THE FAMILIAL CYCLE OF ADOLESCENT PREGNANCY: FACT OR FICTION

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BY

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To the Associate Vice President for Research and Dean of the Graduate School:

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I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nursing.

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DEDICATION

This thesis is lovingly dedicated to the memory of my mother, Verna Erlene Dodson Brazil, who modeled love, faith, and life-long dedication for her daughters. From her I received a persistent inner strength and the will to survive in the face of life's challenges.

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ABSTRACT

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According to the Texas Department of Health (1995), an infant is born to an adolescent mother in Texas every 11 minutes. Inazu and Fox (1980) suggested that the mother-daughter relationship is primary in accounting for teenage sexual knowledge and behavior. The theoretical framework of the study was based on Bandura's (1977) theory of social learning.

The data were collected in a north Texas women's health clinic from the charts of pregnant women who registered for prenatal care. The instrument used to collect the data was a one-page questionnaire that collected demographic data and the age of the pregnant client and the age of her mother at first pregnancy.

The hypothesis stated that there is a positive correlation between a mother's age at first pregnancy and her daughter's age at first pregnancy. The correlation

was r = -.213, p = .07; therefore, the study hypothesis was not supported.

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CHAPTER I

INTRODUCTION

According to the Texas Department of Health (1995), an infant is born to an adolescent mother in Texas every 11 minutes. Adolescent pregnancy has become not only a hardship on the adolescent and her family, but a major hardship on society as a whole. According to Rodriguez and Moore (1995), although condom usage more than doubled in the 1980s, in 1990 one-third of sexually active teens were still practicing unprotected sex, and 60% of their pregnancies were unplanned. These authors went on to say that there was a record 1.6 million babies born to unmarried mothers in the United States in 1990, most of whom were teenagers. In 1993 in Texas, Medicaid paid for 146,448 deliveries, at a total cost of $447 million. Approximately 26.5% of these deliveries were to adolescents, at a cost of $118 million (Texas Department of Health, 1995).

Many factors have been associated with adolescent pregnancy. One of the most important factors is the family. Thornton and Camburn (1987) have described the family as a central institution in the formation of sexual

attitudes and behaviors because family members provide role models, a social and economic environment, and standards of sexual conduct. These authors further stated that maternal employment outside the home may lead to more permissive attitudes and increased sexual activity among children. Two career families often lack the nurturing and interpersonal relationships that encourage trust and respect between the adolescent and the parent, leaving the adolescent to seek these qualities elsewhere.

According to Barnett, Papini, and Gbur (1991), some families provide poor role models by being inconsistent, noncohesive, and demonstrating irresponsible sexual behavior. These authors also wrote that the father being absent from the family and often only maintaining a minimal relationship with the adolescent adds to the stress and strain of the family. This type of relationship has been shown to be a predictor of adolescents becoming pregnant early. Barnett et al. also found that daughters who viewed their parents' relationship as healthy had less permissive sexual attitudes than did those who viewed the parental relationship as unhealthy.

> The breakdown of the family system may encourage adolescents to seek other "love objects" to compensate for their lack of attention and nurturance. Other dimensions of family

> functioning which may have an impact on the risk of teen pregnancy are parent-adolescent control strategies and communication. (Barnett et al., 1991, p. 458)

Inazu and Fox (1980) suggested that the mother-daughter relationship is primary in accounting for teenage sexual knowledge and behavior. These authors found that the mother's presence as a role model for her daughter, both in terms of her presence as a significant other in her daughter's life and in terms of her own nonmarital sexual experiences, was significantly related to the daughter's sexual activities. The focus of this study was the age of mothers and daughters at their first pregnancy.

Problem Statement

Is there a correlation between a mother's age at first pregnancy and her daughter's age at first pregnancy?

Justification of Problem

The question of the mother's role or influence on her daughter's decision-making process to participate in a sexual relationship at an early age has been mentioned in the literature (Barnett et al., 1991; Kahn & Anderson, 1992; Newcomer & Udry, 1984; Norr, 1990). Based upon this literature, the mother's influence on her daughter's sexual behavior is conceptualized in terms of direct and indirect influences as shown in four separate roles:

(a) an information source, (b) a social supervisor, (c) a source of socioemotional support, and (d) a role model. The first two are direct influences, and the second two are indirect influences. Card's (1978) study and Presser's (1975) study (as cited in Inazu & Fox, 1980) showed that adolescent mothers were more prone to have daughters who themselves became adolescent mothers. Although these past studies demonstrated a positive association between the timing of a mother's and a daughter's first birth, they are limited in both recency and generalizability (Kahn & Anderson, 1992).

Norr (1990) wrote that nursing professionals interact with pregnant adolescents in many settings, including family planning and school health. Nurses, in their roles as educators, interact with staff in such agencies as hospitals, schools, and public health departments. Nurses increase staff members' awareness of adolescents' needs and support community outreach programs for adolescents. Norr also wrote that nurses may increase community understanding of research-based findings on causes of adolescent pregnancy and suggest successful interventions.

More research needs to be done to explore all aspects of adolescent pregnancy. Justification for conducting this particular study was based on the ineffectiveness of

the campaign in the past 10 years to reduce adolescent pregnancy. This study was conducted to examine the correlation between a mother's age at first pregnancy and her daughter's age at first pregnancy. If there continues to be a familial cycle of pregnancy, nurses will be able to focus their efforts on breaking this cycle. Knowledge gained from this study may be used to educate adolescents, parents, and professionals on the repetitive cycle of adolescent pregnancy.

Theoretical Framework

The theoretical basis for this study was Bandura's (1977) theory of social learning. People learn by observing other persons and events and not merely from the direct consequences of what they themselves do. Bandura proposed that one major way humans learn is through modeling. "Social cognitive theory embraces an interactional model in which environmental events, personal factors, and behavior all operate as interacting determinants of each other" (Ziegler et al., 1993, p. 31). Bandura's (1977) theory covers not only how humans learn, but how they can change their behavior. This theorist is credited with developing social learning theory by broadening previous learning models. Bandura has placed

emphasis on the social aspects of learning and the mutual, interactive effects of behavior, person, and environment.

Bandura's theory has two major concepts: the acquisition of behavior and the regulation of behavior. Acquisition of behavior is achieved through modeling, while the regulation of behavior is achieved through reinforcement (Ziegler et al., 1993). Friedman (1992) emphasized Bandura's belief of how central role modeling is in learning.

> Bandura argued that adolescent sexual behavior is the result of social expectations and imitation of models, rather then biological changes. The basis of this belief was that adolescents do not all act in exactly the same way and have not had the same exposure to events. (Martin, 1995, p. 54)

Bandura (1977) has viewed human behavior as being learned through modeling; from observing others, the individual forms an idea of how new behaviors are performed. During this observation, individuals acquire mainly symbolic representations of the modeled activities, which then serve as guides. Bandura wrote that modeling behavior or observational learning is governed by four component processes: (a) attentional, (b) retention, (c) motor reproduction, and (d) motivational.

Attentional Processes

Attentional processes determine what behavior is selectively observed from all of the influences to which one is exposed and what is extracted from such exposure. Factors that regulate the amount and types of observational experiences are: (a) the observers' characteristics, (b) features of the modeled activities themselves, (c) structural arrangements of human interactions, (d) associational patterns, (e) functional value of behaviors, and (f) people's perceptual sets derived from past experience.

Retention Processes

According to Bandura (1977), for people to be influenced by observation of modeled behavior, they must remember it. They must retain these activities that have been modeled at one time or another. Bandura (1977) stated that "in order for observers to profit from the behavior of models when they are no longer present to provide direction, the response patterns must be represented in memory in symbolic form" (p. 25). In order to maintain modeling experiences in permanent memory, symbols must be used. Bandura asserted that it is through the advanced capacity for symbolization that humans are able to learn much of their behavior from modeling.

Modeling behavior relies mainly on imagery and verbal stimulation. Repeated exposure eventually produces enduring, retrievable images of modeled performances. According to Bandura (1977), these images, which are centrally aroused perceptions, can be summoned up for events that are physically absent. He contended that during early periods of development, when verbal skills are lacking, visual imagery plays an especially important role in observational learning.

Bandura (1977) wrote that verbal coding of modeled events accounts for the notable speed of observational learning and retention in humans. Most of the cognitive processes that control behavior are verbal rather than visual. Learning by modeled behavior and retention are facilitated by symbolic codes because they carry a great deal of information in an easily stored form. Once these activities have been transformed into images and readily useable verbal symbols, these memory codes serve as guides for behavior. He stated that observers who code modeled behavior into either words, concise labels, or vivid imagery learn and retain this behavior better than those who are simply observing or are preoccupied with other matters while observing.

Bandura (1977) also believed that in addition to symbolic coding, rehearsal of the observed behavior plays an important role as a memory aid. He wrote that the highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly.

Motor Reproduction Processes

Bandura's (1977) third component of modeling involves converting symbolic representations into appropriate actions. He wrote that reproducing behavior is achieved by organizing one's responses spatially and temporally in accordance with the modeled patterns.

In the initial phase of behavioral modeling, responses are selected and organized at the cognitive level. Bandura asserted that the amount of observational learning that takes place partly depends on the available component skills. The following are impediments to behavioral learning: (a) lack of some of the response components, (b) errors on first attempt to model, (c) not fully observing the modeled behavior, (d) not observing the relevant activities, (e) inadequately coding modeled events for memory representation, (f) failing to retain what was learned, (g) physical inability to perform, and (h) experiencing insufficient incentives.

Motivational Processes

Bandura's (1977) social learning theory distinguishes between acquisition and performance of behavior because people do not enact everything they learn. Bandura stated that people are more likely to adopt modeled behavior if the results are valued rather being unrewarded or punished. People evaluate their own behavior and determine which observationally learned behaviors will be performed. They express behaviors that they find self-satisfying and reject those of which they disapprove (Hicks, as cited in Bandura, 1977).

In Bandura's (1977) writings, he addressed the role of reinforcement in observational learning. Reinforcement plays a role in observational learning, but mainly as an antecedent rather than a consequent influence. When observed responses are positively reinforced and divergent responses are either unrewarded or punished, the behavior of others comes to function as a cue for matching responses. Anticipation of reinforcement is one of several factors that influence what is observed and what goes unnoticed. Knowing that a given model's behavior is effective in producing desired outcomes or in averting punishment may improve observational learning by increasing attentiveness to the model's actions. Bandura

stated that anticipated benefits may strengthen retention of what has been learned observationally by motivating people to code and rehearse modeled behavior that they value highly.

In Bandura's social learning theory, reinforcement is considered a facilitative rather than a necessary condition because factors other than response consequences can influence people's behavior. He wrote that people do not have to be reinforced to hear compelling sounds or to look at captivating visual scenes. When attention is drawn to modeled behavior by the behavior itself, the addition of positive incentives does not increase observational learning. One cannot prevent people from learning what they have seen.

Bandura next addressed the modeling process and transmission of response information. Much social learning occurs based on casual or directed observation of behavior as it is performed by others in everyday life. As language skills are developed, verbal modeling is gradually substituted for behavioral modeling as the preferred mode of learning. Bandura contended that people are aided in acquiring social, vocational, and recreational skills by following written descriptions of how to behave.

Bandura wrote that another big influential source of social learning is the abundant and varied symbolic modeling provided by television, films, and other visual media. It has been shown that both children and adults acquire attitudes, emotional responses, and new styles of conduct through filmed and televised modeling (Liebert, Neale, & Davidson, as cited in Bandura, 1977).

Bandura wrote that the basic modeling process is the same regardless of whether behavior is learned through words, pictures, or live actions. Different forms of modeling are not always equally effective. It is often difficult to convey through words the same amount of information that is contained in picture or live demonstration. In addition, some forms of modeling may be more powerful than others in commanding attention. Children, or adults for that matter, rarely have to be compelled to watch television, whereas oral or written reports of the same activities would not hold their attention.

In summary, modeling serves as the principal mode of transmitting new forms of behavior. This research study focused on Bandura's belief that a person's behavior is based upon his or her observation and integration of modeled behavior, be it physical or verbal. The pregnant

adolescent of a mother who herself was pregnant in her adolescence is modeling behavior that she observed, processed, and integrated into her belief system. Ultimately, she decides which role behavior has the most meaning to her and models her behavior based upon this. The following proposition from Bandura's theory was tested in this study: Behavior that is modeled (mother became pregnant as an adolescent) is likely to be repeated by the observer (daughter also becomes pregnant as a adolescent).

Assumptions

This study was based on the following assumptions:

1. Society is concerned about the increasing adolescent pregnancy rate.
2. The psychological development of individuals is influenced by what they observe in their environment.
3. Each individual processes and integrates observed behavior from the environment and ultimately determines her or his own role in life.
4. There are many factors involved in explaining adolescent pregnancy.
5. Respondents will be accurate in their responses.
6. Each respondent will know her mother's age at her first pregnancy.

Hypothesis

The following hypothesis was tested in this study: The younger the age of the mother at her first pregnancy, the younger the age of her daughter at her first pregnancy.

Definition of Terms

The following terms were defined for this study:

1. Mother--the female parent or legal guardian of a minor.

2. Daughter--the female offspring.

3. First pregnancy--the first time the condition of having a developing embryo or fetus in the body exists. The pregnancy status was obtained from the daughter's clinical chart.

4. Age--the mother's and daughter's ages at first pregnancy were obtained from the daughter's clinical chart.

Limitations

The following limitations applied to this study:

1. The sample was from one north Texas family planning clinic.

2. The sample was a mixture of Caucasian, Hispanic, and African American females.

3. A convenience sample was used.

4. There may have been additional females in the family, other than the mother, who were modeling pregnancy behavior.

5. The study design was ex post facto in nature and data were gathered through chart review.

Summary

The purpose of this study was to determine if there is a correlation between the mother's age at her first pregnancy and the daughter's age at her first pregnancy. Bandura's (1977) social learning theory was used as the theoretical framework. Bandura proposed that people's behavior is based upon their observation and integration of modeled behavior. An adolescent female observes her mother's behavior from the day she is born and incorporates this behavior into her psychological makeup. Although she may not have directly observed the behavior, the adolescent will have learned the mother's attitudes toward premarital sex and early pregnancy not only from her actions but from what she says, how she dresses, her body language, and her relationships with the opposite sex. The mother's expectations of the daughter's life also plays a role in how the adolescent is socialized into

the adult world. If a woman becomes pregnant at an early age, it is possible her daughter will model this behavior.

CHAPTER II

REVIEW OF LITERATURE

This review of the literature will begin by looking at an overview of adolescent pregnancy, which includes statistics. Next, a discussion will be presented on the factors associated with adolescent pregnancy, from a holistic point of view. The factors will be categorized as physiological, psychological, sociocultural, and spiritual. Lastly, interventions to decrease adolescent pregnancy will be presented.

Overview of Adolescent Pregnancy

In order to understand adolescent sexuality and pregnancy, it is necessary to look at the trends that have taken place since the 1950s. Past and current statistics of adolescent pregnancy provide a background that aids in comprehending the current dilemma of adolescent pregnancy.

Miller (1983) wrote that according to his research, the adolescent fertility rate increased during the period from 1950 to 1970. He went on to write that data from the National Center for Health Statistics documents a 50% increase in the number of births for adolescents from

26,380 in 1960 to 39,076 in 1979. According to Norr (1990), not only did the pregnancy rate of adolescents increase in the 1950s and 1960s, but the social context changed considerably. During these years a higher proportion of adolescents who gave birth were already married, got married to legitimate the birth, or gave the baby up for adoption.

In the 1970s a major transformation occurred in sexual behavior in the United States. There were two major factors effecting this transformation: women became sexually active at younger and younger ages, and fewer adolescents were marrying (Hofferth, Kahn, & Baldwin, 1987). Although increased use of contraception slowed the rising rate of adolescent pregnancy, this phenomenon continued to skyrocket around the nation.

Hofferth et al. (1987) reported that data from the 1971, 1976, and 1979 rounds of the National Survey of Young Women and findings from the 1982 National Survey of Family Growth (NSFG) suggest that early sexual activity among White adolescents increased during the 1970s. The trend leveled off between 1979 and 1982. Among Black adolescents, the data suggested early sexual activity rose during the early 1970s, leveled off between 1976 and 1979 and declined between 1979 and 1982. These authors went on

to write that the 1982 NSFG showed that 23% of women under the age of 15 at first intercourse, compared with 53% of those aged 18-19, started using a contraceptive method within the first month of initial sexual intercourse; 42% of the younger group delayed contraceptive use for more than a year as compared with 15% of those aged 18-19.

Zelnik and Kanter (1980) examined the results of national surveys conducted from 1971-1979 on adolescents aged 15-19 years old. They demonstrated that the proportion of United States female adolescents who experienced premarital sexual intercourse rose from 30% in 1971 to 43% in 1976, and to 50% in 1979. Most of this increase was in White adolescents. The number of adolescents who had ever been premaritally pregnant nearly doubled in the same time frame--from 9% in 1971 to over 16% in 1979.

According to Norr (1990), the growing acceptance of out-of-wedlock pregnancy and legalization of abortion in 1973 have had a major impact on the resolution of adolescent pregnancy. The author went on to say that by 1981 45% of adolescent pregnancies ended in abortion, 27% in non-marital births, and only 28% in marital births. Adoption as an option has declined precipitously, and 90% of infants born out-of-wedlock are kept by the mother.

Schneider (1988) wrote that the majority of children born to Black women are born to adolescents. In 1980, 57% of Black births were to adolescents ages 15-17 years. For Black adolescents under age 18, the current United States rate is 237 births per 1,000 adolescents; for White adolescents, the rate is 71 births per 1,000 adolescents.

Black and DeBlassie (1985) wrote that 12 million adolescents are sexually active in the United States, with the age at which adolescent girls become sexually being 16 years. Over 1 million of sexually active adolescent females under the age of 20 get pregnant each year, which is the equivalent of 1 in every 10 in the United States. These authors wrote that adolescents represent 18% of the sexually active population in the United States that is capable of becoming pregnant, but they account for 46% of all out-of-wedlock births and 33% of all legally-induced abortion.

According to Internet http://www.dhhs.gov/progorg/opa/pregtrnd.html (1996), between 1970 and 1986 the birth rate for adolescents aged 15 to 19 years declined from 68.3 to 50.6 births per 1,000. The birth rate for younger adolescents remained unchanged. Between 1986 and 1991, this trend of declining birth rates for adolescents 15-19 years old reversed, with the rate increasing by 23%. The

adolescent birth rate for 1992 showed a slight decline. However, at 60.7 births per 1,000 adolescents, the rate was still almost as high as that observed more than 2 decades ago. In view of the many studies of adolescent pregnancy and the preventative programs put into place over the years, it becomes necessary to examine the various factors associated adolescent pregnancy.

Factors Associated with Adolescent Pregnancy

In order to understand the complicated phenomenon of adolescent pregnancy, it is necessary to use a wholistic point of view for examination of the associated factors. Physiologic factors will be discussed first, followed by psychological, sociocultural, and spiritual factors.

Physiological Factors

Under the physiological factors of adolescent pregnancy, two topics will be discussed: the biological link between mother and daughter and the relationship of early physical development to early pregnancy.

Biological Link

Newcomer and Udry (1984) asked the question "If the influence of mothers' early sexual behavior is not via their communication or attitudes might it be via some

biological link?" (p. 482). It has been shown that there are relationships between mothers' and daughters' ages at menarche and between their menstrual cycle patterns. These authors hypothesized that the mother's age at menarche and the mother's early sexual behavior had direct effects on the daughter's early sexual behavior.

Kahn and Anderson (1992) suggested that the most direct link in past research to adolescent pregnancy is the biological link. Numerous studies show that the timing of puberty is related to the timing of first sexual intercourse, first marriage, and first birth (Newcomer & Udry, 1984; Udry & Cliquet, 1982). If the timing of puberty or the level of fecundity is inherited across generations, it is possible that some mothers and daughters may be predisposed to earlier childbearing (Kahn & Anderson, 1992).

Udry and Cliquet (1982) postulated that there is reason to suspect that the relationship between a mother's and a daughter's behavior works through their biological relationship to one another. "Recent studies by Presser (1978), Zelnick (1981), and Udry (1979) have shown that women with early menarche have earlier first intercourse and earlier first births" (Udry & Cliquet, 1982, p. 53). These authors' 1982 paper explored cross-culturally the

relationship between age at menarche and the timing and sequence of the reproductive process. They showed that the linking of ages at menarche, intercourse, marriage, and first birth is a pattern that occurs in very diverse cultures. Udry and Cliquet proposed two biologically linked mechanisms:

1. At puberty, the increased release of sex hormones leads to an increase in libido, and consequently to early intercourse and/or marriage.

2. Women who experience early puberty are more fecund than women who experience late puberty. This early fertility leads to earlier births for a given exposure to the risk of pregnancy.

In their paper, Udry and Cliquet used questionnaires that requested an adult woman to report her age at first menstruation, first intercourse, first birth, and first marriage. The populations studied were from the United States, Belgium, Pakistan, and Malaysia.

The United States data were gathered in 1970 from about 1,500 cases from 14 metropolitan areas. The sample included ever-married Black women, 15-44 years of age. Udry and Cliquet's original study contained both Black and White women. Although the data from the Black sample were presented in their 1982 article, they also discussed the

data from the White sample that had been published in an article by Udry in 1979. The authors commented that White women showed the same patterns as the Black women, but with lower proportions showing intercourse and first births by any given age than for Blacks. Both Whites and Blacks showed a clear pattern; women with early menarche (when compared with those with late menarche) have earlier ages at first intercourse, first marriage, and first birth.

The Belgium data, gathered between 1971 and 1975, showed the relationship between age at menarche and age at first intercourse. This sample was made up of 619 patients at the Ghent University Obstetric Clinic. From this sample, 14% of the late maturers and 37% of the early maturers had intercourse by their 18th birthday. These data are consistent with the U.S. data. Data on relationships of menarche to age of first marriage and age at first birth was from a sample of 3,357 women between 30 and 34 years of age. Fifteen percent of the latest maturing women and 30% of the earliest maturing women were married before age 20. Eighteen percent of the latest maturing women and 36% of the earliest maturing women had a first birth before age 21. The relationship between

early menarche and early marriage and childbearing was clear.

The Pakistan data were collected in 1976 from 200 patients in a primary health clinic in Rawalpindi. The sample is not representative of any larger population but the relationship between age at menarche and marriage and first birth is so clear that the small sample seems adequate. The Pakistan data showed the smallest interval between menarche and marriage and between menarche and first birth of any of Udry and Cliquet's samples. This group displayed the strongest relationships. Udry and Cliquet went on to write that by age 17, 86% of the earliest menarche group was married compared to 10% of the latest menarche group. The mean age at first birth was 4 years younger for the early vs. the late menarche groups.

In 1976 the Rand Corporation collected data from 469 ethnic Chinese and 549 ethnic Malays. The mean age of marriage for Malays shows a regular progression by age at menarche, with the late age at menarche associated with a mean age at marriage 2 1/2 years later than those with early menarche. By age 16, 70% of the women with menarche at or before age 12 were married, compared to 20% of those with menarche at 16 or older. The same pattern holds true for first births. By age 18, 65% of those with early

menarche have given birth, while 25% of those with late menarche have had births.

For the Malaysian Chinese, the only meaningful relationship was found between menarche and early age at marriage. Those who have menarche at 15 or later have only about half the probability of being married by age 16 as those with menarche before age 15. Only 10% of the Chinese women were married by age 16, which appears to be related to the prohibition against marriage before menarche.

In conclusion, Udry and Cliquet (1982) postulated two mechanisms to explain the overall general relationship observed in their study:

1. The timing of menarche affects the social perception of adolescent females who are ready to participate in heterosexual relationships. The adolescent, her parent, and potential male partners will define her so. These perceptions set in motion the social ritual that leads to intercourse, marriage, and reproduction, with the order and timing being dependent upon cultural beliefs.

2. Adolescent females who experience early menarche differ biologically from those who experience late menarche in fecundity. These differences, which are

thought to be inherited, persist on into adulthood when all women have reached physical maturity.

Early Physical Development

Schneider (1988) wrote that physical changes occur in the adolescent at a rapid rate starting around 11 years of age. Theses changes include increases in weight and height and hormonal changes that cause secondary sexual characteristics, such as increased body-genital hair, genital growth and maturity, breast development in girls, and the capacity to reproduce in both genders. Schneider proposed that physiological changes in the adolescent combined with the cognitive immaturity to take part in decision-making processes and in shouldering of responsibilities for their future increases the risk of unplanned pregnancy in adolescents.

Black and DeBlassie (1985) wrote that these physical changes increase the adolescent's awareness of and interest in sexual behavior. Adolescents are caught in a double bind today with the age of biological adulthood falling because of the earlier onset of menarche and the age of social adulthood rising because our industrial society demands more skills and training than the agrarian economy did years ago.

Rodriquez and Moore (1995) wrote that "babies having babies" is a commonly used phase to describe adolescent pregnancy. Adolescent females are faced with a multitude of problems while embarking upon the normal development tasks of adolescence. Their feelings of self-confidence are challenged by rapid increases in height, changes in body proportions, and the realities of sexual maturity.

These authors went on to write that increasing attention has been focused on early sexual involvement and its relationship to the escalated physical development in earlier menarche. In the early 1900s the mean age of menarche was 14 years old. By the late 1960s the mean age had dropped to 12.5 years. This escalated physical development encourages earlier sexual activity (Rodriquez & Moore, 1995).

Kahn and Anderson's (1992) study used national data to examine intergenerational patterns of adolescent fertility. After examining intergenerational patterns by race and over time, they used logistic regression methods to examine the extent to which the intergenerational effects can be explained by controlling for the effects of difference in biological predispositions. The data used in their study came from the 1988 National Survey of Family Growth. By examining adolescent experiences of

women aged 20-44, they were able to trace changes in teen behaviors between the late 1950s and the 1980s. Their measure of the potential biological link across generations was the respondent's age at menarche, measured as a continuous variable. This study showed that the daughters of both White and Black adolescent mothers face significantly higher risks of adolescent childbearing than daughters of older mothers. The majority of White adolescent births occurred within marriage, and the majority of Black adolescent births occurred outside marriage.

As for explaining these intergenerational patterns, Kahn and Anderson's (1992) study results suggested that the intergenerational propensity for early childbearing was not inherited biologically, at least not through factors related to the timing of puberty. The patterns appear to operate through the socioeconomic and family context in which adolescents grow up, although this pattern differs by marital status and race. For Whites, they found that intergenerational patterns of premarital fertility are explained almost completely by measures of socioeconomic and family context. For Blacks, they found intergenerational patterns of premarital fertility are

explained only partially by the socioeconomic and family context in which adolescents grow up.

Psychological Factors

Under the psychological factors of adolescent pregnancy, three topics will be discussed: the mother's role modeling, the effects of peer relationships, and the effects of low self-esteem on the adolescent.

Mother's Role Modeling

Furstenberg, Levine, and Brooks-Gunn (1990) used the national Longitudinal Survey of Youth, which was an ongoing longitudinal study of a nationally representative sample of young adults first interviewed in 1979 at ages 14-21, to study the reproductive patterns of adolescent mothers. They reported that the daughters of mothers aged 20 and older at first birth were significantly less likely to have had sex before age 16 than were the daughters of the younger mothers. Franklin (1988) wrote that the parent's belief system regarding sexual activity need not be directly communicated to adolescents but can be conveyed through the parent's behavior, lifestyle, or other nonverbal communications. If the adolescent's mother has had an out-of-wedlock birth, a message is clearly transmitted to the child. Thornton and Camburn's

(1987) research considered the importance of both attitudes and behavior in understanding adolescent sexuality. They postulated that the values of the mother, along with her behavior and the environment provided in the familial home, influence the attitudes and behavior of her children. Rodriquez and Moore (1995) wrote that adolescents form their feelings, thoughts, and actions from observing and imitating others whom they perceive as role models.

Kahn and Anderson (1992) found that daughters of both White and Black adolescent mothers face significantly higher risks of adolescent childbearing than daughters of older mothers. They also found that patterns of adolescent family formation tend to be repeated intergenerationally. The results of their study showed that the intrafamily propensity of early childbearing is not inherited biologically but rather appears to result from the socioeconomic and family context in which the children grow up. These authors quoted Presser (cited in Kahn & Anderson, 1992) as suggesting that the pattern might reflect a role modeling process in which White daughters are socialized to accept a "similar timing of motherhood" (p. 167) to that of their mothers. Thornton and Camburn (cited in Kahn & Anderson, 1992) asserted that

mothers who had early first births may pass down especially positive messages about starting a family at a young age. The adolescent mother may socialize her daughter with values similar to her own.

In their study, Kahn and Anderson (1992) used logistic regression methods to examine the extent to which the intergenerational effects could be explained after controlling for the effects of differences in biological pre-disposition as well as in the socioeconomic and family context in which adolescents grow up. They used data from the 1988 National Survey of Family Growth, which is one of the few national surveys that has gathered information regarding the timing of first births across generations. The results of this study showed a strong intergenerational pattern, regardless of race, for repeated adolescent births. They demonstrated that the earlier the mother's age at first birth, the higher is the likelihood that her daughter will have an adolescent birth. In conclusion, these authors found that within families, a mother's prior experience with premarital fertility may make her a role model for her daughter.

Fox (1980) did a research review of the mother-daughter relationship as a transmission structure for sexual socialization. Mothers serve as the initial role

model for their daughters to learn ways to negotiate the familial and marital social order with husbands/fathers. Fox emphasized the importance of the mother's values, attitudes, and behavior as determinants, both directly and indirectly, of the sex role attitudes and behavior of her daughter. This author looked at two aspects of the mother-daughter relationship, one being the communication between the mothers and daughters about sexuality and the second one being the sources of strain in their relationship. Fox reviewed Bloch's 1972 work where the mothers had talked to their daughters about menstruation, about the male role in reproduction, and about birth control. When she focused on the women who had at least talked to their daughters about these topics, the results were dismal. Adequate levels of teaching were as follows; 26% for menstruation education, 12% for the male role in reproduction, and only 10% for birth control education. When all these areas were considered simultaneously, 18% of the daughters had never been told anything about any of the three topics, and only 7% had received adequate instruction from their mothers. In conclusion on this topic, Fox wrote that the cause and effect relationship between communication and sexual behavior is not clear or well established. He proposed that many adolescents do

not talk to their parents until after they have become sexually active, experience a pregnancy scare, or until after they start to use contraception. When they do communicate it is usually with the mother.

This author next discussed the strength of the family in a multigenerational context. Members of the family move through time in concert with others who are in a different stage of life. Thus the adolescent has parents as role models in dealing with different situations in life. Whereas these relationships can be a great source of strength, they can also be a source of strain on the family. Fox also wrote that the developmental tasks of the adolescent female and the mother are often in conflict. The daughter's development as an adolescent occurs simultaneously with the mother's challenges and tasks of mid-life development. Both roles have serious inconsistencies but mostly so in the mother's role demand.

Fox (1980) described the daughter's developmental tasks as the development of autonomy and separation, the establishment of personal identity, the establishment of appropriate attachments to persons outside the family, and finally, the development of self-mastery. The mother's developmental tasks include serving as a protector of her daughter-as-child and serving as a guide or role model.

The hardest tasks for the mother is discerning when to let go and when to yield, when to share information and when not to, and when to allow the child to find her own way and live out the consequences of her own decisions versus when to take charge and make decisions on behalf of the adolescent. In conclusion, Fox went on to write that the mother-daughter relationship has great potential as a source of sexual socialization that may be underutilized by both the mother and daughter.

Newcomer and Udry (1984) examined the influence of characteristics of mothers on the sexual behavior of their adolescent daughters. They discussed Fox's 1980 finding that mothers who had lived with a sex partner outside of marriage during the life of their adolescent daughter had daughters who were more likely to engage in a sexual relationship. The sample for Newcomer and Udry's study was junior high school students from several schools in an urban area of a southern state. These students were interviewed in 1980. The average age of the students was 14 years. A questionnaire was used during the interviews that took place in the respondent's homes. After all the items were analyzed, Newcomer and Udry demonstrated that there is a direct relationship between the mother's level of sexual experience when she was the age her adolescent

is now and the current sexual behavior of her adolescent. They found that when the mother's and daughter's sexual behavior is statistically partitioned out, about the same amount of correlation can be accounted for by the pubertal development similarities as by the more liberal attitudes of mothers with earlier sexual experiences. Thornton and Camburn (1987) also found that mothers who married early had children who viewed them as role models, and perceived them as more approving. Therefore, these children participated in sexual relationships earlier. These authors found that young people whose mothers divorce and remarry have more permissive attitudes and more sexual experience than those whose mothers have divorced but not remarried.

Inazu and Fox (1980) reported that adolescent girls whose mothers have cohabited without marriage are more likely than others to have engaged in sexual intercourse outside marriage. Inazu and Fox's study was based on a sampling of 449 mother-daughter pairs interviewed in 1978. Girls between the ages of 14 and 16 from seven Detroit high schools were randomly selected for the study. The mother's role as a provider of sex information, as a social control agent, as a source of socioemotional support, and as a modeling agent were all examined. When

background variables were controlled, early sexual communication, recent sexual communication, and supervision of social activities were not significantly related to the daughter's sexual status. Inazu and Fox found that the mother's presence as a role model and significant other in the adolescent's life greatly impacted the daughter's sexual status.

Peer Relationships

Another powerful relationship in the lives of adolescents is the relationships they have with their peers. Schneider (1988) wrote that peer group influence is also a factor in whether or not an adolescent decides to become sexually active. Involvement with peers who are sexually active is positively associated with greater sexual activity. Spanier (as cited in Schneider, 1988) found that usually the girl's boyfriend had pushed for sexual intercourse prior to the time that the girl had finally consented. The girl experienced a sense of powerlessness.

Norr (1990) described some characteristics of adolescents who are more likely to become adolescent mothers: low self-esteem, low sense of control, more traditional sex role attitudes, less positive attitudes toward sexuality, and poorer school performance. They

went on to say that adolescents who are more involved with their peers, have more similar attitudes to peers, and view peers as role models are more likely to experience an adolescent pregnancy. Fox (1980) contended that when the adolescent is going through the developmental task of autonomy and separation, the seeking out and turning to peers becomes an important activity and contributes toward the separation from family.

Shah and Zelnik (1981) wrote that in regard to premarital sex, peers are more permissive than parents, that adolescents are influenced more by peers than by parents, and that the sexual behavior of adolescents is consistent with that of peers. These authors examined data from a national survey of young women conducted in 1976. The study used a probability sample of 2,193 women aged 15-19 living in the United States. They found that young women's opinions about premarital sex resembled those of their friends much more than those of their parents. For Whites, 45% shared their friend's views and 20% shared their parents' views. These authors found that the rates of premarital sexual experience are lowest for women whose views on sex before marriage are like their parents' views and highest for those with views like friends. Three-fourths of sexually active White women

with views on premarital sex like those of their parents have had only one partner compared to 56% of those with views like those of their friends. Only 6% of Whites influenced by parents' views have had intercourse with more than three partners compared to 17% of those influenced by their peers. Blacks influenced by parents or by peers show essentially no difference in number of partners.

Self-Esteem

The third component of the psychological aspects of adolescent pregnancy is the adolescent's low self-esteem and feelings of powerlessness. Keddie (1972) wrote that the self-concepts of 88 girls enrolled in an educational program for future adolescent mothers were compared to those of 108 high school girls. It was discussed that the pregnant adolescents had lower scores than the control group or the norms established by the Tennessee Self-Concept Scale. The pregnant adolescents scored particularly low on items that measured their sense of self-worth and their perception of their family relationship. Keddie's study was comprised of 242 working class Jamaican girls ranging in age from 14 to 17 years. The sample was divided into two main groups--134 school girls who claimed to have never been pregnant and 108

adolescents who had become pregnant once. Keddie found that there were no significant differences in self-esteem and perceived maternal control between the mean scores of those who were pregnant at the time of completing the questionnaire and those who had already given birth. The mean self-esteem scores of the total never-pregnant groups were significantly higher than that of their once-pregnant counterparts. Keddie concluded that it was not possible to tell from these data alone if low self-esteem preceded pregnancy as a possible risk factor or if it was a result of becoming pregnant early.

Abernathy, Robbins, Abernathy, Grunebaum, and Weiss (1975) wrote that low self-esteem in adolescent girls extends to a feeling that other women are also relatively worthless. This motivates young women to measure themselves primarily on the standards of male approval and attention.

Barnett et al. (1991) reported that adolescents who have low self-esteem and/or weak ego strength have been found to be at the greatest risk for pregnancy. This poor self-image may develop as a result of the family's inability to cope with problems. The Babikian and Goldman Study (as cited in Barnett et al., 1991) reported that weak ego strength was the single most consistent predictor

of pregnancy among adolescent girls. These authors also cautioned in their conclusion that it is difficult to discern whether low self-esteem is a cause of adolescent pregnancy or that low self-esteem is a consequence of early pregnancy.

Sociocultural

Under the sociocultural aspects of adolescent pregnancy, three topics will be discussed: the influence of the media, financial support provided by society, and the consequences of an absent father figure in the home.

Media Influence

Rainey (1996) contended that the modern world has become sexually oriented, with the message of sex all around--on the radio and TV and in movies and magazines. Adolescents hear and absorb it all, and it is often difficult for them to decipher. Norr (1990) wrote that adolescents are exposed to substantial amounts of sexually stimulating and explicit, yet unrealistic, messages from the mass media. Adolescents are emotionally immature and have difficulty discerning what is realistic and what is not. They have difficulty incorporating what they see and hear into their values, which are being formed. Franklin (1988) pointed out that adolescents who engage in adult

behavior, such as cigarette smoking, going steady, and drinking alcohol, and who are exposed to adult situations in the mass media are more likely to initiate early sexual activity. As O'Connell (1997) wrote, from the time children are very small, they are exposed to a society that constantly bombards and desensitizes them with sexual messages.

Chassler (1997) asked the question, "Do the media push teens into having sex?" In a survey of 720 girls aged 12 to 19, conducted by Mark Clement Research, Inc., he found that more than half of the adolescents said movies (57%) and television (55%) influenced adolescents to have sex before they were ready. Music was said to influence 44% of the same group. Chassler quoted Nancy Adler as saying "Sexuality pervades all our media--is it any surprise that in our culture people of all ages, including many teenagers, engage in sexual activity without really thinking about it?" (p. 5). Rodriquez and Moore (1995) stressed the importance of educators and parents providing healthy role models to offset the negative influences that a sex-saturated society has on adolescents.

Financial Support From Society

It is a well known fact that adolescents who become mothers are disproportionately poor and dependent on public assistance for their economic support (Rainey, 1996). Chassler (1997) quoted sociologist Kristin Luker, author of Dubiour Conceptions: The Politics of Teenage Pregnancy, as saying "Having a baby is a lottery ticket for many teenagers - it brings with it at least the dream of something better, and if the dream fails, not much is lost" (p. 5). Chassler's survey showed that 60% of the respondents disagreed with the statement "unmarried teen mothers should not be allowed to get welfare." Rodriquez and Moore (1995) asserted that adolescent mothers do not acquire as much education as adolescents who delay childbearing; therefore, they are less likely to find stable employment and more likely to rely on public assistance, which perpetuates the cycle of poverty. One half of adolescent mothers go on welfare within a year, and 77% within 5 years. These authors went on to say that in 1989, the national public cost of all families started by birth to an adolescent was $21.6 billion.

Franklin (1988) proposed that lenient public welfare policies have, perhaps unwittingly, encouraged women to have children. Historically, public welfare has been

credited with promoting early pregnancy. This perspective emerged in the literature during the 1960s and held that women on welfare bear children primarily for the purpose of receiving welfare assistance. This author analyzed data collected in California between 1972 and 1974 that looked at the decision-making process of unmarried adolescents who became pregnant. Franklin found that those on welfare were less likely to marry than those who were not receiving welfare benefits.

A dramatic increase in female-headed households has occurred since 1950. Aid to Families with Dependent Children programs, that provide financial support for women not currently married, may have accelerated this trend. Since the 1950s, an increasing number of adolescents have grown up in female-headed, impoverished households, in neighborhoods where peer pressures support early sexual activity, and where there are few educational or job opportunities that would encourage delayed childbearing (Norr, 1990). This author stated that ethnographic studies show a strong peer group in Black inner-city neighborhoods that supports adolescent sexual activity and early motherhood. Research shows that in the Hispanics population there is a much greater likelihood of the pregnant adolescent being married.

According to Furstenberg et al. (1990), the concept of a recurrent cycle of disadvantage leading to a growing and self-perpetuating underclass is a frightening prospect. These authors followed a group of Baltimore women over a 20-year period and found that maternal welfare experience increased the daughter's likelihood of early childbearing, if welfare was received during her adolescent years. They wrote that early parenthood is widely believed to jeopardize the opportunities in life for young mothers and their children. This condition, in turn, contributes to the impoverishment of a disadvantaged segment of American society and to the expense of welfare costs associated with adolescent pregnancy. Adolescent pregnancy may be an important mechanism in understanding the intergenerational transmission of disadvantage.

As these authors followed this Baltimore group, they found that when comparing the younger generation to their mothers at the same age, 29% were currently employed versus 36%, and a much higher proportion were receiving public assistance (60% vs. 31%). The daughters' prospects of exiting from welfare are not very high. As they examined their data, they found that the route to welfare was to have a child. Furstenberg et al. found that second generation adolescent mothers in the 1980s appeared to be

more vulnerable to long-term dependence and less equipped to work their way out of life-long disadvantage than were their mothers of the late 1960s. In their conclusion, they emphasized that adolescent mothers should be targeted for extensive educational and social services to keep them from remaining trapped in poverty.

Father Figure Absent From the Home

The consequences of an absent father figure from the home have been documented to contribute to the intergenerational adolescent pregnancy rate. Kahn and Anderson (1992) wrote that daughters of adolescent mothers face higher risks of becoming adolescent mothers because they are more likely to have grown up in impoverished or single-parent families. Fox (1980) also wrote that daughters of female-headed households were more likely to have had early sexual activity prior to the age of 15 and were more likely to have had more than one sexual partner. Thornton and Camburn (1987) found that the absence of a father due to divorce may decrease the quality of parent-child relationship and the overall level of parental influence and control. These factors may, in turn, contribute to an increase in the premarital sexuality of adolescents. In Rodriquez and Moore's (1995) review of literature they found evidence suggesting that adolescent

mothers are more likely to come from homes with a single parent who had limited control over the adolescent's behavior. From the researcher's own study they found a positive correlation between the father/daughter relationship and feeling good about self. Family involvement is positively associated with a lower adolescent pregnancy rate.

Hogan and Kitagawa (as cited in Franklin, 1988) wrote that adolescent females coming from a lower-income, fatherless household, with siblings who have been born out of wedlock are likely to have a high incidence of adolescent pregnancy. Franklin (1988) also noted that maternal employment, particularly if the mother is single, probably contributes to the adolescent's opportunities for early sexual activity because the home is unsupervised most of the day. Zongker (as cited in Franklin, 1988) asserted that the deprivation of a father-daughter relationship during the formative years impels the adolescent to seek compensatory masculine attention through precocious sexual relations.

In Keddie's (1992) review of the literature, she cited Rawlins' 1984 study as uncovering an association between the level of father-daughter interaction and the pregnant versus nonpregnant status of 13 to 19 year old

girls. Rawlins found that a higher percentage of pregnant than nonpregnant adolescents was without a father figure. When the father was present, the pregnant adolescents experienced a less than satisfactory relationship and described the father as "cruel." Keddie's research study examined 242 subjects from the Jamaican working class who ranged in age from 14 to 17 years. She reported that over 75% of urban school girls had a father figure present in the home as compared to only 53.5% of their counterparts who had become pregnant and left school.

Barnett et al. (1991) wrote that the breakdown of the family system may encourage adolescents to seek other "love objects" to compensate for their lack of attention and nurturance. The love object may be the sexual partner or the conceived child. These authors pointed out in their article that families that do not foster emotional connectedness and open communication may generate feelings of social and emotional isolation, which may be compensated for through the adolescent's establishment of premature sexual activity. These authors' research revealed that pregnant adolescents perceived less family strength than did nonpregnant adolescents and that perception of family strength was a strong predictor of adolescent pregnancy.

McLanahan and Bumpass' (1988) paper examined the effects of childhood family disruption on adolescents. Family life experience has been dramatically transformed by the increasing divorce rate and nonmarital fertility. These authors examined data from the 1982 National Survey of Family Growth, which was collected by the National Center for Health Statistics from 7,969 women who were 15-44 years of age and of all marital statuses. They found that adolescents who spent time in a single-parent family because of marital disruption were 53% more likely to have adolescent marriages, 111% more likely to have adolescent births, 164% more likely to have premarital births, and 92% more likely to experience divorce than were daughters who grew up in homes with the father present. They noted that single fathers raising adolescents were rare, but in such cases the children were much less likely to be poor or depend on public welfare. The next question they looked at was whether the age at which divorce occurred made a difference. They found that among Whites, the children who experienced divorce between the ages of 5 and 9 were somewhat less likely to have a premarital birth or a divorce than those whose parents divorced during early childhood. Those who experienced divorce between 10 and 14 years were somewhat more likely

to have these events occur. Among Blacks, the patterns were similar. They concluded that divorces occurring in early childhood and adolescence were more harmful than divorces occurring in middle childhood. Being born to a never-married mother had similar affects to that of experiencing a divorce in early childhood.

O'Connell (1997) said things quite well when she wrote that too many adolescents are going home to dysfunctional parents who are not providing them with the love and supervision that is so needed in this stage of development. Too many adolescent girls go home to a fatherless household which leaves them craving the attention of males. She closes her article by saying that unfortunately too many of today's parents are doing exactly what their adolescents are doing, "looking for love in all the wrong places." O'Connell asserted that more than half of today's children will experience divorce, grow-up with the father being absent, and suffer the consequences, one of which is an increased risk of adolescent pregnancy.

Spiritual

Under the spiritual aspects of adolescent pregnancy, the effects of religiosity will be discussed. Harris and Milam (1994) wrote that women have been treated as

property and second-class citizens ever since God made woman from man's rib. In many churches today, women continue to be treated as inferior to men; they rarely hold administrative or ministerial positions. These authors went on to write that women must learn to value themselves first before they can teach the church to value them.

Harris and Milam (1994) addressed the impact of strict Christianity on adolescents by making the following points:

- Adolescents are taught that sex is wrong, which results in guilt, confusion, and hopelessness.
- No education is provided on healthy sexual relationships.
- Love is confused with sexuality.
- Women are to be submissive to men.
- Women are second-class citizens.
- God, not people, has control over lives.

They wrote that all of these points contribute to low self-esteem and powerlessness in the adolescent female. They also published a list of "Thou Shall Nots for Women in Christianity" which has the same effects as stated above.

Thou Shall Nots for Women

- wear too much makeup.
- wear provocative cloths.
- think sexual thoughts.
- have sex or touch yourself sexually.
- get pregnant.
- do anything suggestive.
- think.
- wear too much jewelry.
- draw attention to yourself.
- take a leadership role.
- put yourself first.
- take pride in yourself or in your accomplishments.

Harris and Milan (1994) asserted that the rigidity of Christianity discourages individual thinking and communication. The adolescent who becomes pregnant cannot communicate with her parents who have inflexible, dogmatic rules, and she cannot confide in them or trust them to help. Norr (1990) contended that greater religiosity increases the adolescent pregnancy rate. They wrote that higher rates of adolescent pregnancy are associated with higher levels of religiosity, especially fundamentalism and social and sexual conservatism.

In contrast, Fox (1980) wrote that mothers who are not heads of household, mothers with higher incomes, and mothers in religious households are more likely to have discussed several sex-related topics with their adolescent daughters. Thornton and Camburn (1987) contended that the religious affiliation and commitment of parents plays an important role in determining the values of parents and their children. Membership in a religious group that has traditional, clear, and stringent rules concerning adolescent sexuality may influence the adolescents behavior and attitude. The author wrote that previous research has shown that adolescents who belong to a fundamentalist Protestant group are less permissive toward premarital sex and less sexually active.

Interventions for Pregnant Adolescents

Because of the great concern over adolescent pregnancy, society and politicians have initiated many programs over the past years aimed at intervening in the process of early pregnancy. This review will focus on the following forms of intervention: (a) family planning, (b) sex education, (c) family life education, (d) vocational programs, and (e) counseling and group therapy. The nurse's role in each of these programs will be addressed, where applicable.

Family Planning

Black and DeBlassie (1985) reported that a recent government study showed that family planning programs are worthwhile and an increasing number of adolescents are participating in these programs. They stress that areas needing the greatest improvement are earlier contact with adolescents, more education on the male reproductive tract, and reality training in childbearing and childrearing. Black and DeBlassie stated that the only real "progress" in birth control among adolescents comes from the increased reliance on abortion.

The Texas Department of Health Teen Pregnancy Fact Sheet (Texas Department of Health, Bureau of Women and Children, 1995) made three recommendations regarding family planning interventions:

1. Encourage abstinence as a positive choice.
2. Increase access to family planning services.
3. Develop a community environment that offers role models for adolescents and provide social activities that do not place adolescents in high-risk situations.

Franklin (1988) concluded from her study that contraceptive provisions, especially those offered in clinics, are a deterrent to adolescent pregnancy. Norr (1990) also wrote that lower adolescent pregnancy rates

are associated with greater accessibility to family planning clinics. Currently adolescents have access to those clinics in all metropolitan areas and in most counties. Private physicians also provide contraceptives for adolescents.

Norr (1990) discussed the nurse's role by saying that more authoritative, parent-like guidance from nurses has been associated with greater continuation of contraceptive use. One of the most promising directions that family planning has taken is through school-based clinics. The author stressed that nurses in both family planning and school clinics need first to understand the specific community being served, including its composition, leadership, and prevailing cultural values. Nurses should work to coordinate the community programs available and act as an advocate for adolescents. Nurses may increase staff awareness of adolescents' needs and educate them on these issues. Nurses in school programs should work to promote greater incorporation of family planning information and services into the general health services provided for adolescents. One group that needs more attention is male adolescents. The need to be taught about safe and effective condom use. The author concluded by emphasizing that the nursing profession is ideally

suited to take a leadership role in community-based adolescent pregnancy prevention.

Sex Education

Regarding sex education, Black and DeBlassie (1985) wrote that the present attempts at sex education in schools is inadequate; seven states encourage sex education, and three require it. The idea of the school system as a provider of sex education has been avoided due to the controversy surrounding the topic. These authors suggested that there would be a higher success rate for these programs if the adolescents were involved in designing the curriculum. An information base to design such a program should include finding out what the student knows, what they can understand, and what they want to know about sexuality and reproduction. Norr (1990) wrote that by 1981, only 10% of all students had comprehensive sex eduction, and, compared to the ages of initiation of sexual activity, few sex education programs occur at appropriately early ages. This author proposed that due to sensitive controversial topics involved in sex education, many areas are avoided rather than confronted in a well-rounded way. In most states, sex education is not well funded for curriculum development or teacher training. Schools in more conservative or economically

depressed areas often have weaker sex education programs than school systems where there is not as great a need for sex education. Norr attributed this to a lack of funding and the fear of controversy. This author also contended that nurses are ideally suited to develop, provide services in, and evaluate sex education programs as long as they work in a collaborative partnership with the schools and communities. Nursing has a long traditional reputation of patient education, of working with people to develop a plan of action, of community-based health prevention, and of respect for cultural and individual differences.

The Texas Department of Health Teen Pregnancy Fact Sheet (Texas Department of Health, Bureau of Women and Children, 1995) recommended increasing youth's knowledge about sexuality and responsible behavior. The other part of sex education involves the family. Rainey (1996) stressed the importance of adolescents not learning about sex on the street or from their friends. Their education should be started early in life and at home. Parents should strive to be role models and talk openly about sex with their children. Hockenberry-Eaton, Richman, Dilorio, Rivero, and Maibach (1996) discussed parents' difficulty in providing sex education because of their lack of

knowledge and ability to communicate. These parents could benefit from community-based sex education involving the family. Fox (1980) also emphasized the importance of the mother-daughter relationship in sex education. He recommended that practitioners build into their programs participation by both mothers and daughters. These programs may serve as a external stimulus to mother-daughter communication by providing common topics for conversation.

Schneider (1988) reviewed the effectiveness of sex education classes. He stated that these classes have increased in numbers in the past 15 years. Dawson (as cited in Schneider, 1988) found that 68% of 15-19 year old women had instruction about pregnancy and contraception, 16% had received instruction about pregnancy only, and 16% had received no instruction. He also wrote that among 15-year-olds, 47% had instruction in comparison to 33% of 17-year-olds and 26% of 19-year-olds. In conclusion, Schneider suggested that researchers believe there is no consistent evidence that sex education programs are effective in reducing the rate of pregnancy or, on the other hand, that these programs increase the likelihood of adolescents initiating early sexual activities.

Family Life Education

Family life educational programs focus on the need to find ways to help adolescents be prepared for parenthood without encouraging them to become parents. According to Black and DeBlassie (1985), these programs should be targeted at junior or high school levels and teach about family systems, wherein every member influences the entire system. The programs should consist of simulation games and exercises on topics such as marriage, divorce, birth, and separation, with the main goal being the enhancement of interpersonal communication skills. The Texas Department of Health Teen Pregnancy Fact Sheet (Texas Department of Health, Bureau of Women and Children, 1995) suggests that resources should be provided to support life education programs for adolescents and their parents. Inazu and Fox (1980) also recommended policies that support and strengthen family functioning and the responsibility involved in early parenting.

Rodriquez and Moore (1995) described school-based programs that include adolescents who are already parents. These programs provide preparation for parenting and quality child care. They surveyed 18 of these programs and found that 55% included mother-father-child, 38% mother and child only, and 5% mother only. In conclusion,

Franklin (1988) suggested that schools put programs in place to identify adolescents at risk and to place these adolescents in life education programs early and assist them in identifying life and educational goals. Again, the nurse's role in these programs is multifaceted with the main one being education. Leadership and community collaboration are also important areas for the nurse.

Vocational Programs

Job placement programs are in short supply, but there is a dire need for these services, not only for adolescent mothers but for the fathers. These programs would encourage the father to support his family and maintain a relationship with his child (Black & DeBlassie, 1985). Norr (1990) recommended that these programs, which they call "life option approach," not only give the adolescents hope for the future but break the cycle of disadvantaged youths, in general. She wrote that there is little political willingness to fund these programs. Franklin (1988) stated that the critical importance of job skills and employment as predictors of adolescent pregnancy is greatly overlooked. She proposed that a worthy goal would be to reduce high school dropouts and strengthen educational and vocational components in schools to make adolescents more competitive in the job market.

Counseling and Group Therapy

As some research has documented, low-self esteem is a risk factor for early pregnancy. Keddie (1992) recommended that programs be put in place to identify adolescents with low self-esteem. She wrote that high self-esteem serves a protective function and it is important to assist adolescents in developing ways to help strengthen their sense of personal worth.

Black and DeBlassie (1985) mentioned that the school counselor is often the first professional to come in contact with the pregnant adolescent. During the first sessions, the counselor has to help the adolescent focus on the reality of the conception. The counselor will then act as a mediator concerning the options for dealing with the crisis. Subsequent sessions should include family members. The adolescent should be encouraged to choose a counselor with whom she is comfortable. Most of the time pregnant adolescents choose a female counselor because they believe a female can better understand the girl's difficulties. The female counselor may serve as a positive role model (Black & DeBlassie, 1985). In many cases the school nurse finds herself in the role of counselor and is ideally suited to handle the situation. She may eventually refer the adolescent to a professional

counselor, after the initial crisis is handled and she has gained the adolescent's confidence.

Norr (1990) recommended counseling that will instill in adolescents the responsibilities of participating in an intimate sexual relationship and to teach them less traditional attitudes surrounding sex roles. She believed this would lower the rates of sexual activity, increase the use of contraception, and increase the use of abortion, if pregnancy does occur. She went on to write that counseling would help adolescent girls understand that there should be less dominance by men in sexual relationships and greater autonomy for women.

Along the same lines, the Texas Department of Health Teen Pregnancy Fact Sheet (1995) recommended strengthening personal responsibility by providing peer counseling programs and self-esteem building strategies. Black and DeBlassie (1985) suggested a multi-modal therapy approach consisting of a comprehensive health care program, group therapy, parent counseling and education, and staff consultation. These authors recommended group therapy programs that provide for both the physical and emotional support that is necessary before, during, and after childbirth. The use of once-pregnant adolescents as peer counselors to nonpregnant adolescents has been very

successful in these programs. Abernathy et al. (1975) also supported that approach and recommended an early identification system for adolescents at risk. These adolescents may then be helped to deal with their conflicts and frustrations through individual or group therapy before unwanted pregnancy occurs.

Summary

Various factors are associated with adolescent pregnancy. This review of the literature focused on the factors from a holistic point of view. Physiologically, the early physical development of today's adolescents was reviewed. This included the early age of menarche and fecundity. The literature indicated that adolescence is a period of growth that includes rapid physical development and hormonal changes, the ability to think abstractly, and to understand the ability to future consequences of actions. The adolescent must learn to take responsibility for his or her actions. This early physical development does not correlate with cognitive development. Therefore adolescents may not have the ability to recognize the future consequences of behavior. Psychologically, effects of the mother as a role model, the effects of peer pressure or peers as a role model, and the effects of low self-esteem on female adolescents were reviewed.

Sociocultually the review of the literature documented the effects of the sex saturated media on the adolescents as well as the effects of the father being absent from the home. Society's encouragement of adolescent pregnancy by providing financial support was also reviewed. Spirituality was the last associated factor to be reviewed, and this section looked at the effects of religiosity on the adolescent.

The next topic discussed in the review of the literature was the interventions that society has used in an attempt to decrease the adolescent pregnancy rate. These interventions included family planning, sex education, family life education, vocational programs, counseling and group therapy. Lastly, the nurse's role in preventing adolescent pregnancy was dispersed throughout all the applicable interventions. From the literature, the following points may be summarized regarding the nurse's role:

1. The nurse should have a thorough understanding of the community's composition, leadership, prevailing values, and any existing programs.

2. Any intervention strategies should include the community members as well as the community leaders.

3. Any educational materials developed to meet the needs of adolescents should be acceptable to the community.

4. Any health services provided for adolescents should include the incorporation of sex education, AIDS and venereal disease information, and family planning information.

5. Nurses should promote the effectiveness of school-based clinics in preventing adolescent pregnancies.

6. Nurses should promote the education of school nurses and teachers to make them comfortable with all aspects of human sexuality, which would improve the accuracy and appropriateness of sex education.

7. Nurses should assume a leadership role in planning and evaluating community driven programs.

A wholistic view is needed if society is to develop a humane, integrated understanding of early adolescent males and females as thinking, feeling individuals interacting with peers and society. Until there is increased awareness and commitment, a willingness to abandon simplistic approaches and take bold and often controversial steps, the problem of adolescent pregnancy will not improve. If this trend is not reversed, the future of adolescents is bleak. According to Rodriquez

and Moore (1995), 4 in 10 will experience one pregnancy, 2 in 10 will give birth, and more than 1 in 7 will undergo an abortion. Surely a country with our immense wealth, and human and natural resources can join forces to reverse these trends.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This study used a correlational, ex post facto design. According to Polit and Hungler (1995), in an ex post facto study the researcher attempts to understand relationships among phenomena as they naturally occur, without any researcher intervention. These authors also stated that a correlational design examines the interrelationship between variables. Certain weaknesses are inherent in a nonexperimental study. These weaknesses are noted in the limitations section of this paper. The independent variable in this study was the age of the mother at first pregnancy. The dependent variable was the daughter's age at first pregnancy.

Setting

This study took place in a north Texas rural county. The population of the town in which the clinic exists is approximately 65,000. The data were collected in a women's health clinic from the charts of pregnant women who registered for prenatal care. The clinic provides

services for the insured and uninsured of the entire country. Services provided by the women's clinic are birth control, prenatal care, sonograms, well woman examinations, and educational classes. The clinic hours are 8 a.m. to 4 p.m., Monday through Friday.

The staff of the clinic consists of three certified midwives, three certified nurse practitioners, two licensed vocational nurses, a clinical nurse specialist, a registered nurse/nurse educator, a social worker, a billing clerk, a secretary, a clinic administrator, and a financial officer. Three of the staff are Hispanic and provide Spanish interpretation, when needed. All of the staff are female except for the male financial officer.

Population and Sample

The target population for this study was primigravidas who attended a community clinic for their prenatal care. The accessible population was pregnant females who attended the North Texas Community Clinic for prenatal care. The subjects must have been pregnant primigravidas.

The sample drawn for this study was a nonprobability, convenience sample. A nonprobability convenience sample may or may not be representative of the target population, in respect to the variables being measured. The

researcher did not interact with the subjects. All data were obtained from the subjects' charts.

Protection of Human Subjects

The following includes a description of how the subjects' rights were protected in this study, as required by Texas Woman's University.

1. Obtained agency approval (Appendix A).

2. Obtained approval from the Human Subjects Review Committee (Appendix B). The Human Subjects Research Review Committee required a Level 1 review because the subjects were at no risk and remained anonymous to the researcher. A description of the study was submitted for review by one member of the Human Subjects Review Committee.

3. Obtained graduate school approval (Appendix C).

All information was obtained by the clinic social worker as the client was interviewed for her first prenatal visit. The clinical social worker then transferred data from the client's chart to the researcher's data collection tool (Appendix D). The tool gathered anonymous data, and there were no risks to the subjects because only demographic information was gathered.

Instrument

One instrument was used to collect the data for this study (Appendix D). This tool was one page in length and took the social worker or nurse educator approximately 2 minutes to complete. The social worker or nurse educator transferred the information from the client's chart to the tool following the interview. The tool was used to obtain background information for this study. It required the social worker or nurse educator to check categories or fill in blanks. The tool gathered the following information:

1. Client's age.
2. Racial/ethnic background.
3. Client's educational level.
4. Client's receipt of AFDC or other public assistance.
5. Client's marital status at time of first pregnancy.
6. Client's mother's age at time of first pregnancy.
7. Client's mother's marital status at time of first pregnancy.
8. Client's mother's educational level.

Data Collection Procedure

The researcher visited the clinic setting to introduce herself and explain the research project to the involved clinic staff. The following information was covered with the staff:

1. The purpose of the study was presented.

2. Data were to be gathered from primigravidas.

3. The method of completing the data collection tool was explained.

4. Data were to be entered on the collection tool following the initial interview.

5. The process of protecting confidentiality was reviewed.

(a) no identifying information was to be put on the tool.

(b) The importance of providing privacy during the interview was stressed.

c) The method of storing the completed tools was explained.

The actual data collection took place during the pregnant client's first clinic visit. The social worker or nurse educator interviewed all new patients and collected the needed information. After the interview this information was then transferred from the client's

chart to the researcher's tool. Privacy was provided in the social worker's or nurse educator's office with the door closed. No name was placed on the tool and the data collector placed the completed form in a file with the researcher's name on it. Only the researcher and the data collectors had access to the completed forms.

Halfway through the study, the nurse educator was replaced with a newly hired nurse educator. Without the researcher's knowledge, this new staff member began to collect data. This person was not oriented to the project. There is no way to determine which data were collected by each staff member at the clinic because no identifying information (for the data collector or subject) was placed on any of the questionnaires. In examining the raw data a number of the ages of the mothers appear suspicious. Although the questionnaire asked for the mothers' age at first pregnancy, it appears that some of the recorded ages of the mothers were their ages at the time of the study. Seven of these mothers had ages recorded that were greater than 35 (37, 41, 41, 41, 45, 48, 50). This situation will be discussed again in Chapters IV and V.

Treatment of the Data

Descriptive statistics were used to describe the sample. Means, frequencies, ranges, and percentages were reported. The Pearson product correlation was used to test the hypothesis. The level of significance was set at an alpha of .05.

CHAPTER IV

ANALYSIS OF DATA

In this chapter, the sample will be described and the results will be presented. A correlational, ex post facto study was conducted to examine the relationship between a mother's age at first pregnancy and her daughter's age at first pregnancy. One instrument was used to collect data. In addition to the ages of mothers and daughters, data were also gathered on educational levels, ethnicity, AFDC status, and marital status.

Description of Sample

The accessible population for this study was the clients who attended the North Texas Community Clinic. The sample was chosen by a convenience method. Of the 52 questionnaires collected, 4 were discarded because the mother's age was left blank. There is a question about the accuracy of the ages for some of the mothers. This was discussed under Data Collection in Chapter III and will be discussed again in the Discussion of Findings in Chapter V. The raw data for the sample of 48 women and their mothers are presented in Appendix E.

The daughters' ages ranged from 12 to 33 years, with a mean of 21.75 and a standard deviation of 4.94. The mothers' ages ranged from 15 to 50, with a mean of 24.20 and a standard deviation of 9.11. Thirty-eight percent of the sample were adolescents.

Data related to the level of education of both the mothers and daughters are shown in Table 1. The daughters' educational levels varied from the completion of 6th grade to completion of 16 years of education. The mothers' educational levels varied from the completion of 7th grade to completion of 16 years of education. The mode for both the mothers' and daughters' educational level was the 12th grade. Thirty-three percent of the daughters had finished 12th grade, and 42% of the mothers had finished the 12th grade. Twelve (25%) of the daughters had completed some college (based on an educational level greater than 12 years), and 10 (21%) of the mothers had completed some college. Fifteen (31%) of the daughters had achieved the same educational level as their mothers. Fifteen (31%) of the daughters had exceeded their mothers' educational level and 13 (27%) were below their mothers' educational level.

Table 1

Educational Distribution

Educational level (grade)	Client	Mother
6	1	0
7	0	1
8	0	1
9	6	1
10	6	3
11	5	4
12	16	20
13	2	0
14	3	5
15	2	2
16	4	1
18	1	2
Other	2 GEDs	2 GEDs
		1 College
		3 N/A
		2 ?
Totals	48	48

The data regarding ethnic background of the clients showed that the majority of the sample was Caucasian. The following is a breakdown: 35 (73%) were Caucasians, 7 (15%) were African Americans, 5 (10%) were Hispanics, and 1 (2%) was a Native American.

The clients were asked if they were receiving AFDC or any other public assistance. Of the 48 respondents, only 12 (25%) were receiving AFDC. Because data were collected on an intake interview, some of the respondents may have been placed on AFDC at a later time.

Data related to the marital status of the daughters and their mothers at time of first pregnancy were examined next (Table 2). Thirty-eight (79%) of the daughters were single at the time of their first pregnancy and 11 (23%) of the mothers were single when they became pregnant for the first time. Ten (21%) of the daughters and 35 (73%) of the mothers were married at the time of their first pregnancy. One (2%) mother was separated at the time of her first pregnancy and 1 (2%) mother was divorced at the time of her first pregnancy.

Findings

The directional research hypothesis tested in this study was: The younger the age of the mother at her first pregnancy, the younger the age of her daughter at her first pregnancy. The correlation between mothers' and daughters' ages at first pregnancy was found to be $\underline{r} = -.213$, $\underline{p} = .07$. Although the significance level approached the alpha of .05 set for the study, it was in the opposite direction of the study's hypothesis.

Table 2

Marital Status at Time of First Pregnancy

Total Sample		
Marital status	Client	Mother
Single	38	11
Married	10	35
Separated	0	1
Divorced	0	1
Totals	48	48
Adolescents Only		
Marital status	Client	Mother
Single	17	4
Married	1	12
Separated	0	1
Divorced	0	1
Totals	18	18

Additional Findings

The data from the adolescents were analyzed separately. Eighteen (38%) of the total sample were adolescents. For this group, the r = .075 and p = .383; therefore, there was no significant correlation between the adolescents' and their mothers' ages at the time of first pregnancy.

The educational level of the adolescents ranged from the completion of the 6th grade to the completion of the

12th grade. The mothers' educational level ranged from the completion of the 7th grade to the completion of the 3rd year of college. The mode for the daughters was the 10th grade and for the mothers it was the 12th grade. Sixteen percent of the adolescents had finished 12th grade and 39% of the mothers had finished the 12th grade. None of the adolescents had completed any college and only 1 (5%) of the mothers had completed some college. Three (17%) of the daughters had achieved the same educational level as their mothers. Three (17%) of the daughters exceeded their mothers' educational level and 7 (39%) were below their mothers' educational level.

The data regarding ethnic background of the adolescents showed that the majority was also Caucasian. The following is a breakdown: 15 (83%) were Caucasian, 2 (11%) were African American, and 1 (5%) was Hispanic.

The adolescents were also asked if they were receiving AFDC or any other public assistance. Out of the 18 adolescents, only 5 (27%) were receiving AFDC.

Data related to the marital status of the adolescents and their mothers at the time of their first pregnancy were examined. Seventeen (94%) of the adolescents were single at the time of their first pregnancy and 4 (22%) of the mothers were single when they became pregnant for the

first time. One (5%) of the adolescents was married, and 12 (67%) of the mothers were married at the time of their first pregnancy. One (5%) of the mothers was separated at the time of her first pregnancy and 1 (5%) mother was divorced at the time of her first pregnancy.

Summary of Findings

The findings of this study were as follows:

1. No significant correlation was found between the mothers' and daughters' ages at first pregnancy (r = -.213, p = .07).

2. The largest percentage of the daughters (33%) had completed the 12th grade. The largest percentage of the mothers (42%) had also completed the 12th grade.

3. The majority of the clients (73%) were Caucasian.

4. Only 25% of the clients indicated that they were receiving AFDC or some other form of public assistance.

5. The majority of the daughters (79%) were single at the time of their first pregnancy and the majority of the mothers (73%) were married at the time of their first pregnancy.

When the adolescents were examined separately, the following was found:

1. No significant correlation was found between the mothers' and adolescent daughters' ages at first pregnancy (r = .075, p = .383).

2. Only 16% of the adolescents had completed the 12th grade, while 39% of the mothers had completed the 12th grade.

3. The majority of the adolescents (83%) were Caucasian.

4. Twenty-seven percent of the adolescents indicated that they were receiving AFDC or some other form of public assistance.

5. The majority of the adolescents (94%) were single at the time of their first pregnancy, and the majority of the mothers (67%) were married at the time of their first pregnancy.

CHAPTER V

SUMMARY OF THE STUDY

The purpose of this study was to determine if there was a correlation between a mother's age at her first pregnancy and her daughter's age at first pregnancy. Selected demographic variables were also examined. This chapter includes a summary of the study and discussion of findings. Additionally, the conclusions, implications, and recommendations for further study are presented.

Summary

Bandura's (1977) theory of social learning served as the conceptual framework for this study. Based on the theory that mothers act as role models for their daughters, the following hypothesis was proposed: The younger the age of the mother at her first pregnancy, the younger the age of her daughter at her first pregnancy.

As noted in the literature review, many research studies related to this area have been conducted over the past 20 years. Zelnik and Kanter's (1980) study revealed that premaritally pregnant adolescents nearly doubled from 9% in 1971 to over 16% in 1979. Miller's (1983) study

found that the fertility rate increased from 1950 to 1970. Hofferth et al. (1987) reported that early sexual activity among White adolescents increased during the 1970s. Norr (1990) wrote that by 1981, 45% of adolescent pregnancies ended in abortion, 27% in non-marital births, and 28% in marital births. The literature review was conducted from a wholistic point of view, with the physiological, psychological, sociocultural, and spiritual factors of adolescent pregnancy being reviewed.

This study used a correlational ex post facto design to determine the relationship between the age of a mother at her first pregnancy and the age of her daughter at first pregnancy. The convenience sample was comprised of 48 primigravidas.

A researcher-developed instrument was utilized for data collection. The tool gathered information on the clients' and mothers' ages at first pregnancy, their marital status at time of first pregnancy, and their educational level. Data on the client's ethnic background and her receipt of AFDC or any other public assistance was also collected. The tool had not been tested for reliability and validity prior to its use in this study. The data to test the study hypothesis were analyzed using

the Pearson *r*. Demographic data were analyzed with descriptive statistics.

The findings of this study were as follows:

1. No significant correlation was found between the mothers' and daughters' ages at first pregnancy (r = -.213, p = .07).

2. The largest percentage of the daughters (33%) had completed the 12th grade. The largest percentage of the mothers (42%) had also completed the 12th grade.

3. The majority of the clients (73%) were Caucasian.

4. Only 25% of the clients indicated that they were receiving AFDC or some other form of public assistance.

5. The majority of the daughters (79%) were single at the time of their first pregnancy and the majority of the mothers (73%) were married at the time of their first pregnancy.

When the adolescents were examined separately, the following was found:

1. No significant correlation was found between the mothers and adolescent daughters at first pregnancy (r = .075, p = .383).

2. Only 16% of the adolescents had completed the 12th grade, while 39% of the mothers had completed the 12th grade.

3. The majority of the adolescents (83%) were Caucasian.

4. Twenty-seven percent of the adolescents indicated that they were receiving AFDC or some other form of public assistance.

5. The majority of the adolescents (94%) were single at the time of their first pregnancy, and the majority of the mothers (67%) were married at the time of their first pregnancy.

Discussion of Findings

Bandura's (1977) theory of social learning proposes that human behavior is learned observationally through modeling. The hypothesis for this study was: The younger the age of the mother at her first pregnancy, the younger the age of the daughter at her first pregnancy. Kahn and Anderson's (1992) study showed a strong intergenerational pattern for repeated adolescent births. They successfully demonstrated that the earlier the mother's age at first birth, the higher the likelihood that her daughter will have an adolescent pregnancy. The findings in this study did not support the theory that daughters model their mothers' early sexual behavior.

Rodriquez and Moore (1995) wrote that adolescents who become pregnant do not acquire as much education as

adolescents who delay childbearing. The findings of this study correlated with their report, as only 16% of this study sample completed the 12th grade.

Rainey (1966) wrote that adolescent mothers are disproportionately poor and dependent on public assistance. Rodriquez and Moore (1995) wrote that adolescent mothers are less likely to find employment and are therefore more dependent on public assistance, which perpetuates the cycle of poverty. These authors found that one-half of adolescent mothers go on welfare within the first year, and 77% within 5 years. The findings of this study did not agree with these authors' findings. This study found that only 27% of the adolescents were receiving AFDC or any other form of public assistance.

Kahn and Anderson's (1992) study reported that the majority of White adolescent births occurred within marriage, and the majority of Black adolescent births occurred outside marriage. Norr (1990) wrote that during the 1950s and 1960s a higher proportion of adolescent who gave birth were married before the birth. Hofferth et al. (1987) asserted that in the 1970s a transformation occurred, with fewer adolescent mothers marrying. The findings of this study show that this trend is continuing in the 1990s. Ninety-four percent of this study's

pregnant adolescents were single. The researcher believes this finding may be related to the changing morals of the American society. Twenty years ago it was unacceptable to have an out-of-wedlock pregnancy, whereas today it is somewhat fashionable and desirable over a bad marriage.

It is important to point out the problems that occurred during the data collection phase of this study. As previously mentioned, one of the original data collectors left the North Texas Community Clinic and a new nurse educator was employed. Without the researcher's knowledge this new nurse began collecting data without being oriented to the project. Because no identifying marks (either for the data collectors or the subjects) were placed on the questionnaires, there was no way to identify the data that had been collected by this new data collector. Evidence that some of the data might be inaccurate is indicated by the age at first pregnancy of some of the mothers. These ages were: 37, 41, 41, 41, 45, 48, 50. Although the questionnaire asked for the mother's age at first pregnancy, it is speculated that the data collector may have asked for the mother's age at the present time.

Conclusions

Based on the data, the following conclusions were made:

1. There was no indication of a familial cycle of adolescent pregnancy. Because of the concern about the accuracy of the data, this conclusion should be viewed with reservation.

2. There appears to be a decrease in the reliance on AFDC or public assistance by pregnant women who attend a community clinic for their prenatal care. However, because data were collected at an intake interview, some of these women may have been placed on AFDC at a later date.

3. The trend for out-of-wedlock pregnancy is apparent in this study's findings.

Implications

Based on the study conclusions, the following implications were developed:

1. Other factors need to be explored to determine the predictors of adolescent pregnancy.

2. The decrease in the reliance on public assistance that was found in this study needs to be explored further to determine if this is a widespread trend or a consequence of the timing of the data collection.

3. The determining factors for out-of-wedlock pregnancy need to be further investigated.

Recommendations for Further Study

The following recommendations for further study are made:

1. The present study should be replicated with a much larger sample and in different geographical areas.

2. The demographic tool should be tested for reliability and validity before the study is repeated.

3. A more thorough training program should be conducted with the data collectors to insure accuracy and completeness of the questionnaires.

4. Studies should be conducted that examine other variables, such as religiosity, to determine factors that are associated with adolescent pregnancy.

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APPENDIX A

Agency Approval

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE NORTH TEXAS COMMUNITY CLINICS

GRANTS TO BELINDA BRAZIL ZINKE

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

THE FAMILIAL CYCLE OF ADOLESCENT PREGNANCY

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. Other:

12-3-94
Date

Signature of Agency Personnel

Belinda Zinke
Signature of Student

Rose Nesmith Adams
Signature of Faculty Advisor

* Fill out & sign 3 copies to be distributed:
Original: Student, 1st copy: Agency
2nd copy: TWU College of Nursing

APPENDIX B

Human Subjects Review Committee Approval

TEXAS WOMAN'S UNIVERSITY

DENTON/DALLAS/HOUSTON

SCHOOL OF
PHYSICAL THERAPY
8194 Walnut Hill Lane
Dallas, TX 75231-4365
Phone: 214/706-2300
FAX: 214/706-2361

HUMAN SUBJECTS
REVIEW COMMITTEE

December 10, 1996

Belinda Brazil Zinke
Rt 1. Box 74
Decatur, TX 76234

Dear Belinda Brazil Zinke:

Your study entitled "The Familial Cycle of Adolescent Pregnancy" has been reviewed by a committee of the Human Subjects Review Committee and appears to meet requirements in regard to protection of individuals' rights.

Be reminded that both the University and the Department of Health and Human Services (HHS) regulations typically require that signatures indicating informed consent be obtained form all human subjects in your study. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to HHS regulations, another review by the Committee is required if your project changes.

Special provisions pertaining to your study are noted below.

___ The filing of signatures of subjects with the Human Subjects Review Committee is not required.

X___ Your study is exempt from further TWU Human Subjects Review.

___ No special provisions apply.

Sincerely,

Ann L. Walker

Ann L. Walker, Ph.D.
Chair, HSRC - Dallas

cc: Rose Nieswiadomy, Parkland
Dr. Leslie Thompson, Denton

APPENDIX C

Graduate School Approval

TEXAS WOMAN'S
UNIVERSITY
DENTON/DALLAS/HOUSTON

THE GRADUATE SCHOOL
P.O. Box 425649
Denton, TX 76204-3649
Phone: 817/898-3400
Fax: 817/898-3412

February 10, 1997

Ms. Belinda Zinke
Rt. 1, Box 74
Decatur, TX 76234

Dear Ms. Zinke:

Thank you for providing the materials necessary for the final approval of your prospectus in the Graduate Office. I am pleased to approve the prospectus, and I look forward to seeing the results of your study.

If I can be of further assistance, please let me know.

Sincerely yours,

Leslie M Thompson

Leslie M. Thompson
Associate Vice President for
Research and Dean of the
Graduate School

dl

cc Dr. Rose Nieswiadomy
Dr. Carolyn Gunning

APPENDIX D

Data Collection Instrument

DEMOGRAPHIC TOOL

Place a check mark to the left of the category that applies:

1. Client's age: _____

2. Racial/ethnic background:
   A. _____ Caucasian
   B. _____ African American
   C. _____ Hispanic
   D. _____ Other (Specify_____)

3. Education: (last grade completed)_____

4. Is client on AFDC or any other public assistance:
   _____ Yes _____ No

5. Client's marital status at time of first pregnancy:
   A. _____ Single
   B. _____ Married
   C. _____ Divorced
   D. _____ Separated

6. Client's mother's age at time of first pregnancy:
   _____

7. Client's mother's marital status at time of first pregnancy.
   A. _____ Single
   B. _____ Married
   C. _____ Divorced
   D. _____ Separated

8. Client's mother's education: (last grade completed)
   _____

APPENDIX E

Raw Data on Total Sample

Raw Data on Total Sample

Subject	Client's age	Race	Client's Education	AFDC	Client's M/S	Mother's age	Mother M/S	Mother's education
1	22	C	16	No	S	21	M	12
2	15	C	9	No	S	31	M	N/A
3	20	A	9	No	S	15	S	9
4	18	C	11	No	S	22	M	10
5	26	C	18	No	S	23	M	college
6	18	C	9	Yes	S	15	M	N/A
7	19	C	12	Yes	S	23	M	12
8	18	C	12	Yes	S	26	M	12
9	18	C	12	No	S	17	S	GED
10	25	C	16	No	M	24	M	14
11	20	A	12	No	S	25	S	18
12	24	C	13	No	M	21	M	14
13	28	A	13	No	M	17	M	16
14	22	C	12	No	S	18	M	11
15	20	H	12	No	S	16	M	8
16	24	A	16	Yes	S	20	M	15
17	18	C	10	No	S	17	M	GED
18	17	A	9	No	S	16	M	?

Subject	Client's age	Race	Client's Education	AFDC	Client's M/S	Mother's age	Mother M/S	Mother's education
19	37	C	12	No	M	22	M	12
20	30	C	16	Yes	M	19	S	12
21	21	C	15	No	S	26	M	18
22	23	C	12	Yes	S	18	S	12
23	27	C	12	Yes	S	16	M	12
24	24	H	11	No	S	24	S	11
25	20	C	12	No	S	19	S	12
26	20	I	12	No	S	19	M	12
27	25	C	16	No	M	18	M	12
28	18	C	GED	No	S	23	S	12
29	21	C	12	No	M	20	M	12
30	33	C	12	No	S	18	S	12
31	26	C	12	Yes	M	17	M	10
32	26	C	14	No	S	22	M	14
33	23	H	11	No	M	23	M	11
34	27	C	15	No	S	23	M	14
35	22	A	14	Yes	S	18	M	12
36	18	C	10	No	S	26	Sep.	12
37	12	A	6	No	M	18	M	12

Subject	Client's age	Race	Client's Education	AFDC	Client's M/S	Mother's age	Mother M/S	Mother's education
38	17	C	10	No	S	17	S	12
39	31	H	10	Yes	S	21	M	10
40	20	C	12	No	S	41	M	14
41	22	C	9	No	S	45	M	12
42	17	C	11	No	S	31	M	12
43	25	C	14	No	S	50	M	12
44	18	C	11	No	S	34	S	7
45	19	H	10	No	S	48	M	N/A
46	17	C	11	Yes	S	37	M	11
47	18	C	10	No	S	41	M	?
48	15	C	9	Yes	S	41	D	15