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THE EARLY REPEAT ADOLESCENT PREGNANCY
RISK ASSESSMENT TOOL FOR THE APN

Scholarly Project for the Degree of M. S. N.

MICHIGAN STATE UNIVERSITY

CHERYL G. MILLS & DEBRA S. PERRY-PHILO

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**THE EARLY REPEAT ADOLESCENT PREGNANCY
RISK ASSESSMENT TOOL FOR THE APN**

By

**Cheryl G. Mills
&
Debra S. Perry-Philo**

A Scholarly Project

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ABSTRACT

THE EARLY REPEAT ADOLESCENT PREGNANCY RISK ASSESSMENT TOOL FOR THE APN

By

Cheryl G. Mills & Debra S. Perry-Philo

As many as fifty percent of adolescent mothers deliver a second child within 24 months of an initial delivery (Jones & Mondy, 1994). A second child is strongly associated with an increased risk of failure to complete high school and an inability to become economically self-sufficient. While risk factors which influence the likelihood of an early repeat adolescent pregnancy have been identified in the literature, no assessment tool currently exists which identifies adolescents at risk for an early repeat pregnancy (Seitz & Apfel, 1993). Thus, The Early Repeat Adolescent Pregnancy Risk Assessment Tool (ERAPRAT) has been designed as an assessment tool, for use by the Advanced Practice Nurse (APN) in the primary care setting, to identify adolescent females at risk for an early repeat pregnancy. The Health Promotion Model, described by Pender (1996), provides the conceptual framework for the development of the ERAPRAT. Practice, education, and research implications regarding the use of the ERAPRAT are described.

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From Cheryl: Thanks to my husband John, and daughter Kasey, for your support, understanding, confidence, and love. Thank you for the short-term sacrifices we have had to make for this accomplishment. Also, thanks to my parents, Dave and Marilyn Gillum, my sisters, Beverly and Michele, as well as other family members and friends whose support and prayers have been deeply appreciated. I know that this accomplishment will benefit our family with many positive outcomes. Thank you! I love you!

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INTRODUCTION

Teenage pregnancy is not a new phenomena; for decades it has remained one of our nation's major public health and social concerns. The United States ranks as one of the nations in the Western World with the highest number of adolescent births, i.e., one million adolescent females become pregnant annually (Stevens-Simon & Beach, 1992; Stevens-Simon & White, 1991). For many years it was believed that poverty and social disorganization were consequences of adolescent pregnancy rather than the cause. However, it is now believed that the relationship is reciprocal (Kirby, 1997). Fertility among females less than 20 years of age appears linked to changes in society's perception of adolescent pregnancy; what was once viewed as unacceptable is increasingly tolerated and even embraced in some circumstances (Glazer, 1993).

Parenting can be a challenge at any age, however, adolescents are a particularly vulnerable group based on their developmental stage. Tasks of adolescent development include achieving independence from parents and other adults, selecting and preparing for an occupation of interest, establishing a satisfying and socially acceptable gender role, and developing partner relationships based on love rather than infatuation (Murray & Zentner, 1997). Adolescent developmental tasks are interrupted by pregnancy and premature parenting. Until these tasks are

accomplished, the adolescent remains immature regardless of chronological age and development is arrested. Thus, adolescents often lack the emotional maturity and knowledge to demonstrate positive parenting characteristics and develop appropriate adult behaviors (Murray & Zentner).

Adolescent pregnancy and parenthood often result in a cycle of disadvantage for a young woman and her child (Jones & Mondy, 1994). A pregnancy in adolescence is related to a greater risk of failure to complete high school, poor labor-market performance, single parenthood, long-term welfare dependence, and an increase in mortality and morbidity of both the infant and mother (Auterman, 1991; Maynard & Rangarajan, 1994). The adolescent who gives birth faces an obstacle for continuing her education and becoming economically self-sufficient (Seitz & Apfel, 1993).

For these reasons, prevention of adolescent pregnancy is of national importance, and demands significant attention and numerous intervention strategies. However, primary prevention of adolescent pregnancy is difficult for many reasons. Sexual beliefs, attitudes, perceived norms, self-efficacy, actual skill, and intentions related to sexual and contraceptive behavior remain ever changing (Matsushashi, Felice, Shragg & Hollingsworth, 1989). Also, many differing social attitudes and environmental constraints inhibit promotion of abstinence and contraceptive use by the adolescent population and males over 20 who are involved sexually with adolescent females. Lastly, the developmental

stage of the adolescent contributes to risk taking behaviors, including those related to sexuality, often without thought of consequence (Kirby, 1997).

Compounding this issue is the fact that adolescent mothers often have a repeat pregnancy during adolescence (Jones & Mondy, 1994). One of the most important mediators related to long-term outcomes for an adolescent mother and her child is the spacing of a subsequent birth (Kalmuss & Namerow, 1994). Having a subsequent pregnancy potentiates the risk for disadvantage. Recidivism is likely to expend available support systems a young mother has established, forcing her to postpone or prohibit further education or employment. Many adolescents become overwhelmed with multiple responsibilities and abandon hope for personal achievement (Seitz & Apfel, 1993).

Adolescent fertility control following an initial delivery has been linked with educational completion and long-term economic success (Rubinstein, Panzarine, & Lanning, 1990). Many studies show that a repeat adolescent pregnancy is unintentional (Stevens-Simon, Parsons, Cha, & Montgomery, 1986). When considering support for women who begin childbearing in adolescence, those adolescents who desire to prevent a second pregnancy and pursue education and career goals should be identified and supported to realize their goals (Stevens-Simon, Kelly & Singer, 1996).

When exploring why some adolescent mothers fare better on a range of outcomes, empirical evidence supports the

importance of understanding and identifying indicators of early repeat pregnancies. While all adolescents who give birth are considered 'at risk', few programs have the resources available to address these risks and maintain contact with young women and their children to ensure adequate support. Therefore, those adolescents who would most benefit from intervention, i.e., those adolescents at risk for an early repeat pregnancy, should be identified and receive support to optimize long-term outcomes, and utilize available resources most efficiently (Kalmuss & Namerow, 1994).

Statement of the Problem

Twenty-five to fifty percent of adolescent mothers deliver a second child within 24 months of an initial delivery. A second child further potentiates the incidence of poverty and is associated with an even greater risk of failure to complete high school and an inability to become economically self-sufficient (Jones & Mondy, 1994).

Given the issues which adolescent mothers face, there is a need to have a tool to identify adolescent females at risk for an early repeat pregnancy. However, no tool has been designed for this purpose. Identification of those at risk for an early repeat pregnancy could facilitate intense and appropriate interventions, optimize outcomes for adolescent mothers and their children, and utilize resources more effectively.

The Project

The risk factors for an early repeat adolescent pregnancy are known and can be linked to several less than positive outcomes. Programs which offer immediate and intense interventions contribute to long-term success. Therefore, it is essential to identify adolescent mothers who would benefit from intervention; an assessment tool could illuminate adolescents at risk for recidivism (Kalmuss & Namerow, 1994).

The Advanced Practice Nurse (APN), a primary healthcare provider, is in a key position to identify adolescents at risk for an early repeat pregnancy. Upon identification of risk, the APN can develop or implement protocols of care that enhance adolescent acceptance of parental responsibility and fertility control by assuring adequate client counseling, teaching and support in decision making (Jones & Mondy, 1994). Thus, the goal of this project is the development of an assessment tool, for use by the APN in the primary care setting, which identifies adolescents at risk for an early repeat pregnancy.

Conceptual Framework

The Health Promotion Model (HPM) has been selected to guide the development of the assessment tool in this project. A description of the model follows.

The Health Promotion Model described by Pender (1996), [Figure 1], is a competence or approach oriented model which attempts to explain predictors of health behaviors and

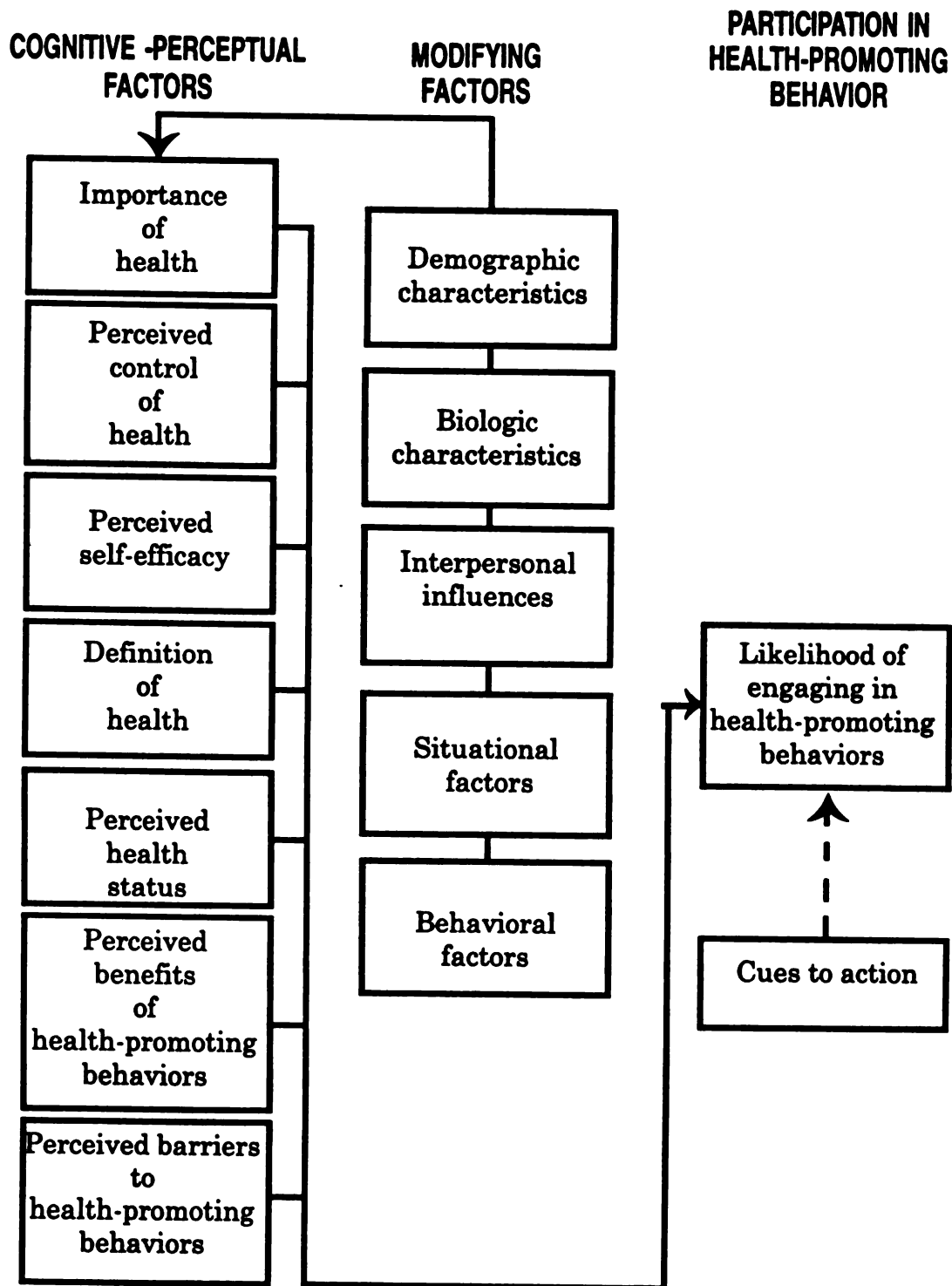


Figure 1. The Health Promotion Model (Pender, 1996)

beliefs. While based on the Health Belief Model, another paradigm for explaining health protective behavior developed by Rosenstock in the 1960's, it does not include fear or threat as sources of individual motivation for behaviors directed toward enhancement or retention of health (Pender, 1996).

The HPM is a framework which integrates nursing and behavioral science perspectives related to the factors influencing health behaviors. It is an attempt to depict the multidimensional nature of persons interacting with their environment as they pursue health; it views the pursuit of health as desirable. The major assumptions of the HPM emphasize the active role of the client in shaping and maintaining health behaviors, and in modifying the environmental context for health behaviors. This model places major emphasis on self-direction, self-regulation and perceptions of self-efficacy as internal and external stimuli which work together to shape behavior (Pender, 1996).

The HPM integrates a number of constructs from Expectancy-Value Theory and Social Learning Theory (currently referred to as Social Cognitive Theory) within a nursing perspective of holistic human functioning (Pender, 1996). Expectancy-Value Theory views human behavior as rational and economical, e.g., people will engage in an action if the outcome is positive, if the personal gain probable, and if the course of action is likely to result in

the desired outcome. Social Learning Theory is an interactional model of causation in which environmental events, personal factors, and behavior act as reciprocal determinants of each other (Pender, 1996).

The HPM views the likelihood of engaging in health promoting behavior as being influenced by three groups of factors. These factors are: modifying factors, cognitive-perceptual factors, and cues to action. The modifying factors are demographic characteristics, biological characteristics, interpersonal influences, situational factors, and behavioral factors. Modifying factors are related to prior behavior and experience, as well as personal situational influence related to birth status, acculturation, socioeconomic status and attitudes, and the beliefs and behaviors of others affiliated with an individual. When implementing interventions, many of these factors can not be changed (Pender, 1996). Cognitive-perceptual factors include the individual's perception of importance of health, control of health, self-efficacy, definition of health, health status, benefits of health-promoting behaviors, and barriers to health-promotion behaviors. These factors for an individual are influenced by the modifying or background factors. Combined, they ultimately affect the likelihood of engaging in health promoting behaviors. Additional transient stimuli are catalysts, or cues, to action (Pender, 1996).

Application of the HPM to the Project

The HPM states that although threats to the individual's immediate future action are sources of motivation, threats of the distant future lack the same motivational strength. This model is applicable to the adolescent population as adolescents often possess little regard for the future and believe they are invulnerable to health deficit (Pender, 1996). Therefore, the HPM is an appropriate theoretical basis for the development of the assessment tool in this project; it addresses the adolescent's need for timely feedback regarding immediate consequences.

During the assessment phase of the nursing process, which would incorporate this tool, the APN can identify factors influencing the adolescent, and implement a plan with the adolescent to change those factors amenable to change, within the modifying or cognitive-perceptual factors, so that promotion of health is attained. The APN can assist the adolescent to identify benefits of behavior, and can teach the adolescent how to overcome hurdles, or barriers, to the practice of health-promoting behaviors. The APN can also serve as a catalyst to action, i.e., the individual who facilitates action directed toward behaviors that promote health (Pender, 1996).

Risk factors that influence the likelihood of an early repeat adolescent pregnancy which were identified in the current literature are incorporated into the HPM and appear

in The Modified Health Promotion Model [Figure 2]. The areas of relevance to this project have been shaded in this figure. The assessment tool developed, which identifies female adolescents at risk for an early repeat pregnancy, is based on these risk factors and their integration into the HPM. Although some risk factors may overlap concepts, their influence on the adolescent guides their inclusion in the model.

Cognitive-Perceptual Factors

Perceived control of health. Perceived control of health is one's perceived ability to influence health outcomes based on behavior (Rankin & Stallings, 1996). When considering early repeat pregnancy, many adolescents at risk have a sense of hopelessness and powerlessness with regard to control of health outcomes. Many feel they have little control over themselves, little control over life events, or believe they face bleak futures. Therefore, an initial as well as repeat pregnancy are either planned or not prohibited; these adolescents 'live in the here and now' (Glazer, 1993). Adolescents who perceive control over their lives, and emulate behavior based on this belief, have become more successful overall (Horwitz, Klerman, Kuo, & Jekel, 1991).

Perceived Benefits of Health-Promoting Behaviors

Perceived benefits of health-promoting behaviors is the belief that one's health behavior will positively affect outcomes with self-gain likely (Rankin & Stallings, 1996).

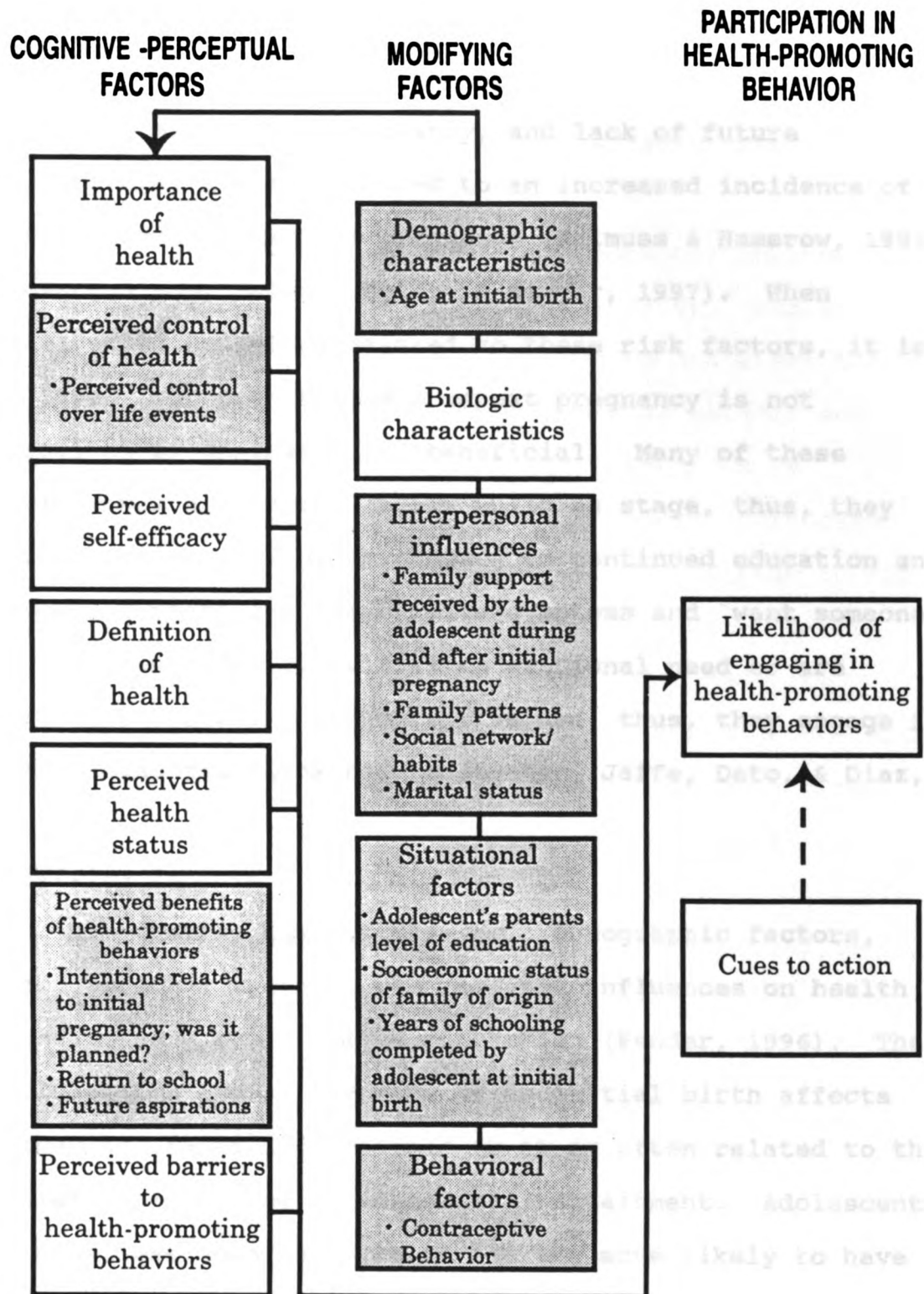


Figure 2. The Modified Health Promotion Model (Pender, 1996)

Intentions which facilitate the initial pregnancy, i.e., a planned pregnancy, not intending to return to school following an initial pregnancy, and lack of future aspirations, are all related to an increased incidence of an early repeat adolescent pregnancy (Kalmuss & Namerow, 1994; Stevens-Simon, Dolgan, Kelly, & Singer, 1997). When considering behaviors related to these risk factors, it is believed that prohibiting a repeat pregnancy is not perceived as desirable and beneficial. Many of these adolescents are in the family building stage, thus, they value family building as opposed to continued education and career. Others show depressive symptoms and 'want someone to love' in order to fulfill an emotional need or are apathetic regarding contraceptive use, thus, they engage in unprotected sex (Linares, Leadbeater, Jaffe, Dato, & Diaz, 1992).

Modifying Factors

Demographic characteristics. Demographic factors, i.e., personal factors, are relevant influences on health behavior in a given target population (Pender, 1996). The adolescent's age at the time of an initial birth affects subsequent fertility outcomes as it is often related to the adolescent's degree of educational attainment. Adolescent females less than 16 years of age are more likely to have an early repeat pregnancy, more likely to have completed less education, and use contraceptives less effectively or not at all. Becoming sexually active at a young age results in

increased long-term exposure to more risky sexual behaviors, which increases the incidence of pregnancy (Kalmuss & Namerow, 1994; Matsuhashi et al., 1989; Stevens-Simon et al., 1996).

Interpersonal influences. Interpersonal influences are how others influence behavior (Pender, 1996). Family support received by the adolescent during and after the initial pregnancy, family patterns, social network and habits, and marital status have been identified as influencing the incidence of an early repeat adolescent pregnancy. Other contributing factors are related to family support, i.e., financial and emotional support. Family support facilitates return to school, continued life development, and the desire to postpone second pregnancies (Seitz & Apfel, 1993). An intact family tends to deter repeat pregnancies and is linked to greater stability (Matsuhashi et al., 1989).

Family patterns are related to race, ethnicity, and socioeconomic status; they determine acceptance of childbearing behavior and can shape fertility behavior based on family tradition. Those adolescents who come from a large family are more likely to produce more children overall, and start family building at a young age (Kalmuss & Namerow, 1994).

Social networks often affect an adolescent's definition of acceptable behavior, influence decision-making, and dictate reactions to life events. If an adolescent has many

peers involved in family building, the adolescent is more likely to perceive this as the norm and adapt to this life choice (Horwitz et al., 1991). If peers use and abuse illicit substances, the adolescent is more likely to do the same. These circumstances have also been linked to an increased risk of early repeat adolescent pregnancy (Stevens-Simon et al., 1996). Conversely, if peers value and support education and career goals, the likelihood of an early repeat adolescent pregnancy is lower (Stevens-Simon et al., 1997).

Marital status following an initial delivery affects the incidence of an early repeat adolescent pregnancy. The presence of a spouse is more likely to result in a planned birth and a desire to continue with family building, if this is valued by the spouse (Kalmuss & Namerow, 1994). Also, a spouse is more likely to supply an income making the perception of attaining education and career goals less important. Frequency of sexual behavior may also be greater with a spouse present, making pregnancy more likely (Ford, 1983).

Situational factors. Situational factors are 'where one is at' in life based on their history of existence and experience (Pender, 1996). Situational factors which have been identified as increasing the incidence of an early repeat adolescent pregnancy are the adolescent's parents' level of education, the socioeconomic status of the family of origin, and years of schooling completed by the

adolescent by the time of the initial birth. Lack of educational attainment of both the adolescent and her parents, and being of lower socioeconomic status have also been linked to increased risk of early repeat adolescent pregnancy. Increased educational attainment has been positively associated with contraceptive use and negatively associated with family size (Kalmuss & Namerow, 1994). Linares et al. (1992) believes this is the result of decreased family emphasis on education and career development, which results in family building at an earlier age.

Behavioral factors. Behavioral factors are assessed by considering an individual's prior experience with various health promotive choices (Rankin & Stallings, 1996). When considering behavior related to contraception, adolescents at risk for an early repeat adolescent pregnancy have been shown to use contraceptives inappropriately or not at all (Kalmuss & Namerow, 1994; Maynard & Rangarajan, 1994). This behavior may be the result of not being offered the contraceptives, lacking the skill for proper use, or not finding the contraceptive methods available, acceptable and compatible with use (Jones & Mondy, 1994).

Conceptual and Operational Definitions

Definition of the concepts used throughout this project leads to a greater understanding of the basis for tool development and tool implications. In general, there are variations in the literature regarding conceptual

definitions; consideration of these definitions resulted in the operational definitions used for this project. The conceptual and operational definitions are as follows:

Adolescent Pregnancy. Kalmuss and Namerow (1994) refer to adolescent pregnancy as any female under age 17 who conceives a pregnancy. Perino (1992) uses age < 20 and Glazer (1993) uses age < 19 when referring to pregnant adolescent females. Horwitz et al. (1991) refer to 'school-aged' expectant females as between the ages of 13-18, while Polit and Kahn (1986) define pregnant adolescents as pregnant females under the age of 17, without a diploma. Most sources refer to pregnant adolescents as those that follow through with a pregnancy and deliver at viability. As 'risk' is greatest for those females who have not completed high school, the definition of adolescent pregnancy for this project is a female 13-20 years of age who has not completed high school, is pregnant, and intends to deliver an infant.

Early Repeat Adolescent Pregnancy. Linares et al. (1992), Stevens-Simon et al. (1996), and Stevens-Simon et al. (1997) describe an early repeat adolescent pregnancy as delivery of an infant to an adolescent female within 12 months of an initial delivery. They found that as many as 30% of repeat adolescent pregnancies occur during this period of time. Jones and Mondy (1994), Kalmuss and Namerow (1994), and Matsushashi et al. (1989), refer to the same definition, but do so within a 24 month time period. They

found that 25% to 50% of repeat adolescent pregnancies occur within two years of an index delivery. Since long-term outcomes are the most positive when an adolescent female delays a subsequent delivery for 24 months (Seitz & Apfel, 1993), this project defines early repeat adolescent pregnancy as delivery of an infant, by an adolescent female, within two years of an initial delivery.

Advanced Practice Nurse (APN). In 1993, The American Nurse's Association Board of Directors defined an advanced practice nurse as a " professional nurse who has successfully completed a graduate program of study in a nursing specialty or related health care field that provides specialized knowledge and skills forming the foundation for expanded practice roles in health care" (O'Conner, p. 66, 1994). Fagin (1978) stated that APNs use a holistic approach when assessing actual or potential health problems of individuals, families and the community, with optimal health and wellness as the goal of advanced nursing care. Collado (1992) stated APNs are nurses in advanced practice who combine health promotive with curative aspects of health care, thus being natural allies of primary health care goals. This project defines APN as a nurse who has successfully completed a graduate nursing specialty program and uses a holistic approach when caring for patients, families, and the community to assess actual or potential health problems and facilitate attainment of optimal health and wellness.

Assessment Tool. Pender (1996) states that assessment provides a database for making clinical judgments concerning client strengths and client health problems, and for making decisions regarding desired health or behavioral outcomes. Rankin and Stallings (1996) refer to assessment as a collection of data to identify actual or potential health problems, while realizing client strengths and limitations related to achieving health outcomes.

Pender refers to the mechanism which provides the assessor with information to develop an individually tailored plan for health promotive care as an assessment instrument.

Rankin and Stallings refer to an instrument as a guide to a set of criteria that will direct the assessor to areas of intervention, and emphasizes the importance of maintaining a holistic approach within the context of the client's family and environment. This project defines an assessment tool as an instrument, used in collaboration with the client, which provides the APN with information regarding client strengths and limitations, and identifies areas of needed intervention to promote holistic health outcomes for the client within the context of family and environment.

Literature Review

Adolescent pregnancy represents a complex issue involving many factors and results in many negative outcomes for the adolescent, her child, and society as a whole.

Adolescent pregnancy and parenting constitute major societal problems and present significant medical and psychosocial risks that accompany adolescent births (Rubenstein et al., 1990). Hardy and Zabin (1991) along with Maynard and Rangarajan (1994) identify school dropout, single parenthood, the early repetition of pregnancy, employment difficulties, and poor labor-market performance as commonplace for adolescent mothers. The current literature reflects factors which influence an early repeat adolescent pregnancy.

Kalmuss and Namerow (1994) identify three categories which impact early repeat pregnancy: background characteristics before an initial birth, adolescent characteristics at the time of an initial birth, and experiences following an initial birth. The background characteristics before the time of the initial birth include the adolescent's parents' level of education, the socioeconomic status of the family of origin, family support received by the adolescent during the initial pregnancy, family patterns, and the attitudes toward contraceptive behavior of the adolescent. Adolescent characteristics at the time of the initial birth include the age of the adolescent at the birth, the number of years of schooling completed by the adolescent at the time of the birth, and the birth mother's intentions related to the birth. The experiences following an initial birth are related to whether or not the adolescent returns to school, marital

status, social network/habits, future aspirations, and perceived control over life events.

Estimates of Repeat Pregnancy in Adolescence

The incidence of early repeat pregnancies is high with the rates ranging from 19% to 66% depending, in part, on the adolescent mother's participation in post-partum intervention programs (Stevens-Simon et al., 1986). Likewise, according to Stevens-Simon et al. (1996) fifty-eight percent of repeat pregnancies occur during the initial six month post-partum period; Kalmuss and Namerow (1994) report that 24-31% of adolescent mothers have a second birth within 24 months of the initial delivery. Similarly, Linares et al. (1992) found that 39% of adolescent mothers repeat pregnancy and Ford (1983) reported that about one-third of repeat pregnancies occur within 12 months of the first delivery. Polit and Kahn (1986) reported that regardless of race or ethnicity early repeat pregnancies occurred in one out of five adolescent mothers within 12 months of their first child.

Predictors of Repeat Pregnancy in Adolescence

Stevens-Simon and White (1991) cite the absence of post-partum follow-up care as being an important factor in the prevalence of repeat pregnancy among adolescents. An average of 30% of pregnant adolescents will be pregnant again within their first post-partum year and 25-50% will become pregnant again within the second year (Stevens-Simon & White). Other factors which seem to be associated with

repeat adolescent pregnancy include being 16 years old or younger at first conception, not living with parents, being below the expected grade level or dropping out of school, pregnancy viewed as a socially and culturally acceptable means of achieving adulthood, and leaving the hospital without birth control (Stevens-Simon et al., 1996).

Berenson and Wiemann (1997) found that the adolescents who failed a grade in school, who experienced depressive symptoms, or lived with a new partner, were less likely to be reliable users of contraception and more likely to become pregnant again. Another important predictor is the degree of contact and quality of contact these young mothers have with key people who provide support, assistance, guidance and confirmation of their self worth (Berenson & Wiemann, 1977). Kalmuss and Namerow (1994) found that adolescents with more educated parents and those who continued with schooling after the birth of their first child were less likely to have an early repeat birth. Similarly, Horwitz et al. (1991), found that women who had completed more education when they became pregnant were 18 times more likely to be successful later in life.

Maynard and Rangarajan (1994) and Ford (1983) cited that most of the repeat pregnancies in adolescents occurred in those not using a contraceptive method at all or using one inconsistently. Within the follow-up period, which averaged 29 months, 64% had at least one pregnancy and 21% had two or more repeat pregnancies (Maynard & Rangarajan).

Atkin and Alatorre-Rico (1992) cited another important factor, i.e., the adolescents' mothers themselves having been pregnant as an adolescent. The intergenerational influence on adolescent pregnancy increases the likelihood of a repeat pregnancy primarily because the environment promotes the repetition of the cycle of closely spaced repeat pregnancies (Atkin & Alatorre-Rico, 1992). Nearly 70% of the participants' mothers in Maynard and Rangarajan's (1994) study had been adolescent parents themselves; 42% of these parents grew up in a single-parent household and 63% were raised in a household that received welfare at some point.

Furstenburg, Brooks-Gunn, and Morgan (1987) found that family factors predicted intergenerational continuity of adolescent parenting including low maternal education and adolescent births in adolescents' mothers. Linares et al. (1992) stated that the choice to have a second child is consistent with traditional sex-role orientation in some cultures, that is, parenting is seen as a positive route to adult status and positive emotional bonds are anticipated from the mothering role.

Impact of a Repeat Pregnancy on Adolescents

Maternal and infant morbidity and mortality are also increased in the pregnant adolescent (Auterman, 1991). The causes of adverse outcomes are complicated and are related to social, educational, and health factors. Furstenberg et al. (1987) reported that studies conducted over the years

indicated that girls will have repeat pregnancies, drop out of school and rely on the welfare system to support their family, unless there is a significant amount of intervention and support for first time pregnant adolescents from a multidisciplinary team approach. Adolescent mothers with an early repeat pregnancy will experience a substantially poorer socioeconomic and familial outcome (Kalmuss & Namerow, 1994; Jones & Mondy, 1994). Adolescent mothers require continued intensive intervention in order to impact mother and infant outcomes (Jones & Mondy, 1994). The multidisciplinary team must function in a nonjudgmental, warm and sensitive way, while focusing on the needs of each individual adolescent (Taylor, Berg, Kapp, & Edwards, 1983). Glazer (1993) and Stevens-Simon et al. (1996) discuss how puzzling it is that even when adolescent girls have knowledge and access to contraceptives, there is no guarantee that they will use them.

Auterman (1991) attributed pregnancy to be the major reason for girls dropping out of school. Robinson (1993), Scott-Jones and Turner (1990) and Stevens-Simon et al. (1986) recognized that the school drop-out rate of pregnant adolescents increased as a result of their lack of academic success and that these adolescents tended to experience early repeat pregnancies. Their failure to complete their education had an irreparable and cumulative economic impact over their lifespan. Robinson further stated that because dropout rates are much higher after the baby is born,

support services need to occur after the infant's birth at an even higher level than those provided during pregnancy. Rubenstein et al. (1990) stressed that it is important to facilitate continued school participation with the adolescent mother after the birth of her infant, since staying in school has been identified as a major factor in delaying repeat pregnancies.

The problem of early repeat pregnancies among adolescents is an important issue (Rubenstein et al., 1990). An adolescent who gives birth to a second child soon after delivering her first is faced with serious barriers for continuing her education and becoming economically self-sufficient (Seitz & Apfel, 1993). When pregnancy and parenthood occur simultaneously, the process of normal psychological and cognitive adolescent growth and development are both retarded and accelerated. For example, adolescent mothers who give birth to their first child before the age of sixteen are more likely to have a second child within the next two years than older adolescents (Mott, 1986). Hopkins Adolescent Clinic program data suggest proper education for young mothers is important in reducing repeat pregnancies within 18 months of the birth of their first child (Hardy & Zabin, 1991).

Based on a longitudinal study conducted by Furstenberg et al. (1987) of urban black women who became pregnant as adolescents, the length of time they received welfare also emerged as a significant factor. This finding was

consistent with Maynard and Rangarajan's (1994) study which revealed that half of the young mothers lived on their own with neither a male partner nor a parent. Jones and Mondy (1994) cite that having a second and subsequent birth as an adolescent increases the risk for economic disadvantages. Furstenberg's et al. (1987) survey also indicated that women who gave birth to a second or third child within 5 years of the first were almost three times as likely to be receiving welfare as those who delayed having an additional child. It is important to note that limited attention has been directed towards prevention of repeat pregnancy in these youth (Matsuhashi et al., 1989).

The initiation of prenatal care has been documented to influence the outcome of pregnancy. Hardy and Zabin (1991) discussed the importance of referring adolescents promptly for prenatal care in order to meet their special needs, counter the risks of adolescent pregnancy, and have optimal outcomes. According to Auterman (1991), adolescents tend to seek prenatal care later than older women and have fewer prenatal visits. In particular, adolescents are less likely to seek care in the first trimester of pregnancy (Auterman, 1991; Lee & Grubbs, 1995). It has been suggested that this occurs for various reasons, i.e., denial of pregnancy, lack of understanding of the importance of prenatal care, lack of accessibility to prenatal services, and inappropriate methods of services to meet the adolescents' needs (Lee & Grubbs, 1995; Perino, 1992). Lee and Grubbs also found that

those adolescents seeking prenatal care in the first trimester of pregnancy did so because of the family support they received, along with their own beliefs that the care was needed for a healthy outcome for themselves and their infants.

Programs for Pregnant Adolescents

Obtaining a better understanding of the sources of strongly positive, ambivalent, and strongly negative feelings regarding childbearing is vital for the APN in order to develop a more useful approach in meeting the developmental and emotional needs of adolescent mothers (Stevens-Simon et al., 1996). Programs need to be tailored to the specific needs of adolescents and special strategies identified to enhance the motivation of adolescent mothers with poor skills and limited social support (Furstenberg et al., 1987). Hardy and Zabin (1991) reported that a comprehensive program of care can serve to aid the resolution of serious health problems by improving the obstetric and neonatal outcomes for those teenagers that participate. They emphasize the importance of education, social services, and a team approach. The importance of services aimed at keeping the adolescent mother in school after the baby's birth also cannot be overemphasized. Continued school participation has been identified as a major factor in delaying a repeat pregnancy as well as increasing the adolescent's opportunity for future economic independence (Rubenstein et al., 1990).

Furstenberg et al. (1987) found in their longitudinal study of teenage mothers that completing high school was one of the most important variables contributing to a successful outcome for these young women. Auterman (1991) cited that many adolescent programs have documented that earlier and more frequent prenatal visits are significant because the adolescents are monitored more closely and frequently. Seitz and Apfel (1993) state that school programs have great potential ability to reach a large proportion of the high-risk adolescents and therefore, would be a good choice as a service delivery model. "School-based clinics provide a wider range of services than prenatal care, but may promote earlier and more consistent prenatal care because they are readily accessible, have few financial restrictions and provide confidential care and counseling" (Auterman, p. 219.). Furstenberg et al. (1987) stated that alternative schools help prevent disadvantage in later life and that services that are provided at the time of the first pregnancy and birth can lower the long-term risk of economic dependency.

Robinson (1993) believes that the development of specific services within the school system for pregnant teenagers would increase school completion rates and that support services need to be more intense in the post-partum period. Robinson demonstrated that alternative schools, particularly those with day care, were successful in assisting pregnant and parenting students to complete their

education. Taylor et al. (1983) indicated that the public high school is an optimal location for adolescent prenatal health services. It is in this environmental setting that the educational, psychosocial, and medical needs of the adolescent can be addressed. This finding is especially important since Kelen, Hunt, Sibeko-Stones, and Varga (1991) found that adolescents seldom attend the traditional prenatal classes. An example of a school-based program is described by Chen, Fitzgerald, DeStefano, and Chen (1991). The program they developed focused on individual counseling and health education for the pregnant adolescents. The program's immediate goal was to provide prenatal care, but the ultimate outcome was improved infant birth weights.

A comprehensive program for pregnant adolescents can serve to aid in the resolution of serious health problems, assist in obtaining a high school education, educate about parenting skills, and provide problem solving skills to assist these adolescents in handling real life situations, i.e., financial and social. An example of a comprehensive program is described by Hardy and Zabin (1991). Pregnant adolescents at the Hopkins Adolescent Clinic (HAC), which was established in 1973, experienced superior pregnancy outcomes when compared with a group of similar adolescents delivering in the same facility. Hardy and Zabin attributed this outcome to both the separate and caring environment in which the HAC adolescent mothers received their care, and to the importance of the integration of case management,

intensive psychosocial support, and health education provided in this setting. The goal is to provide comprehensive adolescent-oriented prenatal and postpartum care.

Stevens-Simon and Beach (1992) identified the core services of federally funded adolescent pregnancy programs as pregnancy testing and options counseling; maternity counseling and referral; primary and preventive prenatal and postnatal care; nutritional information, counseling about dietary intake, and the availability of supplements; diagnosis and treatment of sexually transmitted diseases; primary and preventive pediatric and adolescent health care; education in sexuality and family life, including independent living skills, decision-making skills, and child and family development; referrals to appropriate educational and vocational programs; counseling and referral services for treatment of mental health problems, emergency housing, child care, financial aid; and family planning.

Nichols (1991) described the goal of secondary education prevention programs as either the elimination or reduction of negative outcomes of adolescent pregnancy and parenting. Nichols further stated that their primary focus should be on improving obstetrical outcomes for the adolescent and improving perinatal outcomes for the infant; providing educational information regarding childbirth and parenting skills; enabling options and support for the

pregnant adolescent; and reducing the reoccurrence of a repeat pregnancy.

Giblin, Poland, and Sachs (1986) state that there are few reports that describe the needs of adolescent mothers. They examined significant variations in the health concerns of adolescent mothers and urged the development of information programs specific to the adolescents' identified needs. They noted that these needs could be identified by an assessment tool specifically designed for adolescent mothers. Although not a current characteristic of programs involving pregnant adolescents, they posed that such an assessment tool could serve to provide information with regard to each adolescent's health beliefs, as well as their psychosocial and educational status.

In summary, if support provided to an adolescent mother can help to delay the occurrence of a second delivery for as little as two years, the consequences are likely to positively affect the adolescent's later life adjustment (Seitz & Apfel, 1993). Most intervention programs for pregnant adolescents focus on improving obstetrical and neonatal outcomes. However, these programs alone have not been shown to reduce early repeat pregnancies. Postnatal services, which focus on factors that contribute to an increased incidence of early repeat adolescent pregnancy, appear more effective (Seitz & Apfel, 1993).

It is vital that the APN be able to assess risk factors that may lead to an early repeat pregnancy with postnatal

adolescent mothers. If it is the adolescent's choice to continue to build her family, then the APN being aware of this can provide support and appropriate interventions to promote positive outcomes. The goal is to assess and individualize each adolescent's situation in order to promote positive outcomes and decrease the number of negative outcomes that occur with adolescent mothers and their children. Smith-Battle and Leonard's (1998) research supports the APN's role to provide positive recognition and support which affirms the self and fosters the adolescent mother's ability to communicate. The rapport that develops between the APN and the adolescent mother should enhance the adolescent's articulation of her priorities, goals, accomplishments, and difficulties so that she can cope more effectively with her challenges (Smith-Battle & Leonard, 1998).

Project Development

The goal of this project is the development of an assessment tool, for use by the APN in the primary care setting, which identifies adolescent females at risk for an early repeat pregnancy. The tool developed is based on risk factors identified in the current literature related to the prevalence of early repeat adolescent pregnancy, and utilizes the HPM as the conceptual framework. The tool is referred to as The Early Repeat Adolescent Pregnancy Risk Assessment Tool (ERAPRAT); it is composed of 32 items which correspond to the identified risk factors. This section

describes the items on the ERAPRAT. The product and guidelines for its use, are included in the Appendix.

Need for the ERAPRAT

Twenty-five to fifty percent of adolescent mothers deliver a second child within 24 months of an initial delivery. A second child potentiates the incidence of poverty and is strongly associated with failure to complete high school and the inability to become economically self-sufficient (Jones & Mondy, 1994). Given the issues adolescent mothers face, there is a need to have a tool which identifies adolescent females at risk for an early repeat pregnancy. Currently, no tool exists for this purpose. The ERAPRAT is an assessment tool which fulfills this need.

ERAPRAT Format

The format of the ERAPRAT is based, in part, on review of other assessment tools, i.e., The Burns Depression Checklist, the Cheung-Leads Health Risk Assessment, and the Nursing Assessment Tool: Potential for Impaired Skin Integrity (Burns, 1990; Cheung & Leads, 1998; Fuller & Schaller-Ayers, 1990). Guidelines for assessment tool development, described by Rankins and Stallings (1996), were also considered. Like many of the assessment tools reviewed, the completed ERAPRAT will serve as a source of documentation; additional documentation will be required to complete the nursing process, i.e., a problem list, plans for intervention with expected outcomes, and evaluation

methods to be used (Murray & Zentner, 1997). The ERAPRAT, along with all associated documentation should be included in the adolescent's medical record.

The ERAPRAT begins with space provided for inclusion of identification data; e.g., assessor's name (who is using the ERAPRAT), date assessment is completed, adolescent's name, adolescent's birthdate, and date of the adolescent's delivery. Directions for use of the tool precede the items. Risk factors incorporated into the ERAPRAT have been organized into three categories; they are: adolescent characteristics, family characteristics, and adolescent perceptions.

The categories of risk factors in the ERAPRAT differs slightly from organization of the factors in the literature review. This is done for two reasons: a) to facilitate the flow of the tool, and b) to provide a sensitive approach when exploring information which may make the adolescent uncomfortable; i.e., general information is asked first while that which may require poignancy is asked last. Some of the risk factors which influence the incidence of an early repeat adolescent pregnancy are assessed in multiple ways to better capture their multidimensional influence on the adolescent. Other risk factors can be evaluated succinctly and are assessed only once.

Use of the ERAPRAT

Who will use the ERAPRAT? The ERAPRAT has been designed primarily for use by the APN in the primary care

setting. However, other health care professionals, social workers, and teachers could use the ERAPRAT if appropriately educated regarding its use.

What is the target population for use of the ERAPRAT?

Adolescents, who have recently delivered an infant, are the target population for application of the ERAPRAT. They can be identified through schools, local health departments, social service agencies, prenatal clinics, provider offices, and hospitals.

When will the ERAPRAT be used? The ERAPRAT is to be

used during the first two weeks postpartum of an adolescent's delivery. However, administration of the ERAPRAT would be beneficial at any point prior to a subsequent pregnancy or delivery. Ideally, the APN will have had the opportunity to develop a relationship with the adolescent before using the ERAPRAT, however, this is not a prerequisite for use (Rankin & Stallings, 1996).

Where will the ERAPRAT be used? The ERAPRAT can be

utilized either in the hospital before the adolescent mother is discharged, during home visits, during office/clinic visits, or in the school setting.

How will the ERAPRAT be used? Guidelines for use of

the ERAPRAT should be reviewed before utilization of the tool, and periodically as needed to ensure correct application. The ERAPRAT may be duplicated for subsequent use with other adolescent mothers, providing credit is given to the authors, Mills and Perry-Philo. Information for the

items on the ERAPRAT should be derived primarily from the adolescent through interviews. The adolescent's family and significant other(s) could provide additional information, also through interviews. Chart review and communication with other professionals, including other health care providers, teachers, and social workers, could also supply data.

Most items on the ERAPRAT provide numeric values (0, 1, 2) for responding; others provide a space for inclusion of specific data which may facilitate identified interventions. When using the ERAPRAT, the APN should circle the appropriate numeric value or document the requested information. The numeric values are subtotaled on the first page of the ERAPRAT and subtotaled again on the second page of the tool. The subtotals are added to obtain a total risk score upon completion of the tool. The total possible score ranges from 0 to 51. This score indicates risk for an early repeat adolescent pregnancy; a higher score indicates greater risk. However, use and validation of the ERAPRAT is necessary to assign a definitive quantitative value of risk.

If the item does not apply to the adolescent, the numeric value assigned to that item should be "0". Those risk factors which may influence the adolescent's return to school have been assigned a numeric value of "2". The current literature suggests these factors inhibit an adolescent's return to school and thus significantly increase the risk for an early repeat pregnancy (Jones &

Mondy, 1994; Kalmuss & Namerow, 1994; Stevens-Simon et al., 1996). These items are also identified by a double asterisk (**), so that the APN can quickly identify the item as indicating significant risk and facilitate intervention. Other risk factors have been assigned a numeric value of "1". This indicates risk for an early repeat adolescent pregnancy is present, but not to the extent as with those risk factors assigned a "2".

Some items may require further evaluation or referrals based on information received, as they may reveal complex issues beyond the scope of the ERAPRAT. These issues include lack of appropriate support systems, depression, or substance abuse. These items are also identified by a double asterisk (**), prompting immediate attention and intervention by the APN.

Items on the ERAPRAT

The three organizational categories which divide items on the ERAPRAT are: adolescent characteristics, family characteristics, and adolescent perceptions. 'Adolescent characteristics' include 14 items which assess the risk factors specific to the adolescent. There are eight items which assess the risk factors within the context of 'family characteristics', and 10 items which assess the risk factors involving the adolescent's impression of her life situation, or 'adolescent perceptions'. The following paragraphs describe the items and provide support for their inclusion in the ERAPRAT.

Adolescent characteristics. Younger age at the time of an initial delivery is related to an increased risk of an early repeat adolescent pregnancy. Specifically, initial delivery by an adolescent less than 16 years of age has been linked to an early subsequent birth and decreased educational attainment (Stevens-Simon et al., 1996). Therefore, assessing the risk factor 'age at initial birth' is important, and is included in Item #1 as: The adolescent was <16 years of age at delivery. Numeric values included for addressing this item are "0" and "2", with delivery under age sixteen indicating an increased risk for an early repeat adolescent pregnancy.

Item #2 assesses the risk factor 'years of schooling completed by the adolescent at the initial birth' and is included as: The adolescent has completed < the 11th grade at delivery. Adolescents who are at less than the expected grade level or who have dropped out of school are less likely to return to school following an initial delivery and are more likely to have an early repeat pregnancy. Often this is related to familial reproductive patterns and lack of contraceptive use (Kalmuss & Namerow, 1994; Stevens-Simon et al., 1996). As eleventh grade is the approximate expected grade level for a 16 year old, numeric values included for addressing this item are "0" and "2", with delivery before eleventh grade indicating an increased risk for an early repeat adolescent pregnancy.

Adolescents who are married are more likely to have an early repeat pregnancy, i.e., spousal influence may promote family building and decreased emphasis on education and career attainment (Kalmuss & Namerow, 1994; Linares et al., 1992). Consequently, Item #3 assesses the risk factor 'marital status' and 'future aspirations' and is included as: The adolescent was married at delivery. Numeric values included for addressing this item are "0" and "2", with being married indicating an increased risk for an early repeat adolescent pregnancy.

Item #4 assesses the risk factors 'social network/habits' and 'contraceptive behavior', and is included as: The adolescent has a new partner post delivery. Adolescents who report a new partner following an initial delivery are less likely to use contraceptives consistently and appropriately, and therefore, at risk for an early repeat pregnancy (Stevens-Simon et al., 1996). Numeric values included for addressing this item are "0" and "1" with the presence of a new partner indicating an increased risk for an early repeat adolescent pregnancy.

Item #5 assesses the risk factors 'socioeconomic status of the family of origin', 'future aspirations', and 'return to school', and is included as: Employment of the adolescent is necessary for self-support. This item assesses the need for adolescent employment and possible financial resources available to the adolescent. This may illuminate the adolescent's ability to return to school, and consequently,

the likelihood of an early repeat pregnancy (Seitz & Apfel, 1993). Numeric values included for addressing this item are "0" and "2", with need for employment possibly prohibiting return to school and, thus, indicating an increased risk for an early repeat adolescent pregnancy.

Those adolescents planning to return to school exhibit future orientation, generally perceive education and career as important, and are less likely to experience an early repeat pregnancy (Kalmuss & Namerow, 1994). Those that experience barriers to returning to a traditional school setting, and have an alternative school setting available, are more likely to continue with their education (Seitz & Apfel, 1993). Therefore, Item #6 assesses the risk factors 'return to school' and 'future aspirations', and is included as: The adolescent plans to discontinue education post delivery. Numeric values included for addressing this item are "0" and "2"; those adolescents who plan to discontinue their education are at increased risk for an early repeat adolescent pregnancy.

Item #7 assesses the risk factors 'intentions related to the initial pregnancy' and 'social network/habits' and is included as: The pregnancy was planned by the adolescent. A planned pregnancy may be related to familial reproductive patterns, partner and/or peer influence, or lack of perceived benefits related to not conceiving. Those with an initial planned pregnancy are at risk for an early repeat pregnancy (Kalmuss & Namerow, 1994; Stevens-Simon et al.,

1997). Numeric values included for addressing this item are "0" and "2", with a planned pregnancy indicating an increased risk for an early repeat adolescent pregnancy.

Adolescents who begin sexual experimentation at 16 years of age or younger are at an increased risk for pregnancy, and at risk for an early repeat pregnancy if they conceive and deliver an infant. Also, they are less likely to use contraceptives consistently and appropriately (Berenson & Wiemann, 1997; Stevens-Simon et al., 1996). Therefore, it is important to assess age of onset regarding sexual activity. Item #8 assesses the risk factors 'social network/habits' and 'contraceptive behavior' and is included as: The adolescent began sexual activity < 16 years of age. Numeric values included to address this item are "0" and "1", with sexual activity under age sixteen indicating an increased risk for an early repeat adolescent pregnancy.

Item #9 assesses the risk factor 'contraceptive behavior' and is included as: The adolescent did not use contraceptives, or did not use contraceptives appropriately with past sexual encounters. Behavioral factors related to contraceptive use need to be evaluated as those at risk for an early repeat adolescent pregnancy frequently use contraceptives inappropriately or not at all (Jones & Mondy, 1994). Numeric values included for addressing this item include "0" and "1", with disuse or misuse of contraceptives during past sexual behavior indicating an increased risk for an early repeat adolescent pregnancy.

Item #10 assesses appropriate health care 'cues to action' since delivery, and is included as: The adolescent did not receive follow-up health care post delivery. Adolescent mothers who do not receive follow-up care for promotion of optimal health following the delivery of an infant, often 'fall through the cracks', and therefore receive inadequate supportive care for prevention of future pregnancy (Stevens-Simon et al., 1996). Numeric values included which identify previous provision of follow-up care are "0" and "1", with no previous follow-up care indicating an increased risk for an early repeat adolescent pregnancy.

Adolescent mothers who are discharged from the hospital without a contraceptive, without receipt of appropriate instructions related to the type of contraceptive selected, or who don't use the contraceptive selected appropriately, are at risk for an early repeat pregnancy (Stevens-Simon et al., 1996). Hence, Items #11, #12, and #13 assess the risk factor 'contraceptive behavior' and are included as: The adolescent did not receive a form of contraception before discharge from the hospital following delivery (Item #11). If the adolescent did receive a contraceptive before discharge, she was not given instructions regarding its use. Contraceptive given (Item #12). If the adolescent did receive a contraceptive before discharge, she is not using it appropriately (Item #13). Numeric values included for addressing each item are "0" and "1". Space is provided to

document the form of contraceptive given so that educational interventions may be facilitated if indicated.

Item #14 assesses the risk factor 'social network/habits' and is included as: The adolescent uses/abuses illicit substances. Type of illicit substance used/abused. Use and abuse of illicit substances is related to decreased family support, depressive symptoms, and inappropriate peer influence. Therefore, it is related to increased risk for an early repeat adolescent pregnancy (Stevens-Simon et al., 1996). Numeric values included for addressing this item are "0" and "1" for substance use, with admission of substance use/abuse indicating an increased risk for an early repeat adolescent pregnancy. Type of illicit substance used/abused needs to be assessed in order to best facilitate appropriate intervention, therefore, space is provided to document this information.

Family characteristics. Assessing who lives with the adolescent will illuminate who directly influences the adolescent as well as who may be available to provide financial and emotional support. If others living with the adolescent are adolescents themselves with children, this may delineate a pattern of influence and may also reveal information regarding availability of support to facilitate return to school (Seitz & Apfel, 1993). Therefore, Item #15 assesses the risk factors 'family support received by the adolescent during and after the initial pregnancy', 'social network/habits' and 'future aspirations' and is included as:

Household members. Names, Relationship. Space is provided for inclusion of data for this item.

Items #16, #17, and #18 assess the risk factors 'family support received by the adolescent during and after the initial pregnancy' and 'socioeconomic status of the family of origin' and are included as: Father of the adolescent is unemployed (Item #16). Mother of the adolescent is unemployed (Item #17). Significant other is unemployed (Item #18). This information should reveal details regarding functional ability of those involved with the adolescent, the need for adolescent employment, as well as financial resources available to the adolescent. This may influence the adolescent's ability to return to school, and consequently the likelihood of an early repeat pregnancy (Seitz & Apfel, 1993). Numeric values included for addressing each item are "0" and "2", with unemployment status of those who are available for adolescent support, indicating an increased risk for an early repeat adolescent pregnancy.

Assessing the last grade completed by the adolescent's parent(s) and significant other illuminates the value and pattern of educational attainment of those most directly influencing the adolescent. Less educational attainment by the adolescent's parents has been associated with an increased risk of an early repeat pregnancy. If others closely associated with the adolescent haven't completed high school and they are of an age when this would be

expected, this may be an indication the adolescent will not value completing high school (Kalmuss & Namerow, 1994; Stevens-Simon et al., 1997). Items #19, #20, and #21 assess the risk factors 'family patterns', 'the adolescent's parent's level of education' and 'social network/habits' and are included as: Father of the adolescent did not complete high school (Item #19). Mother of the adolescent did not complete high school (Item #20). Significant other did not complete high school (Item #21). Numeric values included for each item are "0" and "2" with incompleteness of high school by family members indicating an increased risk for an early repeat adolescent pregnancy.

Item #22 assesses the risk factor 'family patterns' and is included as: The adolescent's mother was < 16 years of age when she began childbearing. Total number of children/age at delivery of each child. If the mother of the adolescent began childbearing and family building during her adolescent years, the adolescent may develop the same reproductive pattern. This may be related to cultural and ethnic patterns (Kalmuss & Namerow, 1994; Linares et al., 1992). Therefore, early childbearing and family building by the adolescent's mother may put the adolescent at risk for early repeat pregnancy. Numeric values included for addressing this item are "0" and "1" as childbearing by the mother that begins before age 16 is more likely to result in an early repeat adolescent pregnancy of the daughter and promote increased family size (Stevens-Simon et al., 1996).

Space is provided to include documentation of the total number of children and the age of the adolescent's mother at each delivery as this might delineate a pattern prone for repetition by the adolescent.

Adolescent perceptions. The adolescent's perception of others' views about the pregnancy as being acceptable or unacceptable is important. If adolescent pregnancy is accepted by others directly influencing the adolescent's value system, this suggests an increased risk for an early repeat pregnancy (Linares et al., 1992). Hence, Items #23, #24, #25, and #26 assess the risk factors 'family support received by the adolescent during and after the initial pregnancy', 'family patterns', and 'social network/habits', and are included as: The adolescent perceives her father accepts adolescent pregnancy as the norm (Item #23). The adolescent perceives her mother accepts adolescent pregnancy as the norm (Item #24). The adolescent perceives her significant other accepts adolescent pregnancy as the norm (Item #25). The adolescent perceives her peers accept adolescent pregnancy as the norm (Item #26). Numeric values included for addressing each item are "0" and "2", with acceptance of adolescent pregnancy by family members and peers indicating an increased risk for an early repeat adolescent pregnancy.

Item #27 assesses the risk factor 'family patterns' and is included as: The adolescent perceives pregnancy during adolescence as culturally acceptable. As culture and

ethnicity can affect the adolescent female's fertility behavior and value foundation, it needs to be assessed when evaluating acceptance of the pregnancy by others. Cultural and ethnic background of the male involved may affect the fertility behavior of the adolescent female, particularly if the male and the adolescent are married (Kalmuss & Namerow, 1994; Linares et al., 1992). Numeric values included for addressing this item are "0" and "2", with cultural acceptance of adolescent pregnancy being an increased risk for an early repeat adolescent pregnancy.

The adolescent's perception of her relationship with those closest to her greatly influences the likelihood of an early repeat adolescent pregnancy; i.e., the lack of appropriate support indicates an increased risk. Also, lack of support for the adolescent is related to a decreased likelihood of returning to school and arrest of continued development thus potentiating the risk for an early repeat adolescent pregnancy (Matsushashi et al., 1989; Stevens-Simon et al., 1996). Items #28, #29, and #30 assess the risk factors 'family support received by the adolescent during and after the initial pregnancy' and 'social network/habits', and are included as: The adolescent perceives her father as unsupportive (Item #28). The adolescent perceives her mother as unsupportive (Item #29). The adolescent perceives her significant other as unsupportive (Item #30). Numeric values included for addressing each item are "0" and "2", with perception of

decreased support indicating an increased risk for an early repeat adolescent pregnancy.

Items #31 and #32 assess the risk factor 'perceived control over life events' and are included as: The adolescent does not perceive control over life events (Item #31). The adolescent perceives feelings of hopelessness and/or depression (Item #32). Adolescents who perceive little control over life events, perceive themselves as depressed, have a poor self-concept, and/or feel powerless, are at risk for an early repeat pregnancy. Many believe they need to fill an emotional void by having children. Others are apathetic regarding consequences related to sexual behavior, thus do not use contraception appropriately or at all (Kalmuss & Namerow, 1994; Linares et al., 1992). Numeric values included for each item are "0" and "1", as an affirmative answer for either item indicates an increased risk for an early repeat adolescent pregnancy.

In summary, the ERAPRAT is an assessment tool designed for use by the APN in the primary care setting. However, it could also be used in other settings such as a hospital, school, or in the home during a home visit. The ERAPRAT has been designed to be used within two weeks postpartum in order for the APN to identify risks for an early repeat adolescent pregnancy. The information collected should assist the APN to mutually identify with the adolescent future goals, and to develop nursing interventions which meet the goals specified. The APN utilizing the ERAPRAT

should review the guidelines provided with the tool prior to using it with the adolescent.

Implications

There are several implications regarding the use of the ERAPRAT in practice, education, and research. A discussion of these three areas follows.

Practice Implications

The ERAPRAT is designed for use by the APN in the primary care setting, but could be used in a variety of settings, such as the home, e.g., a home health nurse visit with an adolescent mother recently released from the hospital following the birth of her initial child, or the school, e.g., in a school-based nurse-managed clinic. The tool could be used at various intervals to assess if the adolescent's perspectives or environmental situation have changed. The key is to consistently assess whether or not the adolescent is at risk for an early repeat pregnancy. It is only when the APN assesses and evaluates the risks for an early repeat pregnancy, that the APN can intervene by education or reiterating the at-risk areas of concern with the adolescent mother.

The ERAPRAT is a tool that provides quick and efficient assessment when used with the adolescent. However, there may be obstacles encountered with its use. One obstacle that may arise is whether or not rapport has developed to the degree that the adolescent feels comfortable enough to disclose the information requested. Another obstacle could

be the APN's lack of awareness of her own value system, so that she is not able to provide adequate support and guidance to the adolescent mother.

The primary goal when using the ERAPRAT is the identification of risk factors for an early repeat adolescent pregnancy. Once these are identified, the APN can assist the adolescent in developing strategies that promote positive outcomes for her and her family through anticipatory guidance. For example, if the adolescent chooses to prevent a repeat pregnancy and pursue education and career goals, she can be supported to accomplish this goal. Conversely, if the adolescent chooses to continue with family building, the APN would want to emphasize the importance of consistent prenatal care, nutrition, safety issues, parenting skills, and stages of development, to optimize immediate as well as future outcomes.

Another area of focus should be the adolescent's available support systems, including those available to the father of the child. Finances and availability of healthcare insurance should be reviewed, as this information may indicate support available to the adolescent mother. This information may also assist the APN in identifying specific resources needed by the adolescent mother. Once the ERAPRAT is used with the adolescent and the APN identifies risk factors for an early repeat pregnancy, the APN can begin to identify those interventions which may be appropriate.

Following the assessment phase of the nursing process, results are summarized and nursing diagnoses are formulated (Pender, 1996). While the ERAPRAT focuses on assessment and identification of the adolescent at risk for an early repeat pregnancy, once she is identified as being at risk, the APN should begin to formulate goals and strategize specific interventions.

The goal is for the APN and the adolescent to mutually develop strategies that promote positive outcomes for the adolescent and her family, with the adolescent maintaining ownership of the plan regardless of direction taken. Mutual goal setting is an important factor in order for the adolescent mother to succeed. The APN must put aside her own value system and recognize the strengths and competencies of the adolescent and her family. Each adolescent and her family have practices compatible with her culture of orientation; cultural practices should be integrated into the health plan so that cultural and or ethnic pride is maintained. The role of the APN is to teach, guide, and support, as these existing competencies are maintained and new ones are developed (Pender, 1996). Goals include those formulated by the adolescent with the assistance of the APN. After identification, goals should be prioritized. Clear identification of expected outcomes, which are time specified and measurable, should then be developed in order to guide the adolescent and the APN in strategizing and achieving desired health behaviors. The

adolescent must be aware of and desire the benefits of the health promotive change, i.e., behaviors integrated on an ongoing basis into the individual's lifestyle such as appropriate use of birth control methods, return to school, activities which promote self-esteem, and development and maintenance of social support systems (Murray & Zentner, 1997; Pender, 1996; Stevens-Simon et al., 1996). The goals, interventions, and expected outcomes should be included as a summary statement of findings, and documented in an alternative format for the health record. This information should remain separate from the ERAPRAT, but is placed in the client's record along with the assessment data. Goals and interventions may include those developed as a result the ERAPRAT, as well as other assessments.

While the ERAPRAT assists the APN in the identification of risk factors for an early repeat pregnancy in adolescence, it is the relationship between the APN and the adolescent which can result in a plan to decrease the likelihood of an early repeat pregnancy. Smith-Battle and Leonard (1998) discuss the importance of promoting a sense of future for these adolescent mothers. After building rapport and showing belief in the adolescent, interventions and goals promoted by the APN will hold increased merit (Murray & Zentner, 1997).

APNs are in an invaluable position to provide prenatal and postnatal care for the adolescent female. Auterman (1991) discussed several nursing practice implications in a

community-based secondary prevention program with pregnant adolescents. The APN could: a) promote special health, educational, developmental, and social service needs of the adolescent in order to effectively achieve more positive outcomes, b) provide affordable, accessible health services to the adolescent, c) design clinic settings specifically for the adolescent, d) create appropriate literature and implement educational approaches for secondary prevention of adolescent pregnancy, and e) motivate and create public policy changes to improve the negative outcomes for adolescent mothers and their children. For example, items a)-d) could be addressed by setting up a specific group for these adolescents that meets on a specific day and time. The designated place should be accessible to the adolescent, possibly in the school setting. Information and appropriate educational materials could be presented to these young mothers about parenting skills, contraception, and health promotion for themselves and their children. If childcare was an issue, the APN could look into requesting assistance from a local Girl Scout Troop that may be willing to donate their time to care for the children as part of their community service commitment. If the adolescents were not attending school, the APN could look into having them meet in an available room after-hours at a healthcare clinic, or in a church meeting room. As for item e), public policy changes, the APN could discuss issues with the public school or alternative school administration, regarding provision of

childcare for these adolescents, in order to facilitate an easier transition for their to return to school. A part of the adolescent's educational curriculum could include work programs so they could identify what career they may be interested in pursuing, or skills they may desire to attain.

Thus, the APN could participate in a variety of roles in the practice setting when providing services to the at-risk adolescent. Although the primary role for the APN when using the ERAPRAT is that of assessor, additional roles could include case manager, counselor/advocate, educator, and clinician/practitioner.

As an assessor, the APN collects subjective and objective data, formulates a clinical impression, forms diagnoses, and then develops interventions with the client that should promote positive outcomes (Murray & Zentner, 1997). For instance, when reviewing the items on the ERAPRAT with an adolescent mother, specific areas should be identified by the APN as potential problems, and support should be provided to facilitate optimal outcomes.

As a case manager, the APN identifies specific areas of health needs and implements a plan ensuring continuity for the adolescent. Community resources are utilized as needed. The APN plans, coordinates, monitors, and evaluates outcomes of the services utilized by each adolescent, facilitating revision of resource utilization as needed.

As a counselor/advocate, the APN provides support to the adolescent and her family to facilitate coping

behaviors. The APN collects information by listening and observing during the interaction process, while using the ERAPRAT. The APN conveys and validates her observation with the adolescent, as well as provides support to her as she may struggle with decision-making for herself and her child. The APN advocates for specific services or resources needed by the adolescent, assists the adolescent in exploring options and resources available, and provides referrals on an ongoing basis. These actions should improve the adolescent's self-care abilities and support informed decision-making. Various circumstances may require assistance from the APN; these include finding childcare, making plans for returning to school, obtaining information, and/or completing forms for specialized support services. As an advocate, the APN may get involved with the school system in helping ease the transition for the adolescent's return to school.

As an educator, the APN could provide information regarding healthy lifestyle habits, health care and pregnancy, along with specific information and skills related to childbirth and parenting. The APN could also educate the adolescent mother regarding the birth control method of her choice. Education should be individualized and dependent upon how each adolescent responds to the ERAPRAT (Auterman, 1991; Rankin & Stallings, 1996).

As a clinician/practitioner, the APN conducts health assessments and provides direct physical health care to the

adolescent and her child. The APN formulates diagnoses and provides direct primary care which is based on sound theory and advanced clinical judgment. The goal is to promote self-care abilities, maintain health, prevent complications, and promote coping skills to deal with problems that arise. Interventions would be based on responses obtained when using the ERAPRAT (Snyder & Mirr, 1995).

Educational Implications

There are numerous educational implications specific to the APN with regard to the ERAPRAT. An APN, who is proficient in the use of the ERAPRAT, could present it, discuss guidelines for its use, emphasize the risk factors that may result in an early repeat adolescent pregnancy, and relate these risk factors to possible outcomes for adolescent mothers and their children. The ERAPRAT could be presented to APNs at conferences, seminars, or special inservice meetings. This could occur at national, state, or local nurses' association meetings. Another option would be to promote the ERAPRAT through the School Nurses' Association. Presentations at various colleges of nursing is another avenue to promote use of the ERAPRAT. Another way of promoting use of the ERAPRAT would be to discuss the long-term cost benefits that may be realized by utilizing such a tool in practice. An article outlining the development and significance of the ERAPRAT could be submitted for publication to a professional nursing journal, thus educating and informing other APNs of its availability

and the need for future evaluation of its merits. By using the ERAPRAT and providing evidence of better outcomes with adolescents, the APN could become a role model and advocate for its use.

Education regarding appropriate practice areas for use of the ERAPRAT would include pediatric and family practice clinics, public health departments, and managed care settings. If the adolescents at risk for an early repeat pregnancy and their children are identified early, the cost savings to managed care organizations, governmental agencies, and private insurance companies could prove to be significant. The important factor to consider when presenting the ERAPRAT is to stress that the assessment of each adolescent be done as early as possible to optimize outcomes.

Research Implications

The ERAPRAT is an untested tool; due to the lack of validity and reliability testing, items indicated as significant are subject to reevaluation and modification pending evaluation. An initial approach for testing would be to have an expert panel of researchers possessing experience regarding adolescent pregnancy review the tool; areas to assess include: a) the accuracy and clarity of the items, b) ease of use in the primary care setting, and, c) the tool's overall layout and appearance. Subsequent studies employing the ERAPRAT could evaluate the ERAPRAT's reliability and validity as an instrument. For example, the

ERAPRAT could be used in a pilot study in several different practice settings with a diverse group of adolescent mothers from various cultural and socioeconomic backgrounds. One research question, which addresses the issue of reliability is, "Does the ERAPRAT predict adolescents at risk for an early repeat pregnancy?" In addition to research value issues, "Does the ERAPRAT validate the risk factors for an early repeat pregnancy that have been identified in the literature?" Research using the ERAPRAT could be accomplished through collaboration of several researchers and APNs as they assess and compare the information gathered in a variety of practice settings. The data collected could assess the relationship of the adolescents' educational plans and how they impacted an early repeat pregnancy.

The APN as a researcher could analyze and calculate the various responses possible on the ERAPRAT, and formulate a variety of research questions. These questions could further expand the ERAPRAT and its use by developing specific areas of intervention and guidelines for the APN. Questions could be developed which assess factors and interventions that are most effective in assisting the adolescent mother's return to school and pregnancy prevention. Examples of these questions are: "After mutual goal setting by the APN and the adolescent mother, were the goals attained and was an early repeat pregnancy avoided?", "If the adolescent mother chose to have an early repeat pregnancy and continued with family building, what positive

outcomes resulted for the adolescent and her family?", and "Are all adolescent mothers at risk for an early repeat pregnancy because of their stage of development?"

Conclusion

The APN can play a key role in assessing and identifying adolescent mothers at risk for an early repeat pregnancy. The factors, identified in the current literature which place an adolescent female at risk for an early repeat pregnancy are: a) being 16 or younger at the time of first delivery, b) completing less than the expected years of schooling at first birth, c) being married or having a new partner, d) lack of desire or plans to return to school, e) a planned initial pregnancy, f) discharged from the hospital without a contraceptive, or not using, or inappropriately using contraceptives, g) lack of follow-up health care post delivery, h) adolescent family building patterns, habitual school drop-out, and habitual substance abuse by social network, i) lower socioeconomic status of family, j) lower educational attainment of family members, k) familial pattern of family building in adolescence, l) lack of financial and emotional support by family, m) perception of little control over life events, and n) lack of future aspirations; lack of future hope (Berenson & Wiemann, 1997; Jones & Mondy, 1994; Kalmuss & Namerow, 1994; Linares et al., 1992; Matsushashi et al., 1989; Seitz & Apfel, 1993; Stevens-Simon et al., 1996). The ERAPRAT incorporates these risk factors in order to identify

adolescent mothers at risk for an early repeat pregnancy; it also provides an opportunity to identify goals and interventions which promote positive outcomes for the adolescent mother and her family. The APN is a primary care provider with a holistic focus and is in an excellent position to efficiently and effectively facilitate services for these young mothers so that optimal health is attained.

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APPENDICES

Appendix A

Guidelines for use of the ERAPRAT

Early repeat adolescent pregnancy is strongly associated with noncompletion of high school and the inability to become economically self-sufficient (Seitz & Apfel, 1993). Following identification of a female adolescent's risk for an early repeat pregnancy, interventions can be facilitated for an adolescent mother and her child which facilitate optimal long-term outcomes (Kalmuss & Namerow, 1994).

Items which assess risk factors identified in the current literature which influence the likelihood of an early repeat adolescent pregnancy are included in the Early Repeat Adolescent Pregnancy Risk Assessment Tool (ERAPRAT). Items on the ERAPRAT, as well as the risk factors identified, are divided into three categories: adolescent characteristics, family characteristics, and adolescent perceptions. This is done to facilitate the flow of the tool and to promote comfort the adolescent during the assessment process.

The ERAPRAT is a form of documentation; it may be duplicated for subsequent use with other adolescents providing acknowledgment is given to the authors, Mills and Perry-Philo. Numeric values (0, 1, 2) are provided for items on the ERAPRAT, or a space is provided for brief documentation which may facilitate interventions. When using the ERAPRAT, the APN should circle the appropriate numeric value, or provide the required information. A "0" should be assigned if the item does not apply to the adolescent. The numeric value "1" or "2" should be assigned if the item does apply to the adolescent. Numbers are subtotaled on the first page, subtotaled again on the second page, and both subtotals are added to obtain a total risk score. The possible score range is 0 to 51. A higher score indicates increased risk for an early repeat adolescent pregnancy, however, degree of risk will be determined pending use and validation of the tool.

Items which may affect the adolescent's return to school have been identified in the current literature as indicating a significant increased risk for an early repeat adolescent pregnancy. These items are given a numeric value of "2", and are identified with a double asterisk (**) to prompt attention of the APN when using the ERAPRAT. All other items are given a numeric value of "1", which indicates a lower risk.

Other items may require assessment in addition to that which is provided when using the ERAPRAT. These items are also identified with a double asterisk (**). Additional assessments may be required due to complex issues which are beyond the scope of the ERAPRAT. These issues include lack of support systems, depression, and substance abuse.

All items identified by a double asterisk (**) are considered priorities for intervention. A problem list, goals for intervention with expected outcomes, and plans for evaluation should be included on a separate form and attached to the ERAPRAT. The ERAPRAT, and other documentation relating to its use, should be included in the adolescent's health record.

Risk Factors for an Early Repeat Adolescent Pregnancy

ADOLESCENT CHARACTERISTICS

- Being age 16 or younger at time of first delivery (Stevens-Simon, Kelly, & Singer, 1996).
- Completing less than expected years of schooling at first birth (Stevens-Simon, et al., 1996).
- Being married or having a new partner (Berenson & Wiemann, 1997).
- Lack of desire or plans to return to school (Kalmuss & Namerow, 1994).
- A planned initial pregnancy (Kalmuss & Namerow, 1994).
- Discharge from the hospital without contraceptives; not using or inappropriately using contraceptives (Jones & Mondy, 1994).
- Lack of follow-up health care post delivery (Stevens-Simon, et al., 1996).
- Adolescent family building patterns, habitual school drop-out, and habitual substance abuse by social network (Linares, Leadbeater, Jaffe, Dato & Dias, 1992).

FAMILY CHARACTERISTICS

- Lower socioeconomic status of family (Kalmuss & Namerow, 1994).
- Lower educational attainment of family members (Stevens-Simon, et al., 1996).
- Familial pattern of family building in adolescence (Linares, et al., 1992).

ADOLESCENT PERCEPTIONS

- Lack of financial and emotional support by family (Matsushashi, Felice, Shragg, & Hollingsworth, 1989).
- Perception of little control over life events (Berenson & Wiemann, 1997).
- Lack of future aspirations; lack of future hope (Seitz & Apfel, 1993).

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Appendix B

The Early Repeat Adolescent Pregnancy Risk Assessment Tool (ERAPRAT)

Assessor Name _____

Adolescent Name _____

Assessment Date _____

Adolescent Birthdate _____

Date of Delivery _____

Directions:

Please read the items listed in the ERAPRAT. Circle the corresponding number listed to the right of each item. Circle a "0" if the item does not apply to the adolescent. Circle the other number given (1 or 2) if the item does apply to the adolescent. Any item that is assigned a "2" may influence the adolescent's return to school, and therefore, indicates significant risk for an early repeat pregnancy and requires immediate intervention. These items are also identified by a **. Other items may require additional assessment or referrals as they may identify inadequate support systems, substance abuse, or depression; these items are also identified by a ** and require immediate intervention.

Subtotal the numbers circled on the first page, subtotal the numbers circled on the second page, and add both subtotals when the ERAPRAT has been completed for a total risk score.

ADOLESCENT CHARACTERISTICS

- | | | | |
|--|---|---|----|
| 1. The adolescent was <16 years of age at delivery. | 0 | 2 | ** |
| 2. The adolescent has completed < the 11 th grade at delivery. | 0 | 2 | ** |
| 3. The adolescent was married at delivery. | 0 | 2 | ** |
| 4. The adolescent has a new partner post delivery. | 0 | 1 | |
| 5. Employment of the adolescent is necessary for self-support. | 0 | 2 | ** |
| 6. The adolescent plans to discontinue education post delivery. | 0 | 2 | ** |
| 7. The pregnancy was planned by the adolescent. | 0 | 2 | ** |
| 8. The adolescent began sexual activity < 16 years of age. | 0 | 1 | |
| 9. The adolescent did not use contraceptives, or did not use contraceptives appropriately with past sexual encounters. | 0 | 1 | |
| 10. The adolescent did not receive follow-up health care post delivery. | 0 | 1 | |
| 11. The adolescent did not receive a form of contraception before discharge from the hospital following delivery. | 0 | 1 | |
| 12. If the adolescent did receive a contraceptive before discharge, she was not given instructions regarding it's use. | 0 | 1 | |
| Contraceptive given: _____ | | | |
| 13. If the adolescent did receive a contraceptive before discharge, she is not using it appropriately. | 0 | 1 | |
| 14. The adolescent uses/abuses illicit substances. | 0 | 1 | ** |
| Type of illicit substance used/abused _____ | | | |

SUBTOTAL

FAMILY CHARACTERISTICS

15. Household members. Names/relationship: _____

16. Father of the adolescent is unemployed.	0	2	**
17. Mother of the adolescent is unemployed.	0	2	**
18. Significant other is unemployed.	0	2	**
19. Father of the adolescent did not complete high school.	0	2	**
20. Mother of the adolescent did not complete high school.	0	2	**
21. Significant other did not complete high school.	0	2	**
22. The adolescent's mother was <16 years of age when she began childbearing.	0	1	
Total number of children/age at delivery of each child: _____			

ADOLESCENT PERCEPTIONS

23. The adolescent perceives her father accepts adolescent pregnancy as the norm.	0	2	**
24. The adolescent perceives her mother accepts adolescent pregnancy as the norm.	0	2	**
25. The adolescent perceives her significant accepts adolescent pregnancy as the norm.	0	2	**
26. The adolescent perceives her peers accept adolescent pregnancy as the norm.	0	2	**
27. The adolescent perceives pregnancy during adolescence as culturally acceptable.	0	2	**
28. The adolescent perceives her father as unsupportive.	0	2	**
29. The adolescent perceives her mother as unsupportive.	0	2	**
30. The adolescent perceives her significant other as unsupportive.	0	2	**
31. The adolescent does not perceive control over life events.	0	1	**
32. The adolescent perceives feelings of hopelessness and/or depression.	0	1	**

SUBTOTAL _____

SUBTOTAL FROM FIRST PAGE _____

TOTAL RISK SCORE _____

- A range of 0 to 51 points is possible; a higher score indicates greater risk, however, degree of risk is pending use and validation of the ERAPRAT.
- Attach problem list with goals for intervention, expected outcomes, and plans for evaluation of risk factors, insert these and this form in client record.

Developed by Mills and Perry-Philo; Michigan State University-College of Nursing,
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