

EVALUATION OF A POTENTIAL RESEARCH BASE FOR AND
IDENTIFICATION OF ETHICAL ISSUES SURROUNDING
PREDICTION OF TEENAGE PREGNANCY

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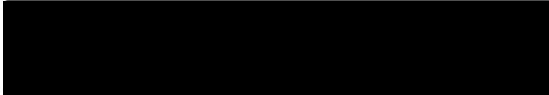
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An Independent Research Activity

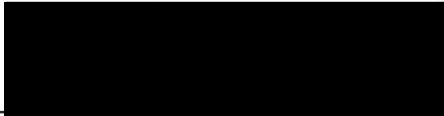
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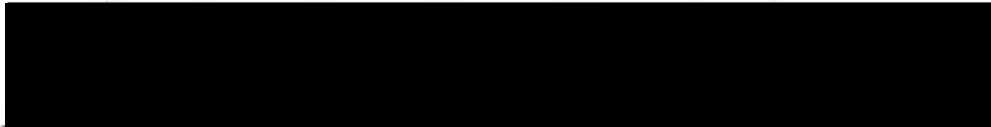
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a.t.c.

DEDICATION

To my parents and my children, Ryan and Sara, who assumed many new responsibilities and offered support and encouragement throughout graduate school, not once, but twice.

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CHAPTER I

INTRODUCTION

Nurses today are concerned with providing appropriate health care to adolescents at risk for teenage pregnancy. In general nurses become involved in this issue by their concern for the teenager who is already pregnant (Ruszala, 1980; Panzarine, Elster & McAnarney, 1981; Allison-Tomlinson, 1982; Daniels & Manning, 1983; Steinman, 1979; Curtis, 1974; Burton, 1980). Research from other disciplines has been directed toward identifying factors associated with teenage pregnancy. Nurses could draw from this work in the development of theories for nursing practice that could enhance intervention and the quality of the health care provided to adolescents today. However, before examining nursing theory, nursing practice and nursing ethics related to teenage pregnancy, it is necessary to review the extent and nature of the problem along with the literature addressing the factors associated with and outcomes of teenage pregnancy. The purpose of this paper is to examine the appropriateness of the development of a nursing protocol to identify young adolescents at risk for becoming pregnant.

Incidence of Teenage Pregnancy

Recent data suggest that teenage pregnancy is an epidemic in today's society. Approximately 10% of American, adolescent girls become pregnant each year. Fifty percent of these give birth (McKenry, Walters & Johnson, 1979). Baldwin (1983) reports that the birth rate in 1979 was 53.4 per 1000 women 15-19 years of age reflecting a total of 549,472 births. The number of illegitimate births to females of this age group has consistently risen since 1960. At that time there were 15.3 births per 1000 unmarried adolescent women; that figure rose to 22.4 in 1970 and 26.9 in 1979. During the 1960s and early 1970s, the birth rate continued to rise for the younger adolescent (14-16 years of age), but declined for the older adolescent. A dramatic difference also exists between birth rates for black and white adolescent females. In 1979, the birth rate per 1000 unmarried black girls 15-19 years of age was 93.7 in contrast to 14.9 for white adolescents of the same age.

Abortion rates are also high among teenagers. One-third of all legal abortions in the United States each year are performed on teenagers. In 1979, when less than 550,000 babies were delivered to adolescent women, 449,500 fetuses were aborted. This was a 39.5% increase over

the five year period from 1974-1979 (Baldwin, 1983). Thus, abortion, as a solution to the problem of teenage pregnancy, is sought by a significant number of young girls annually.

Sexual activity among teenagers has also increased. In a study of metropolitan women aged 15-19 years conducted during the period of 1971-1979, Zelnik and Kantner (1980) found an overall increase in sexual activity of 66.7%; for girls aged 17 years the increase was 85.8% and for girls aged 16 years the increase was 80.9%.

Effects and Risks of Teenage Pregnancy

The foregoing data document the widespread and pervasive problem of adolescent sexual activity and pregnancy. Concern has been expressed that these increases in pregnancy and birth rates are evidence of a tendency toward increasing sexual permissiveness and a breaking away from established moral values. The phenomenon is seen by some as a threat to marriage and the family as a unit in society (Plionis, 1975).

To understand the full effects and to feel the impact of these statistics, it is important to understand the effects of teenage pregnancy and birth on the adolescent, her family and society. Medical risks for both mother and infant have been identified in many studies.

However, the validity of some of these studies has been questioned (Baizerman, 1977; Stewart, 1976), and there is lack of agreement between studies. Statistics indicate that pregnancy carries higher risks to both adolescent mothers and their infants than for older mothers and their infants (Plionis, 1975). For instance, the maternal mortality rate from complications of pregnancy, delivery and birth are 60% higher for teenagers less than 15 years of age than for older mothers; the infant mortality rate is two to three times higher; venereal disease rates are also higher. The adolescent is three times as likely to have gonorrhoea and has a 61% greater chance of contracting syphilis than the older female population (Potteiger & Green, 1978).

The medical risks are numerous, though controversy exists. There is consensus regarding the risk of toxemia for the young, prospective mother with evidence to show that toxemia rates increase with decreasing maternal age (Stewart, 1976). Other studies, however, indicate that lack of prenatal care is a more important contributing factor to toxemia than age (Clark, Wong & Niles, 1967). Other maternal complications associated with adolescent pregnancy include anemia (Burton, 1980; McGanity, Little, Fogelman, Jennings, Calhoun & Dawson, 1969; Hulka & Schaaf, 1964); cephalopelvic disproportion (Burton, 1980; Battaglia,

Frazier & Hellegers, 1963; Hassan & Falls, 1964; Zackler, Andelman & Bauer, 1969); prolonged labor (Burton, 1980; Aznar & Bennett, 1961; Claman & Bell, 1964; Andrews, 1975); uterine dysfunction and postpartum infection (Andrews, 1975); bleeding during the first or third trimesters or postpartally (Burton, 1980; Andrews, 1975; Zackler et al., 1969); premature rupture of the membranes (McGanity et al., 1969), and placenta previa (Zackler et al., 1969).

Definite risks also exist for the infants of young parents. Prematurity and low birth weight are reported twice as often in these infants when compared with babies of older parents (Burton, 1980; Alan Guttmacher Institute, 1976). Prematurity has been found to be related to the age of the mother (Stewart, 1976), lack of prenatal care and race (Anderson, Jenss, Mosher & Richter, 1966), multiple births, multiparity, spacing of pregnancies and socioeconomic level (Stewart, 1976). As a result of prematurity, these infants are at a greater risk for epilepsy, cerebral palsy, mental retardation, and loss of vision and/or hearing (Burton, 1980; Menken, 1972). Perinatal and infant mortality rates are also increased with adolescent pregnancy. Babies of adolescents under 16 years of age have a mortality rate two to three times higher than that for babies of more mature mothers (National Center for

Health Statistics, HEW, 1973). However, Stepto, Keith and Keith (1975) state that the factors of illegitimacy, poor nutrition, inadequate or absent prenatal care, race and repeated pregnancy are more important contributing factors in infant mortality than is the age of the mother. Neurological defects are 2.4 times more likely in infants of adolescent mothers and are related to the same factors of prenatal care, socioeconomic status, nutrition and age (Alan Guttmacher Institute, 1976).

There are numerous non-medical risks which affect the teenage mother, her family and society as a whole. Pregnancy creates stress for the teenager and her family. For some girls, the stress comes from the socially unacceptable role transition to early motherhood (Bacon, 1974). For some girls, the stress comes from dealing simultaneously with three unique adjustment tasks, namely, adolescence, early marriage and pregnancy (LaBarre, 1968). Stress in unwed teenagers may be reflected in feelings of unhappiness (Crumidy & Jacobziner, 1968) or even in suicide attempts. Jekel, Tyler, Gabrielson, Bancroft and Klerman (1973) reported a suicide attempt rate of 13% in a study of 180 pregnant adolescents as compared to an attempt rate for all American, adolescent females of 0.028% (Public Health Service, 1976).

When the pregnant teenager chooses the option of

marriage, a set of very definite stressors is incorporated. These stressors include the feeling of being cheated of their youth, education and/or social position, lack of trust in the mate, blaming their partner, low self-concept and depression (Dame, Finck, Mayos, Reiner, & Smith, 1966). Often these stressors result in divorce. The divorce rate for adolescent brides 17 years and under is 20% within the first year and 60% within six years (Furstenberg, 1976). For teenaged brides under 15 years, the risk of divorce is three times higher than that for older brides (Bacon, 1974).

Stress exists not only between the marriage partners but also between parents and children, resulting in many cases in negative parenting styles. Among older couples, there are several factors which often help support the transition to parenthood. These include, on the average, a higher and more stable socioeconomic level, older age at parenthood, opportunity for family planning, timing of parenthood in relation to the marital career of the woman, better adjustment to marriage and a higher commitment to the roles of mother and father (Russell, 1974). In contrast, for most adolescent parents these positive factors are absent and may contribute to negative parenting styles which include child abuse or neglect with associated retardation of physical and emotional development (Youngs

& Niebyl, 1975; Bolton, 1980). Adolescent parents generally demonstrate a lack of knowledge of normal child development, tend to have inappropriate early development and behavior standards, seem to lack patience and sensitivity and lean toward physical punishment in their disciplining techniques (deLissovoy, 1973). Desertion is more common among mothers 18 years and younger (Oppel & Royston, 1971). In addition the children of teenage mothers more often demonstrate poor school achievement and serious delinquent behaviors (Youngs & Niebyl, 1975).

Other factors which have an impact on the teenager, her family, and society include lost educational opportunities, increased unemployment, poverty and welfare dependence. A study of 404 Baltimore girls who had become pregnant by 17 years of age showed that 80% of them never finished high school (Furstenberg, 1976). In 1968, the median income for 17-19 year old heads of household in New York City with no children was \$5500; in contrast in a comparable group with children the median income fell to \$3313 (Honig, 1978). Welfare dependence predominates, ranging from 60% to 72% of teenage parents (Sarrel & Davis, 1966; Alan Guttmacher Institute, 1976). A follow-up study conducted in 1977-1978 to the Project TALENT study of 1960 which had assessed "quality of life" criteria from the testing of 375,000 high school students,

showed that 52% of the female drop-outs were due to pregnancy. The subjects who had been adolescent parents showed a lower level of job satisfaction, lower material well-being and financial security, and a higher divorce and separation rate than the subjects that were not adolescent parents (Russ-Eft, Springer & Beever, 1979).

The foregoing studies document the fact that the teenage girl experiences physical, mental, and emotional risks as well as educational, financial, and often marital losses as a result of early motherhood. In fact, David (1972) asserts that a loss of human potential is experienced by the adolescent mother who does not complete her education to facilitate a productive life in society. The babies also suffer physical, mental, emotional and social risks because of the stress and disadvantage. Society often experiences a financial burden in supporting the new family unit and in caring for the child should it enter the social service system for educational reasons, for medical reasons or for neglect by the parent.

Historically, there have been changes in attitudes toward the pregnant teenager and in the services extended to them. In the early 20th century, Percy Kammerer implicated "the contaminating influence of groups and bad effects of individuals" in explaining teenage pregnancy (Kammerer, 1969). Around 1930, students of this problem

no longer attributed its causes to mental deficiency, immorality and undesirable companions, but to societal problems such as poverty, disintegration of the nuclear family and disorganized neighborhoods. Between the late 1930s and mid-fifties, the proposed explanations included cultural and psychological factors and psychiatric reasons. By the mid to late 1950s, it was recognized that teenage pregnancy was a phenomenon seen in all walks of life. The world of the adolescent, rather than the adolescent herself, became a focus. Since that time, the major emphasis has been on the quality of research to sort out the biases that have occurred from inadequate sampling and overgeneralization (Bolton, 1980; Kammerer, 1969; Vincent, 1966).

Services for Pregnant Adolescents

Services for pregnant or sexually active teenagers have changed as the attitudes have been altered. Traditionally, physicians and nurses have been hesitant to deal with sexuality problems and questions of young adolescent girls because their position was unclear within the legal system. The courts allowed parents total control over their children, assuming that parents would always act wisely on behalf of their children. Thus, the needs of children as individuals were not recognized

within the legal structure. Within this framework, health professionals were discouraged from counseling adolescents regarding sexuality and from prescribing contraceptive devices since such practices were considered to be usurping parental rights and responsibilities.

As society has gradually evolved from a group orientation to an emphasis on the individual, the position of the health professional has been liberalized to some degree. Legal changes have occurred that recognize adolescents as individuals with certain limited rights (Pilpel & Wechsler, 1971). As recently as May 1976, the Supreme Court ruled that all family planning agencies that receive Title XIX and XX funds must provide counseling and birth control services to all eligible minors (15 years and older) without parental consent. The legislatures of 26 states and the District of Columbia have declared that birth control is to be available to minors without parental knowledge and approval. All 50 states and the District of Columbia have provided for venereal disease treatment for minors without parental knowledge. Since pregnancy may occur among adolescent girls under 15 years of age, this group is most likely to be refused care on their own consent (Potteiger & Green, 1978).

Services for pregnant and sexually active teenagers have been many and varied. Initially, the services

focused on isolation of the adolescent in a home-bound instruction program or in a home for unwed mothers either in the home community or out of town. In the past two decades, comprehensive care programs have been developed in selected teaching hospitals. Three such programs are located at Columbia-Presbyterian Medical Center, New York Hospital-Cornell Medical Center and Johns Hopkins Hospital in Baltimore. The goals of these programs are to provide high quality pre- and postnatal care, to provide training in parenthood, and to provide the opportunity to continue their education to become job-qualified. Child care is arranged for the babies so that the mother's educational goals may be achieved. Statistics show that girls in these programs use birth control measures at a higher rate than those not in these programs. Unfortunately, these hospital-based programs are limited in number and are perceived as a luxury by most hospital boards (Arehart-Treichel, 1978; Wilkens, 1974).

Today, public school systems administrators are recognizing that pregnant adolescent students have special needs. Many districts are providing either special schools or special programs within the existing system to encourage pregnant adolescents to continue their education rather than to drop out. Unfortunately, many of these programs lead to racial segregation because of discrepancies

in financial means between the blacks and the whites. Alternatives for those families with greater financial resources include abortion, maternity homes and relocation outside the home community (Holmes, Klerman & Gabrielson, 1970).

Within the last decade family planning agencies have started to provide services to sexually active teenagers in efforts to prevent teenage pregnancy. Potteiger and Green (1978) state that in 1975, 1.1 million adolescents were clients of organized family planning clinics. An additional 850,000 to one million teenagers were clients of private physicians for these same services. Unfortunately, for many teenagers the contraceptive services of these agencies and private practitioners are not sought early enough. These authors also contend that almost all adolescents have had intercourse prior to seeking birth control. In one study they mention, 75% of the clients had been sexually active for at least one year and almost 30% had been pregnant prior to seeking family planning services (Potteiger & Green, 1978). Statistics show that clinics are least utilized by blacks, by 14-15 year olds, and rural residents. Fifty percent of the sexually active teenagers 15-19 years of age receive no sexual health services at all; 93% of sexually active teenagers under 15 years of age receive no birth control

services. Non-prescription birth control is available legally to minors in 26 states plus the District of Columbia; however, only one-sixth of the sexually active teenagers utilize non-prescription contraceptive devices (Potteiger & Green, 1978).

Services to pregnant teenagers have been expanded in recent years and are multifaceted. Currently, school districts often provide educational programs for pregnant teenagers or young mothers. Contraceptives, abortions and venereal disease treatment are now available to most adolescents independent of income and on a confidential basis without parental notification. While services have become more accessible to adolescents, many are utilized too late or are perceived as too threatening for the adolescent to attend to prevent pregnancy.

Theoretical Frameworks for Teenage Pregnancy

Many studies have been conducted in an effort to clarify the factors surrounding teenage pregnancy. Most of the factors identified can be classified into one or more of the following theoretical frameworks: (a) developmental, (b) psychological/psychoanalytical, and/or (c) sociological. An economic theory, the "Brood Sow" theory, has been developed and espoused by some segments of the public. This "theory" proposes that teenagers

become pregnant in order to gain access to the welfare system. The impact of this theorization has detrimental effects upon program development. Bolton (1980) points out that public funding is difficult to obtain when this theory is in operation.

The developmental theory base includes physiological and cognitive factors. Physiologically, adolescent females have been maturing at younger ages over the past generations. Menarche, for 50% of American adolescent girls, starts by 12 years of age. By 13 years of age 73% of girls have begun their menstrual cycle and by 15 years virtually all (98%) teenage girls are menstruating (Baizerman, 1977). Gottschalk, Titchener, Piker, and Stewart (1964) did further study into the role of menarche in teenage pregnancy and found that the rate was lower among the girls who experience physical and/or psychological discomfort prior to menstruating. Feelings of fear or disgust and illness associated with menstruation also worked to lower the pregnancy rate. At the same time, the norm is changing culturally to emphasize the value of marrying at an older age to allow for completion of education and career development. This means that adolescent girls have an increasing potential fertile period during which time intercourse is socially stigmatized and, most often, unprotected. Consequently, the opportunity for teenage pregnancy is increased

(Ballard & Gold, 1971; Cutright, 1972).

Within the developmental framework, cognitive functioning is a factor that varies with the adolescent's level of thinking. Cobliner (1981) supports cognitive functioning as a developmental factor based on the precept that the adolescent's level of thinking influences cognitive assimilation and behavior. The role of sexual knowledge seems to meet with some contradictory evidence. Some studies demonstrate a lack of knowledge among pregnant teenagers, while other studies indicate that the knowledge is there but it is not applied. Furstenberg, Gordis and Markowitz (1969) surveyed 169 pregnant adolescents who utilized the services of a clinic in Baltimore and found that less than half were able to name at least three methods of birth control. Contraception was utilized by 41% of the teenagers, most commonly this was the condom. Only 10% of the subjects felt that their knowledge about contraception was sufficient. Two-thirds stated they would use birth control if it were available. Almost one-quarter of the group stated that their source of knowledge was the media. Goldfarb, Mumford, Schum, Smith, Flowers and Schum (1977) found age and source of birth control and menstruation information to be of importance in their "pregnancy susceptibility" index, a measurable profile to indicate likelihood of unwanted pregnancy.

Susceptibility was found to be much greater when the age of the first sex education was 14 years or above and menses information came at 13 years or later. When sex and menses information was obtained from acquaintances rather than family or school, the risk was again elevated. The lowest risk for teenage pregnancy occurred when the family provided menstruation information at about 10 years of age and the school conducted sex education at or before 10 years of age.

Babikian and Goldman (1971) conducted a study that looked specifically at the knowledge of pregnant adolescents. This group of subjects believed that conception occurred near the time of menstrual flow, and that the safest time for intercourse was in the middle of the menstrual cycle. The researchers also found that the girls felt that pregnancy could not happen to them because they had not made the conscious choice to become pregnant.

Inadequate knowledge is only a small part of the cognitive/developmental theory base. The adolescent's ability to incorporate her knowledge into daily life and level of cognitive functioning are also key factors. According to Piaget, the adolescent often operates at some point between concrete operational thinking and the formal operational mode. There is a gradual

transition from one stage to the other. For the teenager who is not thinking at the formal operational level, pregnancy and motherhood are abstractions with little personal meaning. During the transition from concrete to formal operational thinking, the adolescent passes through several new stages described by Elkind (1970). Egocentrism is the first stage identified by Elkind and refers to the self-centeredness of adolescence. During this stage the adolescent feels that he/she is the center of the world and is immune to the results of his/her behavior. Elkind's imaginary audience refers to the adolescent's perception that everyone is watching him/her. Oftentimes the adolescent thinks that others are also thinking about his/her thoughts. For the adolescent experiencing her personal fable, feelings are of being invulnerable and highly idealized. Facts that pertain to other people do not always apply to the adolescent in his/her perception of self. Sexual activity is influenced by these phenomena by causing the adolescent to feel that the world revolves around her, that others are thinking her thoughts, and hence, she may be self-conscious and feel guilty about the use of contraceptives. As part of her personal fable, she is invulnerable to the risks of unprotected intercourse. Sexual facts do not apply to her as they normally apply to others. She

is incapable of even considering unfavorable outcomes such as pregnancy (Elkind, 1970; Kreipe, 1983).

Psychological and psychoanalytical factors as a theoretical framework for teenage pregnancy have also received much attention. Self-concept has been the primary focus of study in this area. Lindemann (1974) stated that failing to modify one's self-concept to that of a sexual being was a prime cause for adolescent pregnancy. Adolescent females who refuse to accept that they are sexually active also avoid the decision to consider and use contraception. Pregnancy, then, becomes a natural and frequent consequence. The self-concept in this framework permits a spontaneous relationship but does not comfortably condone planned or intentional intercourse.

Zongker (1977) conducted an extensive study between 1974 and 1976 in which he analyzed the self-concepts of a group of pregnant teenagers and a control group of girls matched by grade. Measurements were taken using the Tennessee Self Concept Scale. The results were significant in their differences on 13 of the 27 variables which included items such as race, self-criticism, age, father status, personality disorders and number of deviant signs. Both groups demonstrated low mean scores; however, the pregnant group reached the

deviant level in behavior and moral-ethical measures, and the exceptionally depressed level on self-identity and family and social relationships. The scales on the clinical and Research Form of the Tennessee Self Concept tool of the pregnant group resembled those of subjects with personality disorders, psychosis and general maladjustment. Behaviors exhibited at this level include defensiveness, over-compensation, instability, conflict and minimal personality integration. Of the 27 variables, the self-acceptance scores were the highest the pregnant adolescents attained. These scores indicated that the pregnant girls had a low self-concept and had come to accept the feelings that accompany it, whereas, the control group had not. The following conclusions regarding the self concept of pregnant teenagers were drawn: (a) they experience a decrease in the sense of personal worth, (b) there is a greater dissatisfaction with relationships with the family and a loss of a sense of value as a family member, (c) they have a decreased level of satisfaction with their appearance, bodies, physical performance, health and sexuality, (d) they show instability and a lack of personality integration that is often seen with impulsive or irrational behavior as well as high anxiety and risk-taking behavior, (e) defensiveness is increased, and (f) there are indications of maladjustment

and personality disorders. The results of this study need cautious acceptance since the self concepts of the pregnant subjects were measured following conception. The study does not address the possibility that the low self concept was a result of the pregnancy.

Three earlier studies had substantiated to some degree the results of Zongker's work. Personality testing performed on 135 pregnant adolescents in 1966 in New York City demonstrated that 85% of their sample had persistent feelings of depression. They also found that the vast majority have some degree of emotional disturbance (Wilkins, 1974; Schonholz, Gusberg & Astrachan, 1969; Curtis, 1974).

Abernethy, Robbins, Abernethy, Grunebaum, and Weiss (1975), who have examined the importance of family relationships in the study of adolescent pregnancy, have also examined self concept. They propose that low self-esteem results from a deficient identification with the mother who is seen as a cold person for whom the daughter has no respect. As a result of this poor mother/daughter relationship, there is a transfer of the daughter's dependency needs to the father. This situation sets the stage for distorted family relationships, leading to increased risk for teenage pregnancy because of promiscuity and irresponsible contraceptive practices. The

three factors considered as a constellation in these families are a poor marital relationship characterized by hostility and distance between the parents, alienation of mother and daughter during the teenage years and an excessively intimate relationship with the father. The daughter's role is redefined such that she assumes some of the mother's role as a companion to the husband/father. Guilt often develops over the incestuous overtones in the parent/child relationship that causes the daughter to displace these feelings and behaviors to a more acceptable male substitute resulting in promiscuity (Abernethy & Abernethy, 1974; Gottschalk, 1964). The low self-esteem of the daughter often extends to develop an attitude that views all women as relatively worthless. Other authors have linked higher adolescent pregnancy rates to father absence from the home and a conflicting mother-daughter relationship where a strong bond exists between the two women and at the same time the mother is resented by the daughter (Barglow, Bornstein, Exum, Wright, & Visotsky, 1968; Dame, Finck, Mayos, Reiner & Smith, 1966).

Other psychological factors have been proposed. Sklar and Berkov (1974) proposed the existence of an unconscious desire within the adolescent to become pregnant. Loesch and Greenberg (1962) found that an adolescent who is highly dependent on her parents and has a greater

need for affection is more likely to become pregnant. Locus of control has also been listed as a variable in teenage pregnancy that is race-dependent. Segal and Ducette (1973) found that an increased number of white adolescents with a high external locus of control and black teenagers with a high internal locus of control are more susceptible to teenage pregnancy. Anomie, feelings of rootlessness and lack of purpose, has also been found to be more prevalent among pregnant adolescents (Goode, 1961; Roberts, 1966; Meyerowitz & Malev, 1973).

Russ-Eft, Sprenger and Beever (1979) and Curtis (1974) analyzed the antecedents and consequences of the teenage pregnancy phenomenon. They found family factors to include such crises as alcoholism, separation or divorce of the parents, abandonment of the family by one parent, death of a parent and chronic health problems of one or both parents to be stressors to the family structure and function that were associated with a higher incidence of adolescent pregnancy. Coddington (1979) used a 51-item check list to correlate certain life events to the occurrence of teenage pregnancy. These life events included such items as family illness, death, separation or divorce, school successes and failures, legal problems, dating and friendship patterns, drug use, and church

attendance. He tested a group of pregnant adolescents 14-19 years of age and a control group of non-pregnant teenagers 12-20 years of age. The group who were pregnant had a higher mean number of life events than those of the control group. Specific family life events implicated in the pregnant group's results focused on death of a parent or grandparent, separation but not divorce of the parents, and illness of a parent. Death of a sibling was identified more frequently in the pregnant sample than in the non-pregnant group, but was not statistically significant. The author suggests that these data lend support to the hypothesis that some girls manage personal loss by involvement in intimate relationships with other people.

From a sociological framework, family size and composition are factors which have been examined in several studies. Zongker (1977) noted that 60.5% of the subjects who were pregnant had no father or father-figure within the nuclear family structure, as compared with 17.6% in the control group. He asserts that father absence led to decreased parental control as the important factor. Goldfarb et al. (1977) conducted a study in which she interviewed 1294 pregnant adolescents between the ages of 12-18 years and 114 control subjects during the years 1968-1973. All subjects were indigent. The interview

included 42 classes of objective information. Major topic areas included basic identifying data, family background, formal education, sex education, sexual behavior, contraceptive knowledge and use, and anticipated child care. Their goal was to develop a "pregnancy susceptibility" index using an inferential statistical strategy. They claim that their index had a "great" predictive power. Results related to the family background indicated that the pregnant-susceptible adolescent more frequently came from a large family with four or more brothers or four or more sisters and one or more unmarried sisters with children. Roper (1959) and Wilkins (1974) also reported larger than average sized families in their studies of unwed mothers and pregnant teenagers.

Social and cultural factors related to risk for teenage pregnancy include a variety of miscellaneous factors of which race is probably the most common variable. The minimum ratio of black to white teenagers in the studies examined was 2:1 (Russ-Eft et al., 1979), while other studies showed maximum sample composition of 80-99% blacks (Wilkins, 1974; Coddington, 1979; Goldfarb et al., 1977; Zongker, 1977; Furstenberg, Gordis & Markowitz, 1969). Reasons for this racial imbalance have been suggested to be socioeconomic, cultural, and/or school availability. White girls from higher income

levels often choose abortion, leave public schools or leave town, making them less readily available to participate in research studies. Madison (1971) proposed additional reasons to explain why blacks are more often subject to teenage pregnancy. These included the high unemployment rate among black males that makes marriage not feasible, and a matriarchal influence in the black culture. Zongker stated that there are fewer cultural sanctions against illegitimate births among blacks. Other factors that apply not only to blacks but also to girls of any race with a lower socioeconomic standing include inadequate housing in which to establish a mature and responsible family structure, low income and lack of education.

Low income has been implicated as a risk factor in several studies. Stine, Rider and Sweeney (1964) conducted a study in high fertility neighborhoods of Baltimore where the housing was older and more crowded. Data showed lower incomes, lower rents, lower education levels among the adults and higher employment of the younger girls than in low fertility neighborhoods. Russ-Eft et al. (1979) stated that low income was reported repeatedly for the parents by their subjects. Often the report was that they were "barely able to make it" or "just had the necessities." Roper (1959) found that

all of the subjects who were unwed mothers were in financial difficulties. Goldfarb et al. (1977) focused in their study on girls of indigent status while Furstenberg's study (1969) included pregnant teenagers from unskilled or semi-skilled parental backgrounds. Wilkins (1974) also concluded that one of the major risk factors was low income. Most of the research to date has been conducted on adolescents of lower socioeconomic status; however, data also supports the hypothesis that low income itself is a risk factor.

School achievement and attendance, and the level of parental education have been associated with adolescent pregnancy by several researchers. Goldfarb et al. (1977) found strong support for listing age-grade discrepancy as a major predictor for adolescent pregnancy. They claim that a teenager with an age-grade discrepancy is nine times more likely to become pregnant than her counterpart who is in the appropriate grade for her age. Further, they classified students who had repeated classes as being at a higher risk level. Zongker (1977) confirmed these conclusions. He found that pregnant subjects were older and possessed a lower mean grade level than non-pregnant subjects. They tended to fall below expected grade level and experienced less success in school. Low reading ability has also been identified

as a predictor. Roper (1959) in a sample of 12 blacks and 11 white unwed mothers found that the average number of years of education for unwed mothers was ten years. Because of the lack of school achievement, it has been suggested that IQs may be lower than average in pregnant adolescents. However, data have shown that IQ ranges are similar to that of the general population (Lyons, 1972; Garmezzy, 1971). Wilkins (1974) found that decreased school attendance was a factor when examined from the time the pregnant adolescents were in the sixth grade. Coddington (1979) reported, in addition to higher school failure rates, an increased number of suspensions from school as a risk factor for pregnancy.

Parents' education has been examined by several researchers. It was found that parents of pregnant adolescents had fewer years of formal education than the general public and tended to pursue unskilled or semi-skilled jobs. Many were unemployed (Roper, 1959; Wilkins, 1974). Furstenberg et al. (1969) reported that only one-quarter of the parents of the teenagers in his study were high school graduates.

Other miscellaneous social/cultural factors include church attendance and membership. Regular church attendance appears to lower the risk of unwanted pregnancy, whereas, church membership appears to have no relationship

(Wilkins, 1974; Gottschalk, 1964; Zelnik & Kantner, 1977). Madison (1971) proposed the hypothesis that a declining moral climate and confusion about moral values has increased the rate of teenage pregnancy. Madison feels that sex has been taken out of the family setting and been glorified as an isolated experience by the media, dress and literature. Roper (1959) found pregnant subjects avoiding group activities or relationships while Curtis (1974) found her sample refused to be active participants in group activities.

In summary, factors identified in the literature can be grouped in three theoretical frameworks. The developmental framework includes physiological factors such as early menarche and a prolonged fertile period prior to marriage (Baizerman, 1977; Ballard & Gold, 1971; Cutright, 1972), cognitive factors such as inaccurate or absent knowledge of birth control, menstruation, or conception and pregnancy (Furstenberg et al., 1969; Goldfarb et al., 1977; Babikian & Goldman, 1971), and thought processes focused on the personal fable (Elkind, 1970; Kreipe, 1983). The psychological/psychoanalytical framework includes poor self concept (Lindemann, 1974; Zongker, 1977), altered locus of control (Segal & Ducette, 1973), dysfunctional family relationships with role redefinition (Abernethy et al., 1975; Abernethy &

Abernethy, 1974; Gottschalk et al., 1964; Barglow et al., 1968; Dame et al., 1966), and personal loss through death of a parent, separation of the parents, alcoholism or chronic health problems of a parent (Russ-Eft et al., 1979; Curtis, 1974; Coddington, 1979). Included in the sociological framework are large family size (Goldfarb et al., 1977; Roper, 1959; Wilkins, 1974), race (Russ-Eft et al., 1979; Wilkins, 1974; Coddington, 1979; Goldfarb et al., 1977; Zongker, 1977; Furstenberg et al., 1969; Madison, 1971), low income of the parents (Stine et al., 1964; Russ-Eft et al., 1979; Roper, 1959; Goldfarb et al., 1977; Furstenberg et al., 1969; Wilkins, 1974), poor school achievement and attendance, lower level of parental education (Goldfarb et al., 1977; Zongker, 1977; Roper, 1959; Wilkins, 1974; Coddington, 1979), and poor church attendance (Wilkins, 1974; Gottschalk et al., 1964; Zelnik & Kantner, 1977). No theory has been proposed to interrelate these frameworks and variables. Additional data regarding white, upper and middle class adolescents who become pregnant, deliver, abort or miscarry their babies and those who do not become pregnant are necessary before a more comprehensive theory can be proposed.

Nursing and Teenage Pregnancy

With the exception of the publication by Curtis (1974), all of the foregoing citations are non-nursing in origin. Review of the nursing literature revealed that the articles which have been published are anecdotal and/or experiential in nature. Teenage pregnancy is addressed descriptively or therapeutically, for instance, the nursing authors describe how to help the adolescent who is already pregnant through provision of services or assessment of risk for medical problems during pregnancy or delivery, parent education, and occasionally contraceptive counseling (Robbins, 1981; Garcia, Foster, Theis, Polack & Epps, 1982; Burton, 1980; Allison-Tomlinson, 1982; Donlen & Lynch, 1981; Kandall, 1979; Bartel, 1981; Steinman, 1979; Daniels & Manning, 1983; Panzarine, Elster & McAnarney, 1981; Ruzsala, 1980; Peach, 1980).

Why has nursing not assumed a more assertive position in developing nursing theory based on research in respect to pregnancy in adolescence? Since other disciplines have provided the groundwork and since nurses are frequently involved with teenagers in several practice settings as schools, clinics, physicians' offices, and the acute care setting, it seems appropriate that nursing utilize the available data to continue to build knowledge

and theory related to adolescent pregnancy. Nursing is in the process of becoming a professional discipline with its own body of knowledge. This body of knowledge should be characterized by highly specialized nursing theory based on scientific nursing research. That is not to say that nurses cannot borrow theory from other disciplines to incorporate in nursing research and theory (Menke, 1978).

Nursing research, as a whole, is a relatively new phenomenon with a brief history of less than four decades. Much of that research has been directed toward nursing education and the role of the nurse. Research related to practice is still in an early stage of development. Controversy exists with regard to the need for a theory of nursing versus a theory for nursing (Crawford, Dufault & Rudy, 1979; Gortner & Nahm, 1977). Some nurse theorists prefer developing a "grand" theory to explain the art and science of nursing in a comprehensive context. Other nurse theorists propose many "theories" to direct nursing practice. There have also been limitations for the conduct of research in terms of the number of well-qualified nurse researchers and resources available to support research in the practice setting (Gortner & Nahm, 1977).

Issues impacting nursing research related to

adolescent pregnancy include those cited above as well as other, more methodological problems. The ethical issues of informed consent, the right to privacy, and research with children pose significant barriers when working with children who are or may become pregnant. The term "teenage pregnancy" is anxiety provoking for parents and consent is often withheld because of the fear that accompanies the term. Thus, selection of a representative sample is problematic. The researcher generally must use a volunteer sample which may be biased in such terms as race, socioeconomic status, age, sex, and parental comfort with the subject of sex. Other potential research errors include significant sample size, lack of longitudinal data, lack of control or comparison groups, questionable timing of the data collection related to the subject's pregnancy, and limited replication by other researchers. Review of the literature shows available data with regard to the female adolescent of lower socioeconomic status; however, a shortage of research exists related to fathers and to adolescent women from higher socioeconomic strata (Bolton, 1980).

The problem of teenage pregnancy is an area that is difficult to study. Obtaining an unbiased sample of adequate size and representation, control or comparison

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groups, appropriate timing of data collection relative to the immediacy of the subject's pregnancy as well as a theoretical framework on which to base the research are all problematic areas related to research with adolescent pregnancy. Insufficient data exist that allow for the development of a nursing theory to explain the interrelationships of the factors or to direct nursing intervention. Nursing has an obligation to originate, replicate and extend the knowledge about teenage pregnancy.

Summary

Teenage pregnancy is a syndrome prevalent in today's society. It impacts individual adolescents, their families, their children, schools, employers and all of society. The effects of teenage pregnancy are reflected in the nation's economy, the health of children and teenagers, the moral climate of society, the educational and vocational productivity of young people and in the happiness and satisfaction of the adolescent.

Research in this area has been extensive. Much has been published in the social science literature regarding the factors related to and the effects of teenage pregnancy. However, theory to interrelate these factors or to suggest intervention has not been proposed.

Nursing literature has focused primarily on the experiences of individual nurses working with pregnant teenagers. There is no theoretical base or nursing research for early identification of girls at risk for teenage pregnancy or for nursing interventions to facilitate preventing unwanted adolescent pregnancies.

Three attempts have been made to develop tools for early identification of females at risk (Goldfarb et al., 1977; Abernethy et al., 1975; Carson, 1980). All three tools were developed outside of the discipline of nursing, though one tool was developed by a nurse. The original purpose of this paper was an endeavor to develop a nursing protocol using these three tools with the application of the criteria of the Conduct and Utilization of Research in Nursing Project (Haller, Reynolds & Horsley, 1979). Individually and collectively, the three tools failed to meet the stringent standards. However, in the process of the effort, several major issues arose. The issue of early identification without a theoretical base for nursing intervention became critical. The ethics of labeling an adolescent at risk for pregnancy were addressed. Labeling theory proposes that people often incorporate societal labels as part of their self concepts, and the label becomes a self-fulfilling prophecy (Gordon, 1979). The ethics of screening for

risk when nursing has no theoretical framework for primary prevention (Rutkow & Lipton, 1974) was considered along with the dangers of labeling. These problems currently inhibit nursing from developing theory with regard to teenage pregnancy at the level of risk identification. Initial nursing research needs to focus on developing a theoretical base for prevention using the information from other disciplines regarding the factors associated with adolescent pregnancy. Once theory is developed, appropriate interventions can also be developed which will enable appropriate services to be delivered to adolescents.

CHAPTER II

PROTOCOL DEVELOPMENT: REVIEW OF STUDIES
FOR A RESEARCH BASEConduct and Utilization of Research in Nursing Project

Research utilization is an integral part of nursing science today. Increasing amounts of money and time are devoted to nurses interested in developing a research-based body of nursing knowledge and theory. Unfortunately, experience shows that the availability of quality nursing research does not guarantee or even predispose to its application in the practice setting (Haller, Reynolds & Horsley, 1979). In response to this deficit, the Michigan Nurses' Association obtained funding to establish a project to bridge the gap between the conduct of research and its subsequent utilization. The Conduct and Utilization of Research in Nursing (CURN) Project which was funded for a five year period established ten research-based nursing protocols. Also as a result of this project there has been a thorough review of the selection process for studies to be included in a research base. Very specific criteria have been identified for evaluation of the selected research and subsequent protocol development along with change strategies to enhance

the utilization of nursing protocols in practice settings (Horsley, Crane & Bingle, 1978).

As the staff of the CURN Project examined the development of nursing protocols, they established a set of criteria that would insure the application of sound research. It is their foundational belief that a nursing protocol cannot be written without a research base. This research base must consist of more than one study to establish construct replication. The ethical issue of the use of a protocol for patients based on only one study served as a limiting factor in the number of protocols developed. They preferred to use a series of replicated studies. When direct replication was not available, they accepted indirect replication that validated and broadened a nursing principle. The studies included in the base had to deal with identifying relationships among similar variables. For a study to be considered as part of a research base, it had to meet certain clearly defined criteria (Horsley et al., 1978). The criteria included replication, scientific merit, and risk. Studies which met these criteria were then examined for relevance to practice. This examination included the issues of clinical merit and control, cost benefits and practicality. Also closely scrutinized was the potential for clinical evaluation. A basic precept of

the CURN Project was that sound evaluation by clinicians was essential for acceptance of a protocol.

Critique

All three studies being evaluated for inclusion as a research base share the basic tenet that there is an identifiable constellation of risk factors that predispose to adolescent pregnancy. Each study purposed to establish a method for identifying those adolescents susceptible to unwanted pregnancy. Each study is critiqued and application to the CURN criteria follows.

The first study to be examined was conducted by Abernethy, Robbins, Abernethy, Grunebaum, and Weiss (1975) in Massachusetts where data were obtained from patients in two state mental hospitals. It should be noted that the sample was not totally adolescent with respect to age or representative of the average population of women. The sample consisted of 85 female subjects between the ages of 15-45 years. All were inpatients with diagnoses ranging from schizophrenia, paranoia and depression to adolescent adjustment reaction. These women represented the total population of the mental hospitals for this age group. No breakdown was reported for socioeconomic status except the statement that "there was an overrepresentation of the lower socioeconomic stratum." Religious

affiliation represented almost half Roman Catholic, 45% Protestant and 3% Jewish.

The authors' stated purpose was to develop a tool that would predict the likelihood of an unplanned adolescent pregnancy. Based on findings from previous studies these researchers noted that promiscuity and lack of responsible use of contraceptives was related to certain experiences in the family of origin. These relationships included an emotional distance between parents and a female who as a teenager felt alienated from her mother and perceived her relationship to her father as excessively intimate to the exclusion of the mother. In such instances there was a redefinition of roles within the family as the daughter assumed some of the mother's functions as a companion to her father. The researchers interpreted these findings within a psychoanalytic framework and made the assumption that women at high risk for unwanted pregnancy would respond to a set of selected pictures with stories revealing: "1) redefinition of roles between adjacent generations in a woman's family of origin and 2) the presence or absence of a dependent and passive-aggressive stance in male-female relationships." The projective test was chosen because they felt that responses would be most representative of true psychological perceptions and feelings and least contaminated

by the stimulus. The projective test included 12 pictures with male and female figures of varying ages and relationships.

A psychologist administered the projective test to each individual. Responses were given verbally and recorded. Each test was then scored independently by two of the researchers based on criteria taken from their findings of family dynamics and role redefinition. The criteria were not well-defined. Interrater reliability was claimed to be "excellent." Subjects were assigned a score of low, intermediate or high risk. A third judge then re-scored independently the intermediate risk subjects into high or low risk. He was unaware that this was a subsample of the total. A fourth judge scored 26 randomly selected tests without the scoring criteria. Much of his decision making was based on his clinical experience as a psychiatrist.

In order to examine the discriminatory power of the projective materials, the assigned scores were compared to a computerized behavioral measure of risking unwanted pregnancy. This behavioral score was derived from an interview with each of the subjects and was conducted by a research assistant who was not involved in the administration of the projective test. From this summary of self-reported sexual behavior and attitudes

a score of high or low risk was established that could be compared to the individual's assigned scores on the projective test.

A statistically significant relationship was found between the projective test score and the behavioral measure of risk for unwanted pregnancy. When a 2 x 3 Chi-square matrix was calculated using the scores of high, intermediate or low for the two measures, the Chi-square value was 22.26, $p < .001$. Statistical significance was again obtained when the intermediate cases were rescored into high or low categories and the total sample reanalyzed; however, the Chi-square value was lower ($\chi^2 = 22.16$, $p < .001$). Analysis of the tests scored by the fourth judge who used no criteria revealed a correlation consistent with chance alone. The authors felt that the role redefinition criteria tap dimensions that are independent of clinical syndromes.

The researchers concluded that merit exists in developing this form of tool. They acknowledged that the limitations included a biased sample and lack of generalizability to the normal population of adolescents. The authors strongly encouraged further research to strengthen the projective test and behavioral measure and to achieve consistency in scoring. They also suggested working with more representative subjects. The authors

made no specific comments about reliability or validity. There are inferences about validity that will be discussed later when the three studies are applied to the CURN criteria.

The second study, conducted by Goldfarb, Mumford, Schum, Smith, Flowers, and Schum (1977), proposed a "pregnancy susceptibility index" for indigent female teenagers. This group of researchers felt that adolescent girls at risk for unwanted pregnancy could be identified by the use of inferential statistics applied to objective information about the subjects.

The descriptive study was conducted at the Joyce L. Goldfarb Adult Development Clinic of the Jefferson David Hospital in Houston, Texas, over the time period from 1968-1973. Interviews were conducted with 1294 pregnant teenagers from the clinic and 114 never-pregnant adolescents from local schools. The pregnant subjects, who were all indigent, were 80% black, 10% white and 10% Spanish-speaking women. Age distribution ranged from 12-18 years. Ultimately, the pregnant group was reduced to 639 subjects (G_2) and each subject was matched with respect to age, race and socioeconomic status with the never-pregnant group (G_1). Following data analysis and development of the "susceptibility index," a third group (G_3) of 170 indigent, pregnant teenagers were

interviewed to establish the validity of the tool.

The interviews with G_1 and G_2 contained questions related to 42 classes of objective data. These included such items as age, race, marital status, family background, education (general and sex), sexual behavior, digit symbol test score, and birth control information. The authors' basic hypothesis was that some combination of these different factors exists such that "susceptibility" to teenage pregnancy is affected.

Data analysis was done using "inferential statistics." Inferential strategies included a likelihood ratio and conditional probability for each data subclass and the aggregate likelihood ratio for profiles derived from one subclass of each of the 10 data classes. The aggregate likelihood ratio was the product of the 10 individual likelihood ratios permitted using Bayes' rule. Following analysis 10 classes of information were compiled into a "pregnancy susceptibility index." This index was then applied in interviews with subjects from G_3 . Analysis of this data confirmed the "great predictive power" of the index. The probability of an unplanned pregnancy for a subject who was from a large family, did poorly in school and who was taught about sex by an acquaintance after age 14 years was found to be thousands of times greater than for a girl of the opposite extreme.

Reliability, though not discussed by the authors, was fairly well established by the nature of the data collected. Because it was demographic, it was not likely to change from a test-retest perspective. Validity was claimed by the authors in their design through the use of G_3 .

The researchers concluded that their tool provided a profile of the pregnancy-susceptible, indigent adolescent. Several suggestions were made based on their findings related to late sex education and poor school progress. Caution was given regarding the use of the tool with specific individuals who might be "singled out" to receive special treatment (Goldfarb et al., 1977).

The third study conducted by Carson (1980) was directed toward developing a tool to be used with young adolescent girls (12-13 years of age) that would indicate a risk level (high, medium, low) for teenage pregnancy. This descriptive study was conducted as part of the research requirement at the University of Oregon in Eugene and was completed in August, 1980. A questionnaire was developed from the literature in an attempt to consolidate the various factors which intervene in a young girl's life to create a situation favoring pregnancy. The literature contains many possible independent variables for a study of this nature. Items in the

questionnaire were generated from findings which appeared to have the greatest influence on teenage pregnancy. These included demographic data, family situation, school achievement and attitudes, church attendance, socioeconomic status, menstruation knowledge and history, basic sex knowledge, self concept, and locus of control. There were 40 items in the questionnaire; 32 items were simple check-off types of responses, three items were semantic differential scales, and five items were Likert scales. Scaling of the questionnaire was somewhat arbitrary except where data had been provided in the literature that gave proportionate importance to certain factors. Initially, the possible range of scores was 3-93, the low scores indicating a potential low risk for teenage pregnancy and the higher scores correlating with a higher risk level.

Administration of the tool was done both in groups and individually. The sample included presently or previously pregnant adolescents, never-pregnant adolescents and a group of sixth grade subjects. All responses were anonymous.

The sixth grade sample was selected from several different elementary schools of differing socioeconomic levels and composition. The 49 sixth grade subjects were all volunteers from within selected schools in the

Eugene school district. Racial composition of the subjects was 45 whites, two blacks and two "other."

Presently or previously pregnant subjects were located from several different areas. One home for unwed mothers in Portland, Oregon, provided 12 subjects who were presently pregnant. A pregnant adolescent class in a high school district adjacent to Eugene provided two subjects; an outlying rural high school provided two subjects; and the class for pregnant teenagers at the local health department provided the last two subjects to this sample group. The subjects ranged in age from 14 years to 19 years. With respect to education, some were presently enrolled in school, some had dropped out, and some had graduated. Racial composition of the sample was one black subject and 19 white.

The 28 never-pregnant subjects were selected on the basis of their birthdate to match the pregnant subjects' birthdates within six months. Girls were drawn from metropolitan and rural high schools, a junior high school, the University of Oregon, and the community. Racial composition of this sample was 27 white subjects and one "other."

A panel of experts was enlisted to help with face, content and construct validity. They included an elementary reading specialist, a sixth grade teacher, a health

educator and research expert at the University of Oregon, a teacher of pregnant teenagers at a Eugene high school, and a nurse working with groups of pregnant adolescents. Reliability was not determined.

It was hypothesized that it would be possible to construct a short, written questionnaire that would identify young adolescent girls at risk for unwanted pregnancy. The data supported the hypothesis.

Limitations for this research were similar to those reported in most studies dealing with adolescent pregnancy. They include obtaining a representative, non-biased sample, and honest, appropriate responses from the pregnant subjects that were not affected by the timing of the questionnaire administration. In addition, for this particular study another possible limitation was the test-taking ability of the subjects.

Statistical analysis using descriptive data, one-way analysis of variance, Chi-square and differences in proportions revealed significance in several areas. The mean scores of the three groups were determined to be significantly different with the pregnant sample mean being significantly higher than either of the two other group means. Chi-squares and differences in proportions revealed significantly different responses between the pregnant and never-pregnant samples for the variables

of low self concept, increased suspensions from school, father's absence from the home, divorce of the parents, parental arguing and "bugging" of the subject, lack of affection between parents and subject, and negative feelings about the mother.

Trends were also noted in other items, but were not significantly different. Some of these included sex knowledge, such as, when does pregnancy occur, frequency of intercourse necessary for pregnancy, and attitudes toward menstruation. Contrary to the literature (Gottschalk et al., 1964), these subjects demonstrated greater negative feelings toward menstruation among the pregnant group. Lack of directed after school activities and negative attitudes toward school demonstrated a positive correlation with pregnancy. Family size, though not significantly different, was larger in pregnant subjects. Church attendance also varied. Never-pregnant subjects attended more regularly. A trend ($p < .10$) toward lower education in the subject's mother was found in the pregnant sample. Parents occupation was more likely to be blue collar among the pregnant subjects. Locus of control did not differ between the groups. This variable was retained in the revision, however, because the literature reports that pregnant black adolescents have a higher internal locus of control and

pregnant white adolescents have a higher external locus of control than their respective non-pregnant adolescent counterparts. Because the racial composition of the sample was not representative of the population, locus of control might be reconsidered following reevaluation of the questionnaire with black subjects.

The questionnaire was revised to include changes in wording, deletion of certain items, and changes in scaling for several items based upon initial results. Reevaluation of the subjects' responses in line with the revision yielded a greater between group variability in the means of the pregnant and never-pregnant subjects' scores strengthening the discriminating capability of the questionnaire. From the results it would be valid to claim that this questionnaire has merit as a tool to identify white girls at risk for teenage pregnancy (Carson, 1980).

Application to the CURN Criteria

The CURN Project personnel developed the criteria for the selection of appropriate nursing research for inclusion in a research base. When adequate studies meeting the criteria have been gathered that relate to a particular nursing concern, a research base is formed. From that base a nursing protocol is developed, reflecting

the need for practice change, a description of the new technique(s), a review of the research base and those "principles" that aid in the implementation of the new practice. Implementation and evaluation are also included. To date, 10 research-based protocols have been written. All are oriented toward achieving resolution of an identified problem, such as, pain reduction, pre-operative teaching and intravenous cannula changes. No protocols have been developed to deal with tool development or screening for a potential problem (Haller et al., 1979). Because of this fact certain of the CURN criteria are less applicable and some criteria that would logically accompany tool evaluation are not included.

The three studies described earlier will be measured against the CURN criteria of replication, scientific merit including validity, reliability, and sample generalizability, and risk. Relevance to practice is discussed in the third chapter along with a focus on the ethical issues of labeling and the lack of an existent theoretical base to prescribe preventive nursing action against adolescent pregnancy.

Replication

Direct replication of any of these three studies has not been reported in the literature. There is indirect replication for all three of the studies from the authors who published the constructs for risk on which the researchers based their three predictive tools. Most of the citations in the Abernethy et al. (1975) report appear to be based on the leading author's prior work. Indirect replication is available with a review of the literature. For instance, Abernethy et al. (1975) relate low self-esteem with family-role-redefinition in the adolescent as a risk factor. Lindemann (1974) and Zongker (1977) investigated the relationship of teenage pregnancy and low self esteem and found strong positive correlations. These two studies did not focus on family-role-redefinition, however, as did Abernethy et al. (1975). Barglow et al. (1968), Dame et al. (1966), and Gottschalk et al. (1964) offered constructs to support parent-child dysfunction as a risk factor similar to family-role-redefinition theory.

Indirect replication of the Goldfarb et al. (1977) study has been reported with respect to the variables of family size and sex education. Roper (1959) and Wilkins (1974) confirmed large family size as a factor. Additional studies have been done addressing the variables

of sex education and birth control. The studies of Furstenberg et al. (1969), Babikian and Goldman (1971) and Goldfarb et al. (1977) do not necessarily overlap their findings, but serve to extend and complement each other with respect to inadequate knowledge about birth control, the relationship of intercourse to pregnancy and menstruation.

Indirect replication of the Carson tool is available in that the tool was developed drawing on a thorough review of the literature to determine the risk factors. Results of the two previously mentioned studies were incorporated in the item content of the tool as well as additional research findings of others.

Scientific Merit

In establishing the scientific merit of these studies in relation to the CURN criteria, the methods of the research are more closely scrutinized. Reliability of these tools was not directly addressed in the three reports. In the study by Abernethy et al. (1975), reliability of the projective test and of the sexual attitude and behavioral measure was not addressed. From inference, it would appear that reliability in terms of test-retest performance was not established. The potential reliability is discredited by the authors' statement that some of

the subjects who were inpatients in psychiatric facilities were experiencing "greatly impaired functioning." The issue of interrater reliability in analyzing responses was reported to be "very" high, however, the exact index value was never stated. Reliability of the tools, however, is not confirmed.

From the Goldfarb et al. (1977) research report, it is impossible to make inferences regarding the authors' efforts to establish reliability for their interview tool. One of the common mistakes in this type of research is a lack of reliability calculation (Borg & Gall, 1979). The fact that the majority of the interview questions were objective and answers would not significantly change with the passage of time seems to increase the sense of reliability in this study. The one data class used by Goldfarb et al, in their final profiles that could have varied in a test-retest or re-interview situation related to digit symbol test scores. However, these were the least significant of the 10 data classes.

The lack of reliability data for the Carson tool is apparent. Considering the nature of certain of the items, for instance, attitudes toward school and mother and self, and the potential variability of responses in adolescents depending on immediate mood, a test-retest mode was essential to assure stability of the test results.

Each researcher or group of researchers dealt with the issue of validity in a different way. Abernethy et al. attempted to establish predictive validity for unwanted pregnancy. It would seem that more accurately concurrent validity was established as two separate measures were obtained within the same time frame. Construct validity seems fairly adequate as the projective test is representative of the theory the researchers espouse (Borg & Gall, 1979).

Goldfarb et al. claim validity, probably concurrent but preferred predictive, for their study based on the administration of the "susceptibility index" interview with a later group of pregnant teenagers (G_3). Initially, two groups of subjects (G_1 = nulliparous, G_2 = pregnant) were interviewed and information was collected in the 42 data classes. The "susceptibility index" was statistically derived and 10 data classes were finally proposed as profiles. This final derivation was used with G_3 subjects. Further statistical analysis based on these interviews demonstrated a high correlation between the predicted and actual probability of correctly identifying susceptibility. Construct validity was not evident in the report as no theoretical base was presented to explain the selection of the interview questions.

In the Carson study, validity was discussed to a

greater degree. Face and content validity were established by a panel of experts. Construct validity was apparent from the theoretical discussion of identifiable risk factors and item content of the questionnaire as well as confirmation by the panel. Concurrent validity was determined by administering the questionnaire to pregnant and never-pregnant subjects. The need for predictive validity was discussed, however, and recognized to be available only after six years of follow-up study with the sixth grade subjects.

Generalizability of each of the three studies was limited because of sample bias. Abernethy et al. admit that generalizability from this study is limited. Subjects ($N = 85$) were women ranging in age from 15-45 years thereby inhibiting application to adolescents alone. All subjects were inpatients in two psychiatric hospitals with diagnoses ranging from schizophrenia to adolescent adjustment reaction. There was heavier representation by women of lower socioeconomic status. The researchers predict that the tool has generalizability beyond the mentally ill because of their prior work that supported the family-role-redefinition construct with normal women. At this time, however, generalizability is not established.

The sample in the Goldfarb et al. study allows more generalization of the findings than that of Abernethy

et al. The sample included 114 girls in G₁, 639 girls in G₂, and 170 teenagers in G₃. G₁ and G₂ were matched for age, racial composition and socioeconomic level. The biases within the sample were based on race, 80% black, 10% each white and Latin subjects. They claimed their samples were representative of their geographical area, but clearly not of the general population. The fact that all subjects were indigent restricts application to other socioeconomic status clients.

Generalizability is limited with the Carson study because the sample sizes were small and not racially representative of the population at large. Of the invited sixth grade sample numbering 49, 45 girls were white, two were black and two were "other." The pregnant adolescent sample consisted of 19 white and one black girl whose ages ranged from 14-19 years. The never-pregnant sample matched the pregnant sample for birthdate. This never-pregnant group included 27 white girls and one "other." Other than race, there was wide representation by age, socioeconomic level, and urban versus rural populations.

One criterion not included in the CURN Project that would seem appropriate when considering protocols based on tools is that of actual tool construction. Issues such as clarity of the questions, appropriate language

usage and level of information, absence of bias, ease of scoring, organization of questions, and type of instructions for completion need to be evaluated. The Carson tool, the only one of the three requiring written responses, was evaluated by a reading expert and by teachers of young adolescents who would be completing the questionnaire. In their opinions, all questions were readable and contained appropriate language and level of information. The questions were grouped according to demographic data, family information, school data, menstruation and sex knowledge, self concept, locus of control, and attitudes toward school and mother. Questions were also grouped according to types of responses needed; Likert scales and semantic differentials were each grouped together. Instructions, with an example, were given each time a new type of item was introduced. Response options were not mutually exclusive and covered all alternatives. The length of responses within each item were approximately equal. Closed-ended items were predominate to facilitate ease in scoring and to minimize bias because of the sensitivity of the items. Scoring was objective and points were assigned for each possible response. This tool construction is consistent with recommendations for a satisfactory questionnaire (Oppenheim, 1966).

Risk

The issue of risk as part of the evaluation and integration of studies for a research base is of interest when considering adolescent pregnancy. There is almost no risk to the client's physical being as a result of administration of any of the tools. There is, however, the more significant question of the ethics of labeling a client as at risk for unwanted pregnancy. Goldfarb et al. (1977) raise this issue in their discussion following the description of their study. They felt that

substantial risks are involved whenever certain individuals are singled out to receive special treatment, and they must be weighed against potential benefits. In addition to the embarrassment or stigma attached to being singled out as susceptible to unplanned pregnancy (not to mention the legal ramifications of such a procedure), there is the possibility that selective attention improperly handled may actually produce the very consequences it is designed to prevent. In addition, girls not given individual attention might believe they were considered sexually unattractive and set out to prove otherwise. (Goldfarb et al., 1977, p. 137)

The emotional risk appears to be high in attempting to establish a protocol that relates to the individual client as this does. Consequently, it is essential that the criteria of replication and scientific merit be stringently applied. There is the possibility of reduced risk when these tools are used with groups of adolescents and the singling out behavior does not occur.

It is possible to hypothesize that this could have a greater benefit than risk if appropriate interventions were established within agencies directed to groups of higher risk individuals. It is also possible to hypothesize that the tools could be modified so that individual risk factors such as self esteem and poor school performance could be examined and identified rather than the emotional issue of risk for adolescent pregnancy.

Screening Without Intervention

A fourth issue that applies equally to all three studies and is not addressed by the CURN criteria is that of appropriateness of screening without available interventions. None of the 10 CURN protocols related to screening, but rather to direct nursing interventions. Dr. JoAnne Horsley, Principal Investigator of the CURN Project Staff, has raised this as an issue of importance when adapting a screening tool to the CURN criteria.

Attention has been given to the importance of intervention. Many interventions related to adolescent pregnancy have been proposed, but without strong theoretical frameworks. Because nursing, medicine, clinical psychology, and social work are viewed as "helping disciplines," the tendency is to treat an identified problem.

It is difficult for "helping professionals" to sit back and wait for the development of a sound theory and research base before intervening. Many researchers seem to believe that identification of girls at risk is the major difficulty in effecting a "cure." Abernethy (1974) proposes that once girls at risk are identified, individualized counseling through the public schools is the answer. This counseling should focus on technical information, birth control supplies, and strengthening self concept. Goldfarb et al. (1977) propose sex education and parenting classes as the answer. Rosenstock (1980) proposes that with identification of risk made possible, the physician is capable of intervening to prevent pregnancy. However, the nature of the physician's intervention was not outlined. Klerman (1980) again suggests that sex education and available contraception provide the answer to adolescent pregnancy. She also suggests that parents need to become involved in teaching their teenagers about sex. Jackson and Kidwell (1980) propose a primary prevention program to be coordinated and implemented by the community, the school and parents. All of these proposals are hypothetical. No data are presented to support the efficacy of their proposals. A cognitive component is operational that allows adolescents to believe that pregnancy simply cannot happen to them

(Kantner & Zelnik, 1973).

The only promising research related to intervention appears to be in the area of cognitive development. Schinke, Blythe and Gilchrist (1981) report that their study aimed at training teenagers how to problem-solve and communicate decisions regarding sexual behavior and at dispensing contraceptive information was successful at giving young people the skills to avoid unwanted pregnancy. They found long-term continuance of effective contraceptive practice in the trained group and not in the control group. They also felt there was carry-over to the other areas of conflict in the lives of the adolescents such as alcohol and drug decisions and family conflicts.

In summary, it is clear that sufficient research has not been conducted that would allow the development of a sound theoretical base for effective nursing intervention. Therefore, ethical questions remain regarding the advisability of screening programs, based on lack of effective intervention. Rutkow and Lipton (1974), writing about mass screenings for sickle cell anemia, advocate no screening when no therapy is available. Rosner (1976) also questions the advisability and morality of mass screening for Tay-Sachs Disease in light of the lack of therapeutic or prophylactic measures.

The parallel to adolescent pregnancy is viable. Why should teenagers be identified as being at risk when no intervention is available that will prevent pregnancy? The ethical dangers of labeling and the self-fulfilling prophecy make it seem unwise to identify someone at risk when no intervention exists.

Evaluation of each of these studies individually and collectively, shows that it is inappropriate to consider development of a protocol in the area of risk identification for teenage pregnancy. When the three studies are evaluated against the CURN criteria, it is apparent that none of the research projects meet the standards for inclusion in a research base. This evaluation is shown graphically in Table 1.

Table 1

Application of the CURN Criteria to Studies by Abernethy
et al., Goldfarb et al., and Carson

	Abernethy et al.	Goldfarb et al.	Carson
Replication			
Direct	-	-	-
Indirect	+	+	+
Scientific Merit			
Reliability	-	±	-
Validity	±	±	±
Generalizability	-	-	-
Risk (safety)			
Physical	+	+	+
Emotional	-	-	-

Note. + indicates meets CURN criteria. - indicates does not meet CURN criteria.

CHAPTER III

RELEVANCE TO PRACTICE

The CURN Project personnel identified four factors for consideration when evaluating research for its relevance to practice. These were clinical merit, clinical control, feasibility and cost benefits. Normally relevance to practice is an issue only when a research base has been established. For the purposes of this paper only, the assumption will be that the three studies evaluated in Chapter II for their inclusion in such a base were adequate.

When considering adolescent pregnancy as a potential health problem, the logical assumption about a research base would be that the notion of prevention would be addressed. This would, of course, be the ultimate nursing goal. When evaluating the clinical merit, then, of the three studies, it is clear that were they even to be part of a research base, they would not have clinical merit. Since no theoretical base exists for primary prevention activities, once the teenagers were identified, no action could be taken and, hence, the ultimate nursing goal could not be attained. There is no doubt that these studies address a syndrome of significance to

nursing and society, but, at this time the Goldfarb et al. (1977), Abernethy et al. (1975) and Carson (1980) studies are not useful.

If one were to consider the three studies alone as a research base separate from potential preventive services, then the ethics of identification become critical because no preventive services are available that have a sound theoretical framework. Labeling theory is a very useful way of considering these ethical issues and will be discussed along with potential theoretical bases for intervention following application of the relevance to practice criteria.

Clinical control as defined by the CURN criteria requires nursing to have control over the dependent and independent variables. Even assuming a research base with a preventive innovation, nursing has no control over the possible pregnancy outcome. Nursing would have control over the specific intervention, but again no control over many of the risk factors already identified for unwanted pregnancy such as large family size and poor school achievement. Evaluation of the possible protocol would be straightforward, either the client becomes pregnant or she does not. Several years may be needed, however, to achieve the evaluation. If the protocol were to be constructed such that the practice

innovation were to be directed at eliminating some possible risk factors as low self concept and poor family relationships, then a higher degree of clinical control could be achieved. Clinical control is still questionable as to its sufficiency and could not be adequately determined until the proposal was made.

Feasibility is also critical for an innovation that would require complex and time consuming nursing actions. Actual identification of risk with a tool is feasible in a school setting, clinic or office. This could be just another one of the forms to be completed and would take a minimum of the client's and the nurse's time were a tool such as the one in the Carson study utilized. Implementation of the preventive portion of the innovation could ideally be performed by nurses in several practice settings. In today's economy, though, school nurse positions are being eliminated or at best the nurse is given too little time for student contact. Office nurses are generally not allowed the amount of time needed for intervention. Nurse practitioners and clinicians functioning independently or operating in a counseling role would be the most likely candidates to perform this function well. Unfortunately, there are not sufficient numbers of these nurses to meet the needs of the one million adolescents who become pregnant

each year.

The cost benefits are an interesting consideration. In terms of the savings in welfare funds and in years of struggle for the teenager and her family, prevention could be cost effective. However, to implement a program that would ultimately net these savings, a large initial expenditure might need to be made for new programs and for staff. A private practitioner could institute a protocol that would meet the needs of the small portion of the at-risk community who can afford private care. To meet the needs of those at greatest risk, that is, the poor, a tax-funded program would be indicated. Government agencies today do not readily fund new programs without convincing data to support the need and without effective lobbying. Whether or not the commitment is there to take action on a program that would take years to evaluate is questionable, even if there were a proven effective intervention.

The Ethical Issues of Labeling

It is a basic tenet of nursing as stated by the American Nurses' Association that nurses are to protect their "patients' welfare and safety." Ethical practice dictates that nurses do no harm to those they serve. "Respect for human dignity and the uniqueness of the

client" are mandated by the professional organization for nurses (ANA, 1976; MacKay & Soule, 1975). Based on this ethical foundation, screening and the subsequent labeling of a client "at risk" for adolescent pregnancy are in violation of this code. Labeling theory, if accepted as valid, would indicate that in fact a client so labeled is at risk for increased deviant behavior and compromised self concept (Becker, 1973; Poole, 1976; Gordon, 1979).

Labeling theory was introduced in the early 1960s in a treatise by Howard Becker (1973). His book, Outsiders: Studies in the Sociology of Deviance, expanded labeling theory. Becker defined the deviant person as one who acts contrary to the rules of the group. In this context society through its rules creates deviant behavior. Society labels someone who behaves in a "deviant" manner. Consequently, deviance is not the nature of the act but rather a result of society's response through the application of its rules. Some "deviants" are falsely labeled because the labeling process is fallible. All deviants, however, share the negative label and the experience of that process.

Becker also claims that labeling reactions are inconsistent. There may be a variation over time depending upon society's sensitivity to an issue at one time and

not at another, for instance, prohibition. There is also variation related to class and race. Society responds differently in regard to who commits the act and who is offended. Inconsistency of enforcement occurs with variation in the resulting circumstances. Becker (1973) states:

The unmarried mother furnishes a clear example. Vincent (1961) points out that illicit sexual relations seldom result in severe punishment or social censure for the offenders. If, however, a girl becomes pregnant as a result of such activities the reaction of others is likely to be severe. (The illicit pregnancy is also an interesting example of the differential enforcement of rules on different categories of people. Vincent notes that unmarried fathers escape the severe censure visited on the mother.) (p. 13)

Becker has identified four categories of deviance. The two extremes are conforming behavior as the individual who obeys and is perceived as obeying the rules and purely deviant behavior as expressed by the person who disobeys and is known by others to have disobeyed. Between these extremes lie the "falsely accused" and the "secret deviant." The former is thought to have committed a deviant act by others but in truth did not. The "secret deviant" is one who commits a deviant act but society either chooses to overlook it or did not perceive it.

In 1973, following 10 years of comment and critique by other social scientists, Becker prepared an addendum to his book. In this addendum he stated that his earlier

focus had been to try to increase understanding of the effects of labeling. He now felt that the average labeled person encountered increasing difficulties in attempting to continue a normal pattern of life and that he soon was provoked to deviant acts. He relabeled his theory the "interactionist theory of deviance."

Within the space of a few years, psychiatry adopted labeling theory as an adjunct in the diagnosis and treatment of psychopathology. As an alternative to the traditional medical model, it considered the impact of culture on mental illness (Scheff, 1975; Clare, 1976). Some basic hypotheses in the application of labeling theory to psychiatry are that the stereotype of the mentally ill person is learned during childhood and is constantly reinforced in everyday social interaction; reward for playing the stereotyped deviant role may be given to the labeled individual and these individuals are censured when they try to reassume a more "normal" role; at the time of crisis when the individual is labeled, the deviant is very vulnerable and may accept the label; and that among deviants, labeling is the most crucial factor in the launching of a deviant career. Becker feels that the process of being labeled does most to create stability in the deviance within the evolution of a deviant career. This labeling may be self-labeling

or societal.

Scheff (1975) also suggests that out of ignorance and an unwillingness to admit this ignorance, practitioners label as though the actual wording of the diagnostic labels are unreliable and useless but are still assigned to patients. Scheff (1975) also expresses a concern about how the label will be used. In the past, the "insane" have been denied civil rights and citizenship privileges. Still today, the label is used by some deviants to avoid criminal actions and other less socially accepted labels. Anyone assigning a label needs to remember that labeling errors may last forever.

Clare (1976) discusses two types of deviance--primary and secondary. Primary deviation is the initial act of deviant behavior or perceived deviance that results in labeling. Secondary deviance is the labeled individual's response to the obvious or more obscure problems stimulated by society's reaction to the primary deviant behavior. He also proposes three ceremonies that transpire during the transition from the "normal" to "deviant" role. The first ceremony is the "formal confrontation phase" at which time society in whatever form accuses the individual. The "judgment" phase follows when a decision is rendered about the deviant behavior. This may be a judicial verdict or a label. The last phase

is called "social placement." At this time the individual is assigned a new role and is significantly redefined by society. Mitchell (1973) states the following:

Putting a label on a patient can invalidate the patient--"you are an invalid, and what you say is therefore invalid. You are sick because your label says so." Diagnosis can therefore become a way of restraining people and of rendering them even more impotent than they were when they started. To say someone is neurotic, psychotic, psychopathic or schizophrenic is not just a scientific descriptive statement. It can become a way of making a value judgment about the patient and putting him down. (p. 35)

Poole (1976) conducted a study in which he examined the interaction of self-labeling and societal labeling. His hypotheses were that self concept of the deviant, the opinion held by others of the deviant and the opinion held by the deviant of others are all lowered when the actor and others know about the deviant label; and that when the actor thinks others to be unaware of his label, he will respond by doing things to lower society's opinion of him, to lower his opinion of society and to lower his self concept. He found the greatest degree of change in the opinions of others and self when the person was aware of his label but did not know that others were also aware. The next greatest change occurred when self and others were aware of the deviance and the individual knew others were aware. The least change occurred when no one, self or others, was aware of the

deviant label. From his study he claims that, at the very least, self concept is compromised when deviant labels are applied with the knowledge of the individual and significant others.

The concept of the self-fulfilling prophecy closely parallels labeling theory. Smale (1977) identifies three stages of the self-fulfilling prophecy. The first is the statement of the prediction for "at risk" for teenage pregnancy. Secondly, the labeled person then commits acts as a result of the prediction, and the final stage is the prophesied event because of the behavior in stage 2. The self-fulfilling prophecy can work for better or for worse; it can be conscious or unconscious, explicit or subtle and may have a mutually reinforced feedback system. The potency of the prophecy is often strongly influenced by the credibility of the person making the prophecy or assigning the label.

McGinnis (1982) cautions that labeling of children is especially dangerous. She feels that once a child is labeled society loses sight of the child and focuses only on the label. The child's place in society as a unique and special individual is swept away by the flood of interest in the deviance, whether real or imagined, described by the label.

Guskin, Bartel and MacMillan (1975) in their

discussion of the labeled child identify several possible responses to being labeled. They are: (a) the child or his parents seek a cure or way to correct the cause for the label, (b) they may seek to discredit the labeler, (c) the label may be used to explain all of the child's problems, (d) the label may be ignored or rejected, or (e) the label may be accepted by the child. The belief today is that once the label is accepted, the child's self concept is threatened either because he perceives himself as less worthy or because his significant others have changed their behavior toward him.

Adolescents are especially susceptible to the effects of labeling because developmentally they have not yet achieved a strong sense of identity (Erikson, 1950). They are still experimenting with many types of behaviors, not all of which are necessarily positive. Chassin, Presson, Young, and Light (1981) conducted a study to examine labeling effects on normal adolescents, adolescents in an inpatient psychiatric facility and others from a state correctional facility. From their findings, they concluded that the effects of labeling on self concept are very complex and not predictable. They contend that adolescents can respond to labeling in three different ways. They might accept the label, reject the label or accept it with distortions of the stereotypic meaning.

Gordon (1979), in regard to labeling, warns of several hazards. He feels that some labels are necessary to focus attention on the needs of vulnerable groups but may not address individual problems or etiologies. This could be especially true for the label related to unwanted adolescent pregnancy. He also warns that labels should not be used unless they can demonstrate some advantage to the client. Confirming the notion of Chassin et al. (1981), he feels that labeling can create a self-fulfilling prophecy because of the association of preconceived sets of expectation with a label.

What then are the implications for the teenage population at risk for unwanted pregnancy? From Chassin's et al. work, it is impossible to say that the adolescent would automatically alter her behavior to act in accord with the label. It is, at the same time, impossible to say that she would not. The concept of the self-fulfilling prophecy is a viable possibility. The notion of distortion of the stereotypic meaning is also possible and could manifest itself in a variety of ways, for example, early marriage or promiscuity.

It is also difficult to say what effect this labeling would have on the professionals working with this population. It is reasonable to assume that the nature of the interaction would change, especially if the labeling

were to occur in a school setting. One supposition supported by labeling theory is that these interactions would facilitate future abnormal behavior (Taylor, 1977; Chassin et al., 1981). Within a school setting the adolescent would interface with a multitude of adults who could be aware of her label. This would include teachers, counselors, nurses, administrators, psychologists, and social workers. It is possible that her parents would be aware of the label. Considering the profile of adolescents at risk for pregnancy, that is, low self esteem, dysfunctional family relationships, and poor school achievement, it seems unlikely that they would have the emotional and cognitive resources to reject the label.

Gordon (1979) proposes that the ability to focus on a group needing attention is a valid reason for a label. It is true that this particular group does need attention. Unfortunately, the theoretical base to provide appropriate intervention or attention has not been established. Therefore, his precept that labels should only be used if they bring an advantage to the client dictates that this vulnerable population not be labeled at this time with "at risk for unwanted pregnancy."

Potential Theoretical Frameworks for Prevention

No attempt has been made within the nursing literature

to identify theoretical bases for nursing activities to prevent adolescent pregnancy. Other disciplines are beginning to group previously identified factors into rudimentary theoretical bases, but little has been done to develop interventions based on a theoretical framework (Bolton, 1980; Zelnik, Kantner & Ford, 1981).

What are the theoretical frameworks currently espoused for the factors associated with adolescent pregnancy? Chapter II presented the developmental, psychological/psychoanalytical, sociological frameworks and the "Brood Sow" theory as specific risk factors were identified. Historically, the general public has accepted attitudes and biases that help explain resistance to aggressive intervention. Some of these biases not frequently expressed are: (a) "bad seed theory"--good girls don't do that; it's the bad ones, (b) "geographical dislocation theory"--she's from that part of town; the wrong side, (c) "sexual appetite theory"--lustful, pregnant girl, and (d) "mental aberration theory"--she's not too smart (Schneider, 1982). When these attitudes prevail, public funding for innovative programs is limited as is empathetic help for the individual adolescent.

If nursing were to develop a nursing theory relevant to this social problem, what should it look like? According to Drs. Dickoff and James (1968) there should

be four levels of nursing theory. They are factor-isolating, factor-relating, situation-relating, and situation-producing theories. Factor-isolating theory is descriptive and in a sense is at the level of some of the social science literature regarding adolescent pregnancy. Factor-relating theory is a slightly higher level but still descriptive; however, there exists some correlation of factors. Predictive and promoting or inhibiting theories comprise situation-relating theories. For most disciplines this is the highest theoretical level. The fourth level or prescriptive theory should be the aim of nurse researchers today. Prescriptive theory directs actions to produce specified goals for nursing practice. Dickoff and James suggest an organizational pattern with six aspects for situation-producing theory. These dimensions are Agency or the person meeting the nursing goal, Patency or who/what receives the activity, Framework or professional purpose, Terminus or the final product, Procedure or activity, and Dynamics or the "energy source for the activity." These authors view the use of borrowed theory as appropriate within the confines of lower level theory.

Some of the groundwork has already been laid in terms of factor-isolating and factor-relating theories. With additional research to supplement, to replicate

and to purify the predictive studies with the sociological and psychological literature, situation-relating theory could be formulated. Prescriptive theory, however, is needed to validate nursing activities. Stetler and Marram (1976) stress the importance of practice built on a scientific theoretical base. Trial and error, tradition and nursing action based on authority are no longer sufficient for adequate nursing practice.

In the development of nursing theory for adolescent pregnancy, a prescriptive theory would need to address not only identification of risk but also intervention to achieve primary prevention. Little research has been published that can document a decrease in adolescent fertility rates. Many authors make recommendations for activities but do not support their recommendations with data demonstrating success. In a study that would fit with the developmental framework, Schinke et al. (1979) developed a method for training a group of school-age parents who had been identified as deficient in the interpersonal skills needed to regulate intimacy. The authors felt that deficiency of these skills had been responsible for unprotected intercourse and the subsequent pregnancy. The training was aimed at the acquisition of skills helping the subjects to refuse unreasonable demands, to make requests of others, and to express

themselves positively and specifically. The results indicated that the behavior of the trained group changed such that they displayed more eye contact, spoke louder, were more positive, were more specific about their preferences and had increased their internal locus of control when compared with the control group. Unfortunately, the training did not generalize to situations other than those specifically addressed. As a consequence of these results the authors developed a cognitive-behavioral approach. They believed that pregnancy results because the high risk adolescents lack the cognitive and behavioral skills necessary to utilize their sexuality knowledge. Four steps were presented as essential if adolescent sex behavior is to be affected: (a) access to relevant sex education, (b) the knowledge gleaned from this educational program must be perceived, understood and retained correctly, (c) the information must be personalized and used in making decisions, and (d) the behavioral skills needed to implement the decisions made must be developed.

Also pertinent to the developmental framework are the studies reported by Block and Block (1980), Edwards, Steinman, Arnold, and Hakanson (1981), and Blum, Pfaffinger and Donald (1982). Block and Block report an effort made in their community through an outreach program to build young adolescents' cognitive skills. The curriculum

focused on decision-making, sexual anatomy and physiology, emotions, venereal diseases, pregnancy, contraception and issues of parenting. By pre- and posttest they were able to document an increase in knowledge. It was not the purpose of this study to measure attitudinal changes or the effect of the program on preventing pregnancy. Certainly a longitudinal extension of this study would be meaningful.

The studies of Edwards et al. (1981) and Blum et al. (1982) are based on sociological and psychological frameworks as well as developmental/cognitive. Each describes a comprehensive school clinic offering health care, counseling and education to adolescents. Specific services in the Edwards et al. study included family planning, pre- and postnatal care, day care, pregnancy testing, venereal disease diagnosis and treatment, social work services, and education related to family planning, nutrition, prenatal care, parenting and sexuality. This project reported some significant findings. Over a three year period of service the drop-out rate due to pregnancy decreased from 45% to 10%. Within the original group of pregnant teenagers there were no repeat pregnancies. The fertility rate for the total student body of the school declined from 79 to 35 per 1000. The contraceptive continuation rate at 12 months was 86.4

per 100 girls. The teenagers who used this clinic for prenatal care experienced a better obstetrical course and outcomes for their infants than a group of matched adolescents who attended a weekly, non-school clinic. The authors attribute much of their success to factors such as the accessibility and consistency of the staff, free service, confidentiality, involvement of the male partner and parents, if desired, education and social services, and follow-up.

Blum et al. (1982) conducted a school-based clinic in Minnesota that offered fewer comprehensive services than the clinic described by Edwards et al. (1981). These included family planning, pregnancy testing, venereal disease diagnosis and treatment, physical examinations, trauma care, sick care, nutrition counseling, weight control program, education, both individual and classroom, and pediatric care to the children in the day care facility at the school. These authors claim significant advantage in a school-based clinic of this type which integrates education and health. Their student population utilized this clinic primarily for crisis and emergency type situations. No data were reported with regard to pregnancy rates and there was minimal use of the clinic for family planning. The focus for these professionals seemed to be that of meeting the

gap in general health care for adolescents along with teaching them how to enter and utilize the health care system.

Though several authors have made program recommendations, they have not reported evidence of outcomes of such programs. The majority encourage programs consistent with a developmental theoretical framework. Sex education and teaching responsible decision-making are repeated recommendations (Kreipe, 1982; Jorgensen, 1981; Jackson & Kidwell, 1980; Klerman, 1980; Smith, Weinman & Mumford, 1982; Lindemann & Scott, 1981). Several authors stress the importance of parental and community involvement coupled to the educational programs offered by the school system. They recommend that curricula should, in addition to anatomy and physiology of reproduction, include content related to topics such as values clarification, peer pressure, contraception, venereal disease, parenting skills and responsibilities, communication skills, self-awareness and decision-making.

The emphasis on the provision of contraception as the sole solution to adolescent pregnancy has declined based on recent studies that have demonstrated its ineffectiveness. Smith, Weinman, and Mumford (1982) demonstrated in their study that knowledge of birth control does not guarantee its use. Eighty-two percent

of the pregnant teenagers they interviewed knew about birth control; however, only 11% of the sample used contraceptive methods. Lindemann and Scott (1981) advocate the dissemination of birth control combined with educational programs.

Two authors, Cobliner (1981) and Patten (1981), made recommendations for action consistent with the psychological/psychoanalytical framework. Patten combined a cognitive approach with suggestions to improve the adolescent's mental health through focusing on positive goals and increasing self concept. Cobliner stressed the importance of improving the interaction between the adolescent girl and her mother. He cited a study which reported that the adolescent's interaction with her mother determined her self concept, school performance and level of cognitive development, and urged that research be conducted in this area.

In the absence of a cohesive theoretical perspective to explain teenage pregnancy and in the lack of significant interrelated factors from the developmental, sociological and psychological/psychoanalytical frameworks, it is inappropriate to propose an intervention to reduce the risk level of the teenage woman for pregnancy. Nurses, however, should and will continue working with adolescents who become pregnant and with those at risk for becoming

pregnant. As they utilize the interventions already operational such as contraceptive counseling and service (Peach, 1980), school-based clinics (Edwards et al., 1981; Blum et al., 1982), and programs to develop cognitive and decision-making skills (Block & Block, 1980; Schinke et al., 1979), nurses need to continue to document these activities and findings. Based on this documentation of clinical practice findings and continued research to interrelate the sociological, psychological and developmental relationships, the potential for development of nursing theory related to teenage pregnancy will be enhanced. The factor-isolation seen in the present structure of theoretical frameworks would enable identification of factor-relationships making possible situation-relating theory which, in turn, would lead to prescriptive theory. Even though there are serious design and methodological problems with the research which has been published, the common factors need to be re-examined and additional research generated to validate and extend the present knowledge related to adolescent pregnancy.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

Summary

Adolescent pregnancy is an epidemic in today's society. Over one million teenagers become pregnant in the United States each year, and 600,000 of these give birth (National Center for Health Statistics, 1977). This phenomenon bears grave impact on the adolescent, her child, her family and society at large. Professionals representing several disciplines have directed their efforts towards identifying the causes of teenage pregnancy. Consequently, studies have emerged from the perspective of sociological, psychological and developmental theoretical frameworks. A number of factors associated with adolescent pregnancy have been identified, including disturbances in family relationships (Abernethy et al., 1975), poor school adjustment (Coddington, 1979), poor self concept (Lindemann, 1974; Zongker, 1977), large family size (Goldfarb et al., 1977), race (Wilkins, 1974), low socioeconomic status (Stine et al., 1964), and lack of sex knowledge and/or inability to apply that knowledge behaviorally (Furstenberg, 1969). In spite of educators', counselors', nurses', and physicians' awareness of these

factors, the problem of teenage pregnancy continues to increase.

Attempts at remediating the problem have been numerous with varying degrees of success. Schools have increased sex education programs and course content has been expanded to include birth control information classes. Community clinics as Planned Parenthood have developed programs for adolescents. Laws have been changed so that teenagers can obtain birth control supplies without their parents' knowledge or consent (Pilpel & Wechsler, 1971). Yet in spite of these attempts, the problem of adolescent pregnancy escalates. Adolescents often do not utilize these services until after pregnancy has occurred. Little effort has been directed toward identifying the individual at risk of pregnancy and attempting to prevent the problem through individual counseling and education.

As nursing has analyzed the discrepancy between published research and its application to practice, the Conduct and Utilization of Research in Nursing (CURN) Project was developed to facilitate the utilization of quality nursing research in the practice setting. This project, supported by the Michigan Nurses' Association, was funded for a five year period and was able to develop 10 research based nursing protocols for practice. The

CURN criteria for inclusion of research into a research base and subsequent progression into a nursing protocol include replication, scientific merit, risk, feasibility, cost benefits, clinical merit, clinical control and clinical evaluation (Haller et al., 1979).

The purpose of this paper was to develop a research base for early identification of risk for adolescent pregnancy. Three studies that developed tools for identification of teenagers at risk for adolescent pregnancy were evaluated for inclusion in a research base. Abernethy et al. (1975) developed and used a projective test to analyze subjects' family dynamics using a population of 85 women aged 15-45 years in state mental hospitals. This study did not meet the CURN criteria with regard to direct replication, reliability, generalizability, or emotional risk. Validity was questionable. Goldfarb et al. (1977) conducted a study the sample of which included over 1200 indigent, pregnant teenagers. Forty-two classes of information were used to develop a profile of the girls most likely to become pregnant. This study failed the CURN criteria also in the areas of direct replication, generalizability, and emotional risk. Reliability and validity were questionable. Carson (1980) developed a questionnaire to be used with young adolescent girls to determine risk level for pregnancy. Questions

were based on an eclectic accumulation of factors associated with adolescent pregnancy from the literature. This study, as the other two, failed to meet the CURN criteria of direct replication, reliability, generalizability, and emotional risk. Validity is questionable. Physical risk for all three studies is negligible. Additional criteria were proposed based on the Carson tool, such as readability and item construction. The issue of developing a protocol for screening only when no theoretical base exists for intervention was considered to be an important ethical consideration. Development of a research-based protocol for intervention from these three studies was inappropriate.

Relevance to practice was evaluated based on potential acceptance of these studies as a research base. Clinical control over risk factors is not achievable by nursing because of the nature of the factors and possible resultant pregnancy. Feasibility is limited by constraints on staff time and training and funding for the extensive programs that would be required. Cost benefits would be substantial in terms of welfare funds and lost time and talent of individuals. Clinical merit is lost because of the limitation to identification of risk, with no acceptable theoretical basis for primary prevention.

Major concerns for relevance to practice also include labeling teenagers as "at risk for adolescent pregnancy" and the lack of a theoretical framework for intervention. Labeling theory, first espoused in relation to studies on deviance (Becker, 1973), gives nursing insight into the hazards of assigning labels to clients. Children and especially adolescents are highly vulnerable to a decreased self concept and the self-fulfilling prophecy (Guskin et al., 1975; Gordon, 1979). In the case of the teenager at risk for pregnancy this could have serious consequences. Self concept is usually poorly developed and the response to the labeling could be sufficient cause for the girl to become pregnant.

Several assumptions have been proposed to explain adolescent pregnancy; some are economic and some are long-standing and popular with the public. These include the "Brood Sow" theory (Bolton, 1980), the "bad seed theory," the "geographical dislocation theory," the "sexual appetite theory," and the "mental aberration theory" (Schneider, 1982). Each of these hampers the development of successful innovations because of public reticence to fund programs for which they have a bias.

Nursing has an important role in respect to the syndrome of teenage pregnancy and in the care of adolescents. Nursing theory and practice need to formally

address this issue through the development of situation-producing theory (Dickoff & James, 1968). Nurses need a sound conceptual framework to guide their actions and to effectively impact upon this major societal problem. A prescriptive nursing theory could be eclectic in approach drawing from the most valuable approaches currently available as well as innovative ideas that address the developmental, psychological, sociological and yet to be identified theoretical frameworks. A comprehensive, school-based program similar to the one designed by Edwards et al. (1981) that provides educational, health, counseling, birth control and support services would seem to have the greatest likelihood of success based upon current information. The provision of funding needs to become a priority issue with legislators in order to develop and evaluate substantive programs to reduce adolescent pregnancy. Lobbying by professional groups is needed to facilitate legislation. Parents, educators, health professionals and community members should make a commitment to adolescents to help them cope with the stresses of contemporary society and guide them in responsible decision-making.

Recommendations

Based on an inadequate number of quality studies

currently available in the literature, recommendations involve additional research into the phenomenon of teenage pregnancy itself. Admittedly, much has already been written on this topic; however, in reviewing the literature, most research is applicable primarily to black girls and/or girls of low socioeconomic status. Studies of pregnant, white, middle to upper class teenagers are not readily available. Research into the nature of teenage pregnancy in this population needs to be done to either confirm what has already been identified for the populations studied or to identify alternative factors that are in operation. These factors, once identified, need to be considered within a well-defined theoretical framework that will lend support to the development of appropriate primary preventative measures.

Secondly, nursing needs to assume its role as a scientifically oriented profession in the conduct of research and in the development of prescriptive theory related to teenage pregnancy. Nurses in many settings work with adolescents but often have little theoretical foundation for their practice. They lack theory on which to base activities aimed at preventing teenage pregnancy.

When nursing has begun to develop a theoretical

basis for research in the area of adolescent pregnancy, efforts may again be made to examine risk identification. The problem of screening when there is no theory to guide remediation will no longer be a pertinent concern. The ethical issue of labeling could be addressed in one of a number of ways, probably the initial steps would be to find terms that are less emotionally charged and more descriptive of individual risk factors. Perhaps groups, rather than individuals, can be evaluated for risk and appropriate intervention directed to the group.

Nursing theory needs to extend the development of prescriptive theory to include younger girls also. School nurses at the elementary level would be invaluable in working with parents, teachers, and students to implement early primary prevention activities. Research in this area should be encouraged and supported.

Research related to the teenage father and his needs should be initiated. Factors associated with adolescent fatherhood exist but are largely unidentified today. The focus of study regarding adolescent pregnancy should include the male as well as female and their responsibilities. Boys should be included in activities indicated by a theoretical framework for intervention.

Teenage pregnancy appears to be a social problem that will persist in spite of the availability of

contraception and is of serious concern to society. Nursing, alone or with other professions, needs to be assertive in developing a valid theoretical framework, in developing strategies for intervention, and in promoting legislative action to support preventive programs that will effectively impact upon the current problem of adolescent pregnancy.

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APPENDIX A
Questionnaire

12. I live with _____ my father (check all that apply)
 _____ my stepfather Mother only = 3
 _____ my mother Parent & Stepparent = 1
 _____ my stepmother
 _____ other (write in who) _____
13. After school, I usually
 _____ go home
 _____ have a part-time job
 _____ join in after school activities
 _____ just mess around (3)
14. I've been sent home from school because I was in trouble
 _____ never (0)
 _____ 1-2 times (2)
 _____ 3-5 times (4)
 _____ 6 or more times (6)
15. I go to Sunday School or church
 _____ every Sunday (0)
 _____ 1-2 times a month (1)
 _____ once in a while (2)
 _____ never (3)
16. My family eats dinner together
 _____ 6-7 nights a week (0)
 _____ 4-5 nights a week (1)
 _____ 1-3 nights a week (2)
 _____ rarely or never (3)
17. My parents make me go to bed at
 _____ 7:01-8:00
 _____ 8:01-9:00
 _____ 9:01-10:00 (1)
 _____ 10:01-11:00 (2)
 _____ anytime (3)
18. My parents buy for me
 _____ whatever I want
 _____ most of what I want
 _____ just what I need (2)
 _____ only food and clothes (3)
19. My parent(s)
 _____ worry about me
 _____ drink alcohol every day (2)
 _____ jog or exercise regularly
 _____ argue alot (2)
 _____ hug me alot (-1)
 _____ hug each other alot (-1)
 _____ bug me (2)

26. I think I am (cont.)
- | | | | | | | | |
|---------|-------|-----|-----|-----|-----|-----------|---------|
| fat | / 1 / | 2 / | 3 / | 4 / | 5 / | slender | 21-25=4 |
| smart | / 5 / | 4 / | 3 / | 2 / | 1 / | dumb | 15-20=6 |
| weak | / 1 / | 2 / | 3 / | 4 / | 5 / | strong | 11-14=8 |
| popular | / 5 / | 4 / | 3 / | 2 / | 1 / | unpopular | 6-10=10 |
| happy | / 5 / | 4 / | 3 / | 2 / | 1 / | unhappy | |
27. I think school is
- | | | | | | | | |
|-----------|-------|-----|-----|-----|-----|-----------------|---------|
| important | / 5 / | 4 / | 3 / | 2 / | 1 / | a waste of time | |
| fun | / 5 / | 4 / | 3 / | 2 / | 1 / | a drag | 26-30=0 |
| hard | / 1 / | 2 / | 3 / | 4 / | 5 / | easy | 21-25=1 |
| too short | / 5 / | 4 / | 3 / | 2 / | 1 / | too long | 16-20=3 |
| boring | / 1 / | 2 / | 3 / | 4 / | 5 / | great | 11-15=5 |
| necessary | / 5 / | 4 / | 3 / | 2 / | 1 / | not necessary | 6-10=7 |
28. My mother is
- | | | | | | | | |
|--------|-------|-----|-----|-----|-----|---------|---------|
| kind | / 5 / | 4 / | 3 / | 2 / | 1 / | unkind | 25-30=0 |
| fair | / 5 / | 4 / | 3 / | 2 / | 1 / | unfair | 19-24=1 |
| mean | / 1 / | 2 / | 3 / | 4 / | 5 / | nice | 13-18=3 |
| loving | / 5 / | 4 / | 3 / | 2 / | 1 / | hating | 6-12=5 |
| stupid | / 1 / | 2 / | 3 / | 4 / | 5 / | smart | |
| strict | / 1 / | 2 / | 3 / | 4 / | 5 / | lenient | |
29. I can take care of myself no matter what happens. (Circle your answer)
- | | | | | | |
|----------------------|------------------|------------------|-----------------|---------------------|------------------|
| Completely
Yes(5) | Mostly
Yes(4) | Yes and
No(3) | Mostly
No(2) | Completely
No(1) | 29-31:
0- 4=2 |
|----------------------|------------------|------------------|-----------------|---------------------|------------------|
30. When I'm bad it's because someone else made me be.
- | | | | | | |
|----------------------|------------------|------------------|-----------------|---------------------|-------------------|
| Completely
Yes(1) | Mostly
Yes(2) | Yes and
No(3) | Mostly
No(4) | Completely
No(5) | 5- 9=1
10-15=0 |
|----------------------|------------------|------------------|-----------------|---------------------|-------------------|
31. When I do well it's because I wanted to do well.
- | | | | | | |
|----------------------|------------------|------------------|-----------------|---------------------|--|
| Completely
Yes(5) | Mostly
Yes(4) | Yes and
No(3) | Mostly
No(2) | Completely
No(1) | |
|----------------------|------------------|------------------|-----------------|---------------------|--|
32. My family would help me if I were in trouble.
- | | | | | | |
|----------------------|------------------|------------------|-----------------|---------------------|--|
| Completely
Yes(0) | Mostly
Yes(1) | Yes and
No(2) | Mostly
No(3) | Completely
No(4) | |
|----------------------|------------------|------------------|-----------------|---------------------|--|
33. I am important in my family.
- | | | | | | |
|----------------------|------------------|------------------|-----------------|---------------------|--|
| Completely
Yes(0) | Mostly
Yes(1) | Yes and
No(3) | Mostly
No(5) | Completely
No(7) | |
|----------------------|------------------|------------------|-----------------|---------------------|--|

Thank you very much for filling out this questionnaire. Please go back and make sure you answered every question.

ABSTRACT

AN ABSTRACT OF THE INDEPENDENT RESEARCH ACTIVITY OF

Ann T. Carson

For the MASTER OF NURSING

Date of Receiving this Degree: June 8, 1984

Title: EVALUATION OF A POTENTIAL RESEARCH BASE FOR AND
IDENTIFICATION OF ETHICAL ISSUES SURROUNDING
PREDICTION OF TEENAGE PREGNANCY

Approved: _____

Wilma E. Peterson, Ph.D., Thesis Advisor

This independent research activity sought to identify a research base related to prediction of adolescent at risk for adolescent pregnancy. Three studies were evaluated according to the Conduct and Utilization of Research in Nursing (CURN) Project criteria for inclusion in the research base. These studies were selected because they were the only ones that focused on the development of tools for identification of adolescents at risk for pregnancy. The three studies did not meet the standards of the CURN criteria and, hence, the development of a research base was determined to be inappropriate.

During the evaluation of the studies for the research base, ethical issues relevant to practice were identified. The major ethical issue was that of labeling adolescents at risk for adolescent pregnancy in the absence of nursing interventions developed from a recognized theoretical framework. Because of the consequence of labeling and the so-called self-fulfilling prophecy, the establishment of a nursing protocol based on recent research is not advisable at this time.

The disciplines of sociology and psychology have addressed the issues which surround teenage pregnancy. The reported research identifies multiple factors associated with teenage pregnancy; however, no common theoretical

framework has emerged. Because of the lack of a theoretical framework, sound theory based nursing interventions can not be developed. Recommendations for further study of adolescent pregnancy are suggested.