort of abuse, the imperative need to ask women about their abuse history must be emphasized.

Nurses are in a critical profession that can both ask about abuse and be prepared to assist women when they answer in the affirmative. A consistent, matter-of-fact approach to question-asking removes abuse from a private, shameful issue and identifies it as a health risk problem similar to a substance use history, exposure to environmental toxins in the workplace, or assessment of tuberculosis exposure or immunization status. Clinically, if the current abuse questions are written out and repeated identically with each patient, they can be integrated into health care questions in many settings.

The three items from the Abuse Assessment Screen for pregnancy can be adapted for non-pregnant women and the questions asked as part of routine care for both pregnant and non-pregnant women. While the questions specifically ask for current abuse, they open the possibility for discussion of past sexual and physical abuse history. Many women do not spontaneously volunteer to disclose a history of abuse but, in this study, they responded well to direct questions and the personal interest of the researcher. A provider who consistently raises the issues becomes more comfortable in asking the questions and, eventually, more astute in interpreting what women do not say verbally but imply with their body language and their non-responses.

The questions, found in Appendix G, can be prefaced with the transitional sentence, "Because it is a common health issue for women, these next questions ask about domestic violence." The provider needs to wait 15 to 30 seconds after each question is asked to give the woman time to decide whether and how to answer. Once a woman has answered the two/three abuse assessment questions, she should be asked if she has any questions or comments she would like to ask. This can lead into a general discussion of risk factors for abuse without a woman feeling she has to commit her intimate and personal details to a chart. It may also allow the woman to verbalize her concerns if what she has personally experienced was abusive.

Anyone asking abuse assessment questions needs to be aware of the resources within the community for abused women and have a list readily available for women who might need it. Two excellent resources are the National Domestic Violence Hotline at 1-800-799-SAFE for individual women and providers alike or the March of Dimes' Abuse During Pregnancy: A Protocol for Prevention and Intervention (McFarlane, Parker, & Cross, 2001), a resource suitable for nurses and other health professionals.

Finally, women can be reminded that while they personally may not be at risk for domestic violence, they may have friends or relatives who are. The matter-of-fact discussion of abuse helps to establish the nurse as a safe contact in a world that may be harmful and stressful for a woman with a history of or ongoing abuse.

Breast-Feeding

The implications for professional practice suggest that nurses should continue taking a proactive role in the promotion of initiation and continuation of breast-feeding. The participants primarily delivered at one community hospital, which allowed the institutional practices of that hospital to be informally assessed. In learning the results of this study, both the hospital nurses

and the hospital administration expressed surprise and a strong sense of pleasure that there was a visible and positive impact on an outcome variable that they had hoped to affect. It reinforced the administration's financial commitment to an expensive training program and the Birthing Center's staff commitment of time and energy. The drop between the rate of breast-feeding in-hospital and the rate at 4-6 weeks post-partum has already sparked discussion among staff nurses, nurse administrators, and the nurse midwives who deliver a high percentage of the babies.

Finally, the differences mentioned before between Hispanic and non-Hispanic women suggest that the two groups of women would benefit from educational efforts in different areas. Although all women need information about the risk of supplementation, there is a greater risk among non-Hispanic women that supplementation will lead to inadvertent early weaning. For non-Hispanic women, supplementation may serve as a marker for women with breast-feeding difficulties (Kramer et al., 2001). Hispanic women may need educational emphasis on the normal mechanisms of breast-feeding, the establishment of an adequate milk supply, and a way to go back to work and still breast-feed. Information on the benefits of breast-feeding needs to be communicated not only to the woman but also to the key people who provide her support once she goes home. Non-Hispanic women, who reported receiving positive breast-feeding information more often from their partner's mother or their friends, may not have immediate access to those people when they first go home from the hospital. Socially isolated in the early post-partum period, these women particularly may need to be targeted by nurses for follow-up care and support.

Study Limitations

There are three major limitations to this study. The first two limitations include an overall small number of participants and a large number of women who planned to and actually did initiate breast-feeding. Because of the resulting small cell sizes for non-breast-feeding women, the use of the originally planned hierarchical regression statistical analysis was not possible. Even with the decline from 90% to 50% of women breast-feeding exclusively between their in-hospital stay and 4-6 weeks post-partum, the small sample size did not permit assessment of significant changes based solely on a woman's history of sexual abuse, either as a child or at age 18 or older. However, even if the numbers of participants had been doubled or tripled, there was still such a high percentage of women who initiated breast-feeding that it most likely would remain difficult to establish an association between CSA and breast-feeding behavior.

The third limitation concerned the ability of women to accurately describe past abuse history. As has been mentioned before, this was partially controlled for by the use of the modified SES since the questions did not ask for a conclusion on the part of the respondent as to whether abuse had occurred. The issue of asking women personal and intimate questions did not appear to be a barrier to obtaining data. There is no way, however, to validate whether a woman correctly remembered her past unwanted sexual experiences, or whether she accurately remembered and unintentionally misinformed the researcher of her abuse history. This limitation has been noted previously (Brier, 1992) and will continue to be an issue in CSA research because the logistics of doing a prospective study are daunting.

Despite the straightforward, behaviorally oriented questions on the modified SES, there remained a cultural overlay as to what was interpreted as sexual abuse by participants and what was not. There were times during the interviews, among both Hispanic and non-Hispanic

participants, when a woman responded yes to a description of an unwanted sexual experience. Almost immediately after answering yes, the same woman might respond in one of two ways. She might ask if that given behavior was considered abusive or she would discount her response by indicating to the researcher that she did not consider the behavior abusive. Unfortunately, which specific questions prompted this type of response was not noted, and there is no way to discern whether the specific questions differed for Hispanics or non-Hispanics.

Recommendations for Future Research

Four areas are identified for future research. First, the continued examination of CSA and its impact on women's breast-feeding behavior should be included in investigational studies, with the addition of mediator variables suggested in the literature that decrease the impact of the short-term and long-term effects of CSA. These variables would include, at a minimum, (a) who the woman first told about the abuse, (b) whether or not she was believed, and (c) if she has had any intervening interventions such as counseling (Beitchman et al., 1991; Beitchman et al., 1992; Kendall-Tackett, 1998; Kendall-Tackett et al., 1993; Wind & Silvern, 1994; Wyatt & Newcomb, 1990).

Second, the methods of quantifying breast-feeding for research and clinical concerns need to be expanded to more than just a dichotomous variable of breast-feeding. There is difficulty in obtaining good data that can be compared across studies, but it is essential that the definition of breast-feeding be standardized so that the clinical outcomes have meaning. The Ross Mothers Study (Ryan, 1997) reports breast-feeding rates that are used to measure the national Healthy People 2010 objectives, yet it is not clear what "breast-feeding" means. In actuality, that study reported a mother as breast-feeding if she breasts-fed once in 24 hours. There is a theoretical assumption that any breast-feeding is better than none, but there is nothing

in the literature to support that conclusion. Therefore, a standardized definition of breast-feeding is needed so that breast-feeding can be compared across studies. At the same time, a quantified definition of breast-feeding can assist in determining at what point benefits do or do not exist. It may be necessary, as it was in this study, to use a dichotomous variable for statistical calculations, but the rates of breast-feeding should be reported using the wider categories to better present the actual amount of breast-feeding.

Third, if this study or a similar study were to be carried out in the future, a community-based target population should be considered somewhere else geographically, not just in the Pacific Northwest. There may be cultural and policy factors in this region that cause a history of CSA to impact less on a woman's infant-feeding behavior. Oregon has an excellent reputation among advocates for children and, as a matter of public policy, the state has spent more than a decade teaching children how to protect themselves against sexual abuse and how to respond if it occurs. Furthermore, in the face of the current decline of CSA reported in the 1990's, Oregon was one of only three states that formally commented on the rate of the decline and attempted to explain it on a statewide level (Jones et al., 2001). In the report, Jones et al suggested that the decline might be caused by an increased focus by the Department of Human Services on in-family abuse, a more rigorous method of recording founded abuse, and the 10-year emphasis on teaching children about CSA and safety. In addition, Oregon is located within a census population of women described as having a higher rate of breast-feeding than anywhere else in the US (Ryan, 1997). Besides studying a population in a different geographical area, there could be some value in studying other populations, such as African-Americans, who have a low rate of initiating and continuing breast-feeding. It is too soon to say that there is no association between CSA and breast-feeding outcomes; only that this descriptive study did not demonstrate it.

Finally, the fourth area of recommended research is the continued investigation of the rate of unwanted sexual experiences among Hispanic women. The rate of CSA among Hispanic women in this study was 58%, compared to a rate of 33% in a community sample of women in Los Angeles (Romero et al., 1999). Admittedly, it is difficult to make a comparison. This study had a relatively small number of Hispanic women (14) compared with Romero et al.'s study that assessed 300 Hispanic women. However, the rates are high enough that the issue requires further investigation to determine if this population is more at risk, what cultural differences exist, and what risk factors are specific to the Hispanic population.

As mentioned previously, two major questions raised by this research should help direct the course of research in the future. First, are women compliant with an expectation that they should breast-feed, leading them to initiate breast-feeding yet unable to continue for more than a short time? Second, are women with a history of abuse particularly resilient or are there mediator variables that occurred following the abuse or at the time of initiating breast-feeding or other factors that did not function in the post-partum period? The third issue raised by this research concerns how one might methodologically ask questions. The disadvantage of specific, behaviorally directed questions that are yes/no questions is that they do not allow for the broad answer and rich context that a qualitative approach would. Asking women to discuss their infant-feeding method in the first 4-6 weeks post-partum might elicit thematic responses that would allow clinicians to design interventions to extend the duration of post-partum breast-feeding

Conclusion

This study began with a clinical concern that women with a history of child sexual abuse might not breast-feed, or if they did initiate breast-feeding, they might supplement sooner or wean earlier. For all the reasons discussed above, the study did not demonstrate an association

between child sexual abuse and breast-feeding behavior. The fact that there was not a significant association between any type of abuse assessed in this study and the infant-feeding method at 4 to 6 weeks leads to more questions and these cannot be answered by the data collected. Were the participants in this study compliant with the choice of breast-feeding their infant susceptible to the community message of "Breast is Best?" Or were these women, despite their history of CSA, remarkably resilient when it came to infant-feeding choices? The study did, however, describe in some detail, the encouragingly high rate of breast-feeding and the discouragingly high rate of CSA, sexual abuse, and current partner abuse in a community sample of women. The original question still remains without a clear-cut answer and needs to be examined from a different perspective or approach, as has been suggested.

Appendix A

Baby Friendly Hospital Initiative: Ten Steps to Successful Breast-Feeding

1. Have a written breast-feeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breast-feeding.
4. Help mothers initiate breast-feeding within half-hour of birth.
5. Show mothers how to breast-feed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast-milk, unless medically indicated.
7. Practice rooming-in (allow mothers and infants to remain together) 24 hours a day.
8. Encourage breast-feeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breast-feeding infants.
10. Foster the establishment of breast-feeding support groups and refer mothers to them on discharge from the hospital or clinic. *

* Saadeh, R., & Akre, J. (1996). Ten steps to successful breastfeeding: A summary of the rationale and scientific evidence. Birth, 23(3), 154-160.

Appendix B
Safety Protocol

Contacting the Participant

1. Determine whether this is a safe time to talk.
2. Allow initial contact to be initiated by the woman at a time of her choosing.
3. As the initial contact is by telephone, ensure that it is a safe time for the woman to talk.
4. Describe the study, type of participation requested, and address the issue of safety.
5. Offer the participant the use of pseudonyms.
6. Inform participant the data will be kept confidential.
7. Inform participant of mandatory reporting laws for child or elder abuse.
8. Schedule an interview—help the participant to develop strategies to assure she won't be followed by her abuser and that her children will be safe in her absence.
9. Determine a safe time and location for the interview.
10. Provide a copy of the consent form, if safe for the woman to keep.
11. Provide a business card with the Primary Investigator's name and phone number for contacting.

Subsequent Interview

1. Set up the time and place of interview if not done during the first initial contact.
2. Consider a safe time and location.
3. Determine a safe way to contact participant by phone. Determine whether a code name will be used if the abusive partner answers the phone. Determine what measures the woman wishes the researcher should take if the phone goes dead or she hears an altercation during their conversation.

Intervention

1. Provide each participant with emotional support and therapeutic communication as needed.
2. Offer participants a domestic violence resource card that can be easily hidden.
3. Forewarn participants that the interview may provoke conflicting feelings of relief as well as emotional distress.

Data

1. Data will be maintained in a locked file, accessible to the Primary Investigator and her faculty research advisors.
2. Access to data stored on computer files will be limited by use of a restricted password.
3. All identifying information will be removed, and each participant will be assigned a code number.

Adapted from Parker, B., Ulrich, Y., & NRCVA. (1990). A protocol of safety: Research on abuse of women. Nursing Research, 39, 248-250.

Appendix C
Recruitment Flyer

WANTED
Women whose babies are less than 2 months old

FOR

A Research Study on factors that influence a woman's choice of an infant-feeding method

TO PARTICIPATE YOU MUST BE:

- 18 years of age or older
- Parenting your baby
- English or Spanish speaking
- Willing to participate in a 30-minute interview either by phone or in person, at a time and place of your choosing

The Interview will include questions on:

Pregnancy history, past and current infant-feeding method. There will also be questions on childhood experiences.

FOR FURTHER INFORMATION CALL:

Maggie Emery, CNM, MSN
Investigator
503-560-5563

OR, if it is easier, we can call you.

Name _____ **Telephone #**_____
Best time of day to reach me _____.
If you wish me to call you, please return this form to the person who gave it to you and I will call you directly.

Appendix D

Telephone Informed Consent

IRB# 6410
Approved 5/22/01

OREGON HEALTH SCIENCES UNIVERSITY
Telephone Consent Form/Script
The Impact of Child Sexual Abuse on a Woman's Breast-Feeding Behavior

CODE # _____

TITLE: The Impact of Child Sexual Abuse on a Women's Breast-Feeding Behavior

Hello, my name is Maggie Emery. I am a certified nurse midwife working on a research project studying factors that influence a woman's choice of an infant-feeding method. I am calling you (STATE WHY)

_____ in response to the message you left on the voice mail.

_____ in response to the flyer you filled out.

Is this a good time to talk?

(IF NO, THEN)

When is a better time to talk?
Date _____ Time _____

(IF YES, THEN CONTINUE.)

PURPOSE: (First, I want to discuss the purpose of this study.)
The purpose of this study is to determine factors that might affect a woman's choice of an infant-feeding method. With this information, people who work with a woman during her pregnancy, childbirth and in the months after her baby is born can know ways to help her chose the best infant-feeding method for herself and her baby. You are being asked to participate in this study because you recently had a baby. I need to ask you some questions before we continue to make sure you are able to participate.

CIRCLE EACH ANSWER

How old are you today? _____ YEARS	>18 (include) <18 (exclude)
Is your primary language English or Spanish? (CIRCLE)	YES (include) NO (exclude)
Are you parenting your baby?	YES (include) NO (exclude)

CODE # _____

How old is your baby today? _____wks./_____days

Today's Date _____/_____/_____ =/>4/<9 weeks (include)

Baby's DOB_____/_____/_____ > 8 completed weeks (exclude)

Were you separated from your baby in the hospital at any time for more than 12 straight hours?

YES (exclude) NO (include)

IF NOT ELIGIBLE: I'm sorry, but you are not eligible to participate in this study because _____. (STATE REASON) Thank you so much for your interest and willingness to participate.

IF ELIGIBLE BUT BABY NOT YET OLD ENOUGH: You are eligible for this study but I need to talk to you when your baby is between four and eight weeks old. I would like to discuss the study in more detail and then if you would like to participate, we can set up an interview time when your baby will be at least 4 weeks old.

IF ELIGIBLE AND BABY IS CORRECT AGE: You are eligible for this study and I would like to talk to you further. Is this a good time to talk?

(IF NO, THEN)

When is a better time to talk?

Date _____ Time _____

CONFIRM PHONE # _____. IF I CAN'T REACH YOU AT THAT PHONE #, ARE THERE ONE OR TWO OTHER NUMBERS WHERE I COULD REACH YOU OR LEAVE YOU A MESSAGE? #_____ Contact person _____

_____ Contact person

(IF YES, THEN CONTINUE WITH INFORMED CONSENT, BEGINNING WITH **PURPOSE**)

I would now like to explain the study, beginning with the procedures in the study.

PROCEDURES:

If you agree to take part in this study, you will be asked a series of questions about your age, education, pregnancy history, and social support. You will be asked questions about the infant-feeding method you planned to use before your baby was born and the actual method you used in the hospital and after your baby was born. Finally, you will be asked questions about childhood sexual abuse and current partner abuse. The questions will take about 30 minutes. There will be no medical procedures.

CODE # _____

As a part of this study you will be asked specific questions about various types of child sexual abuse, whether it occurred to you, and the age and relationship of any abuser. You will also be asked specific questions about intimate partner abuse in the past year. No matter whether you answer yes or no to those questions, I will not be contacting the police or Protective Services in relationship to those questions. However, if you bring up other current child abuse that has not been reported to Protective Services, I am a mandated reporter and will have to report any child abuse. If this happens, I will talk with you further about those reporting procedures at that time.

Now I will talk about the risks and discomforts of the study.

RISKS AND DISCOMFORTS:
The interview will take about 30 minutes for you to complete. Some of these questions may seem personal and deal with private or sensitive issues. A risk to you for taking part in this study would be if talking about yourself, your infant-feeding method, or your childhood experiences is upsetting to you. You can stop answering questions at any time you wish. I have information about local resources for victims of child sexual abuse or domestic violence if you would like it.

Now I will talk about the benefits of the study and alternatives to participation in the study.

BENEFITS:
There are no benefits to you from taking part in this study. Identification of factors that influence a woman's choice of infant-feeding may be helpful to other women and their babies in the future.

ALTERNATIVES TO PARTICIPATION:
You may choose not to participate in this study.

Next I want to talk about confidentiality and cost.

CONFIDENTIALITY:
Neither your name nor your identity will be used for publication or publicity purposes. Under Oregon law, suspected child or elder abuse must be reported to appropriate authorities. The records from this study will be kept confidential and will not be shown to anyone who is not helping with the study. Your name will not appear on any documents.

COST:
There will be no cost to you for participating in this study. Each participant who completes the interview will be given a gift certificate of $20.00.

Finally I want to tell you about liability and participation if you do take part in this study.

CODE # _____

LIABILITY:
The Oregon Health Sciences University, as a public institution, is subject to the Oregon Tort Claims Act, and is self-insured for liability claims. If you suffer any injury from this research project, compensation would be available to you only if you establish that the injury occurred through the fault of the University, its officers, or employees. However, you have not waived your legal rights by agreeing to be in this study. If you have further questions, please call the Medical Services Director at 503-494-8014.

PARTICIPATION:
Mary Ann Curry (503-494-3847) and Maggie Emery (503-560-5563) are available to answer any questions you may have about this study. If you have any questions regarding your rights as a research subject, you may call the Oregon Health Sciences University Institutional Review Board at 503-494-7887. You may refuse to participate or withdraw from this study at any time without affecting your relationship with or treatment at the Oregon Health Sciences University.

Do you have any questions about the study?

Do you agree to participate? ___Yes ___No

The interview will take about __ minutes. Is it okay for us to complete the interview now?

(IF YES, CONTINUE WITH THE INTERVIEW.)

CODE # _____

(IF NO, SCHEDULE A TIME THAT IS SAFE AND MORE CONVENIENT. THE INTERVIEW CAN BE DONE BY PHONE OR IN-PERSON.)

Name: _____Date: _____ Time: _____
Address: _____
_____ CONFIRM PHONE # _____. IF I CAN'T REACH YOU AT THAT PHONE #, IS THERE ONE OR TWO OTHER NUMBERS WHERE I COULD REACH YOU OR LEAVE YOU A MESSAGE?
#_____ Contact person _____
_____ Contact person _____

Appendix E

Yamhill County Resources for Domestic Violence and Breast-Feeding

Police 911

Henderson House
- Office: 503-472-0244
- Crisis: 503-472-1503 or
- Toll free:1-877-227-5946

Northwest Human Services – Salem
- 1-800-560-5535

Psychological Hotline – Portland
- 1-503-291-9111

Forest Grove Resource center – Forest Grove
- 1-503-359-2598

YCAP -- McMinnville
- 503-472-0457

Yamhill County Mental Health Program
- 503-434-7462

Lutheran Family Services
- McMinnville: 503-472-4020
- Newberg: 503-538-8686

Lactation Services
- Physician's Medical Center (503) 472-6161
- George T. Barker and Nurse Midwives (503) 472-3167
- Willamette Valley Medical Center (503) 472-6131
- Providence Newberg Hospital (503) 537-1758

Appendix F

Interview Guide

THE QUESTIONS I AM GOING TO ASK INCLUDE QUESTIONS ABOUT YOURSELF, YOUR FAMILY, YOUR PREGNANCY HISTORY, AND YOUR CURRENT PREGNANCY. I WILL ASK YOU ABOUT HOW YOU PLANNED TO FEED YOUR BABY BEFORE THE BABY WAS BORN, HOW YOU ACTUALLY FED YOUR BABY IN THE HOSPITAL AND HOW YOU HAVE FED YOUR BABY SINCE COMING HOME FROM THE HOSPITAL. MY VERY LAST QUESTIONS WILL BE ABOUT ANY HISTORY OF UNWANTED SEXUAL ACTS AS A CHILD, AND YOUR CURRENT RISK FOR DOMESTIC VIOLENCE. SOME OF THESE QUESTIONS MIGHT MAKE YOU UNCOMFORTABLE AND MAY LEAD TO EMOTIONAL DISTRESS. WE CAN TAKE A BREAK OR STOP THE QUESTIONS AT ANY TIME.

THE FIRST QUESTIONS ARE ABOUT YOURSELF AND YOUR FAMILY.

1) How old are you today (in years)? _____ years

2) Which of the following best describes you today?

Single, living alone or with family _____(0)

Single, living with partner _____(1)

Married, living alone _____(2)

Married, living with spouse _____(3)

3) Which of the following best describes your ethnic or racial background?

Hispanic _____(0)

Not Hispanic _____(1)

4) Highest grade in school you completed (in years). _____

5) What is your family's monthly income before taxes? $_____.00

6) How many people in your family does this support, counting you & your baby? _____

7) Have you been on the WIC program for this pregnancy? No _____(0)

Yes _____(1)

THE NEXT QUESTION ASKS ABOUT YOUR PREGNANCY HISTORY.

8) How many babies have you had? _____

THE NEXT QUESTIONS ASK ABOUT YOUR CURRENT PREGNANCY AND THE INFANT-FEEDING METHOD YOU PLANNED TO USE BEFORE YOUR BABY WAS BORN.

9) When was this baby due? _____/_____/_____

10) Before your baby was born, overall, how did you plan to feed your baby? (MARK ONLY ONE.)

BREAST-FEED _____ (0)
BOTTLE-FEED _____ (1)
BREAST & BOTTLE _____(2)

11) Before your baby was born how many months did you plan to ONLY breast-feed your baby?

_____

12) Were you given information about the benefits of breast-feeding your baby during this pregnancy?

No _____(0)

Yes _____(1)

(IF NO, TURN the PAGES AND GO DIRECTLY TO QUESTION #30)

(IF YES) NEXT, I AM GOING TO READ A LIST OF PEOPLE AND PLACES WHERE PREGNANT WOMEN MIGHT GET INFORMATION ABOUT HOW TO FEED THEIR BABY. ANSWER YES IF THE PERSON I NAME GAVE YOU INFORMATION ABOUT THE BENEFITS OF BREAST-FEEDING AT ANY TIME DURING THIS PREGNANCY.

(13) Baby's father
No _____(0)
Yes _____(1)

(14) Your mother
No _____(0)
Yes _____(1)

(15) Your father
No _____(0)
Yes _____(1)

(16) Partner's mother
No _____(0)
Yes _____(1)

(17) Partner's father
No _____(0)
Yes _____(1)

(18) Other relative(s)
No _____(0)

Yes _____(1)

ANSWER YES IF THE PERSON I NAME GAVE YOU POSITIVE INFORMATION ABOUT BREAST-FEEDING ANY TIME DURING YOUR PREGNANCY.

(19) Friend(s) No _____(0)
Yes _____(1)

(20) Your midwife, nurse-practitioner or doctor No _____(0)
Yes _____(1)

(21) Nurse or doula No _____(0)
Yes _____(1)

(22) Childbirth educator No _____(0)
Yes _____(1)

(23) WIC counselor No _____(0)
Yes _____(1)

(24) Breast-feeding class No _____(0)
Yes _____(1)

(25) Other _____ No _____(0)
Yes _____(1)

(26) (TOTAL # OF ITEMS FROM 11-18) _____

(27) (TOTAL # OF ITEMS FROM 19-24 THAT WOMAN ANSWERED YES) _____

(28) TOTAL (ADD TOGETHER # 25 & 26) _____

THESE NEXT QUESTIONS ASK ABOUT THE BIRTH OF YOUR BABY, THE FEEDING METHOD OF YOUR BABY IN THE HOSPITAL, AND HOW YOU FED (ARE FEEDING) YOUR BABY BETWEEN FOUR TO SIX WEEKS OF AGE.

THE FIRST SET OF QUESTIONS IS ABOUT THE BIRTH OF YOUR BABY.

29) Is your baby a girl or boy? (MARK ONE) GIRL _____(1)
BOY _____(2)

30) Did you have a normal vaginal birth? YES _____(1)
(IF NO, CIRCLE TYPE OF BIRTH: Cesarean forceps vacuum assist) NO _____(2)

THIS NEXT QUESTIONS ASKS ABOUT HOW YOU ACTUALLY FED YOUR BABY IN THE HOSPITAL.

31) Which infant-feeding method did you actually use in the hospital? (MARK ONLY ONE.)

BREAST-FEED _____ (1)
BOTTLE-FEED _____ (2)
BREAST & BOTTLE _____(3)

THE NEXT QUESTIONS ARE ABOUT HOW YOU…

(**ASK IF BABY IS > 6 COMPLETED WEEKS OF AGE**) FED YOUR BABY WHEN YOUR BABY WAS 4 TO 6 WEEKS OF AGE.

(**ASK IF BABY IS 4 TO 6 COMPLETED WEEKS OF AGE**) FED YOUR BABY IN THE LAST 24 HOURS.

WHEN YOUR BABY WAS 4 - 6 WEEKS OF AGE, IN A 24 HOUR PERIOD, HOW DID YOU FEED YOUR BABY?

OR HOW HAVE YOU FED YOUR BABY IN THE PAST 24 HOURS?

32) BREAST-FED/BREAST FEEDING ONLY
No _____(0)
Yes _____(1)

33) BOTTLE-FED/BOTTLE-FEEDING ONLY
No _____(0)
Yes _____(1)

34) BREAST AND BOTTLE FED/FEEDING
No _____(0)
Yes _____(1)

35) If you were (are) no longer only breast-feeding, how old was the baby when you gave the first bottle?

_____ weeks _____ days

36) How old was the baby when you totally stopped breast-feeding?

_____ weeks _____ days

37) If you are giving your baby a bottle, what are you putting in the bottle?

NO BOTTLE _____(0)
BREAST MILK _____(1)
FORMULA _____(2)
WATER _____(3)
_____ OTHER _____(4)

(FOR WOMAN STILL BREAST-FEEDING IN ANY AMOUNT)

NEXT I AM GOING TO ASK YOU DETAILED QUESTIONS ABOUT HOW YOU FED (ARE FEEDING) YOUR BABY BETWEEN FOUR TO SIX WEEKS OF AGE.

38) How many times in (the past) 24 hours did you breast-feed? _____

39) How long was the baby at breast each time (minutes)? _____

40) How many times in (the past) 24 hours did you feed the baby anything besides nursing?

_____

41) What did you (are you) putting in the bottle?

NO BOTTLE _____(0)
BREAST MILK _____(1)
FORMULA _____(2)
WATER _____(3)
_____OTHER _____(4)

42) How much did you use each time (Estimate in ounces)? _____

TOTAL # OF OUNCES IN 24 HOURS _____

43) Was this typical for a 24 hour period? NO _____(0)
YES _____(1)

THE NEXT SET OF QUESTIONS ASK ABOUT UNWANTED SEXUAL EVENTS THAT YOU DID NOT CHOOSE TO HAVE AND DID NOT WANT, BUT COULD NOT STOP FROM HAPPENING

44) Did someone ever make you look at them naked, or look at you naked when you did not want them to? No _____(0)
Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #46)

45) what age did this happen to you the FIRST time? 9 or younger _____(0)
10 _____(1)
11 _____(2)
12 _____(3)
13 _____(4)
14 _____(5)

15 _____(6)
16 _____(7)
17 _____(8)
18 or older _____(9)

46) Did someone ever take sexual photographs of you when you did not want them to?
No _____(0)
Yes _____(1)

(IF NO, TURN PAGE AND GO DIRECTLY TO QUESTION #48)

47) At what age did this happen to you the FIRST time? 9 or younger _____(0)
10 _____(1)
11 _____(2)
12 _____(3)
13 _____(4)
14 _____(5)
15 _____(6)
16 _____(7)
17 _____(8)
18 or older _____(9)

48) Did someone ever make you touch their body, or touch your body when you did not want them to?
No _____(0)
Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #50)

49) At what age did this happen to you the FIRST time?
9 or younger _____(0)
10 _____(1)
11 _____(2)
12 _____(3)
13 _____(4)
14 _____(5)
15 _____(6)
16 _____(7)

17 _____(8)

18 or older _____(9)

50) Did someone ever make you touch their breasts or genitals, or touch yours when you did not want them to?

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO QUESTION #52)

51) At what age did this happen to you the FIRST time? 9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

52) Has a male ever had sex with you when you did not want to because he threatened to break up with you?

No _____(0)

Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #54)

53) At what age did this happen to you the FIRST time? 9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

54) Has a male ever had sex with you when you didn't want to because you felt pressured by the reasons he gave (everyone's doing it; I'll die if you don't, etc.)?

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO QUESTION #56)

55) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

56) Has a male ever has sex with you by saying things that he didn't really mean (I love you; I'll marry you, etc.)?

No _____(0)

Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #58)

57) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

58) Has a male ever used force (twisting your arm, holding you down, etc.) to kiss or pet (feel) you?

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO QUESTION #60)

59) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

60) Has a male ever threatened to use force (twist your arm, hold you down, etc.) to have sex with you, but sex did not happen?

No _____(0)

Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #62)

61) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

62) Has a male ever used force (twisting your arm, holding you down, etc.) to try to get you to have sex with him when you didn't want to, but sex did not happen?

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO QUESTION #64)

63) At what age did this happen to you the FIRST time? 9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

64) Has a male ever had sex with you when you didn't want to because he threatened to use force (twist your arm, hold you down, etc.)?

No _____(0)

Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #66)

65) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

66) Has a male ever had sex with you when you didn't want to because he used force (twisting your arm, holding you down, etc.)

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO QUESTION #68)

67) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

68) Has a male ever had anal or oral sex with you when you didn't want to by using threats?

No _____(0)

Yes _____(1)

(IF NO, GO DIRECTLY TO QUESTION #70)

69) At what age did this happen to you the FIRST time? 9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

70) Have you ever been raped (That is, have you ever had oral, anal, or vaginal sex with a male when you didn't want to because he forced you.)

No _____(0)

Yes _____(1)

(IF NO, TURN THE PAGE AND GO DIRECTLY TO # 72)

71) At what age did this happen to you the FIRST time?

9 or younger _____(0)

10 _____(1)

11 _____(2)

12 _____(3)

13 _____(4)

14 _____(5)

15 _____(6)

16 _____(7)

17 _____(8)

18 or older _____(9)

*IF A WOMAN ANSWERED YES TO ANY OF THE QUESTIONS 44 – 71, GO TO #72

*IF A WOMAN ANSWERED **NO** TO ALL QUESTIONS #44 - 71, GO TO #74.

72) Who was the person involved the FIRST time ANY of these unwanted sexual events happened to you?

Family member/relative _____ (0)

Friend/acquaintance _____ (1)

Authority figure (boss, teacher, etc.) _____(2)

Boyfriend/husband _____ (3)

Stranger, other _____(4)

73) Did any of these unwanted sexual events happen the FIRST time you had sex?

No _____(0)

Yes _____(1)

THE NEXT THREE QUESTIONS ASK ABOUT ABUSE IN THE YEAR BEFORE THIS LAST PREGNANCY AND ABUSE DURING THE PREGNANCY.

74) In the year before you were pregnant were you hit, slapped, kicked or otherwise physically hurt by someone?

No _____(0)

Yes _____(1)

75) Since your pregnancy began have you been hit, slapped, kicked or physically hurt by someone?

No _____(0)

Yes _____(1)

76) Within in the past year has anyone forced you to have sexual activities?

No _____(0)

Yes _____(1)

THIS IS MY LAST QUESTION.

77) Is there anything else you would like me to know about your childhood experiences or your experience of feeding your baby?

_____

_____

_____

_____

_____

THAT ENDS MY QUESTIONS. MAY I ANSWER ANY QUESTIONS FOR YOU? THANK YOU VERY MUCH FOR PARTICIPATING. YOUR HELP HAS BEEN VERY IMPORTANT FOR THIS STUDY. THANK YOU AGAIN FOR YOUR HELP.

Appendix G

Abuse Assessment Screen

Questions for Pregnant Women

English	Spanish
In the year before your pregnancy began, have you been hit, slapped, kicked, or otherwise physically injured by someone?	Durante el año antes de que se emabarazó, fué gólpeada, bófeteada, páteada o lástimada fisicamente de alguna manera por alguién?
Since your pregnancy began, have you been hit, slapped, kicked, or otherwise physically injured by someone?	Desde que salió embarazada, ha sido gólpeada, bófeteada, páteada o lástimada fisicamente de alguna manera por alguién?
In the past year, has anyone forced you to have sexual activites?	Durante el ultimo año, fué forzada a tener relaciones sexuales?

Questions for Non-Pregnant Women

English	Spanish
In the past year have you been hit, slapped, kicked, or otherwise physically injured by someone?	Durante el ultimo año, ha sido gólpeada, bófeteada, páteada o lástimada fisicamente de alguna manera por alguién?
In the past year, has anyone forced you to have sexual activities?	Durante el ultimo año, fué forzada a tener relaciones sexuales?

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