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Adolescent contraceptive use: Cues to behavior

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ADOLESCENT CONTRACEPTIVE USE: CUES TO BEHAVIOR

by

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APPROVAL BY THESIS DIRECTOR

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Jacqueline B Sherman — 4/26/91

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Date

DEDICATION

I wish to dedicate this thesis to my children, Natasha and Aaron; to my husband, Victor, whose love and support made this thesis possible; and in memory of my grandparents, Dee and Martin Hebler.

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ABSTRACT

This study investigated the cues to behavior that influence adolescent contraceptive use. Forty adolescent females between the ages of 14 and 18 who were currently using contraceptives participated in this descriptive study. The Contraceptive Cue Questionnaire was completed by the participants, who attended a county family planning clinic. Using descriptive statistics, the cues of having a steady boyfriend, having accurate knowledge of reproduction and contraception, and having been pregnant previously were found to be important in cuing adolescent females to use contraceptives. Having future plans and goals was not found to be an important factor in cuing adolescent females to use contraceptives. The importance of the cue of the level of cognitive development could not be determined due to the limited age range of the subjects. The information gained can be used to work with those sexually active teens who are at risk of becoming pregnant; that is, those who are not involved in a steady relationship or do not feel a great deal of love for their boyfriends, have little or inaccurate knowledge of reproduction and contraception, and those who have not yet been pregnant.

CHAPTER 1

INTRODUCTION

School-age pregnancy is a problem that has been studied in many ways since the 1970s, yet the problem continues. Every day there are reports of growing numbers of adolescents experiencing pregnancy and parenthood. With the availability of various contraceptive methods and sex education courses, why do large numbers of teens become pregnant? What motivates some teens to use contraceptives? This study described a population of teenage effective contraceptive users to determine what the cues to behavior are that motivate them to use contraceptives.

Problem Statement

Many costs are associated with teen pregnancy. Among these are financial, psychological, and physical costs. Teenage, or school-age pregnancy (pregnancy occurring before high school education is completed) as some researchers more accurately term this phenomenon, is financially costly. The high cost to the public of providing welfare to these individuals has been well-documented by the Allan Guttmacher Institute (1981), Burt (1986), Furstenberg (1976), and Height (1986). The loss of potentially productive members of the work force due to school-age pregnancy is also documented by these same researchers. Parents of the school-age girl may experience the financial burden of the girl's pregnancy. They may be responsible for the medical costs incurred by the teen and her child and the costs of raising the child.

This occurs at a time when many parents are looking forward to financial stability and increased freedom from child-rearing. The teen's pregnancy frequently changes all of these plans (Hamburg, 1986).

Pregnancy is also psychologically costly to the school-age girl and her child, especially in the Anglo society. Teens are ill-equipped to provide adequate parenting to their children, and these children may be at increased risk of abuse or neglect, and cognitive and/or developmental delays (Lancaster & Hamburg, 1986). Graves and Bradshaw (1975) stated that teens have an increased risk of a repeat pregnancy within 18 months of delivery. This increases the inadequate parenting risks to the children of teen mothers. The birth of a second child further decreases the chances that the teen will complete her education. If the teen does not complete her education, she may endure continuing poverty and single parenthood (Height, 1986). The teen may also suffer delays in her own developmental process and experience prolonged immaturity (Ustick, 1982). In addition, many teen mothers experience a sense of social isolation. While many of their friends are out on dates or participating in the activities that teens are normally involved in, the teen mother is confined to home and child care (Moore, 1989).

Lastly, pregnancy is physiologically costly to the school-age girl. Teens are less likely to seek adequate prenatal care and preventive care for themselves and their children. This may lead to higher numbers of premature and/or low birth-weight babies, pregnancy complications, and ill children. This, in turn, increases the morbidity and mortality rates of teens and their children (Height, 1986; Moore, 1989; Reichelt, 1979). Those children born prematurely or at low birth

weights are more likely to experience physical and developmental problems (Lancaster & Hamburg, 1986).

Factors Influencing School-Age Pregnancy

The factors which influence school-age pregnancy are often the same ones which influence the decision to use contraceptives. Many researchers have found peer pressure to be a major factor. Chilman (1986) stated that teenage girls engage in sexual behavior because it is expected by their boyfriends or it is required to "fit in with the crowd." Studies by Freeman et al. (1980) confirmed this finding, especially if the girl feels pressured by the male to acquiesce to his sexual advances. Parental influences may be another factor. Furstenberg, Hercog-Baron, Shea, and Webb (1986) found that, if parents talk to the teen even minimally about sex and birth control, the teen is likely to delay the initiation of sexual activity. Newcomer and Udry (1985), on the other hand, found parental communication to have no effect on teen sexual intercourse and contraceptive use. Baldwin (1983) stated that the parental role is complex, but that parents do influence the teen's behavior in terms of values and the timing of marriage and childbearing. Reichelt (1979) theorized that teen sexual activity may be a form of rebellion against parental controls.

Many teens, especially younger adolescents, lack the cognitive skills needed to determine the consequences of sexual activity. Pregnancy and parenthood are not thought of in concrete and realistic terms according to studies by Freeman and Rickels (1979) and Greydanus (1983). Teens also have feelings of invulnerability — "it happens to someone

else, but not to me" (Shopper, 1984). They may not have come to terms with their sexuality and may use denial of sexual activity as a means to deal with their sexuality. The sexual activity of teens is often sporadic and unplanned, leading to greater risk of pregnancy.

Baldwin (1983) and Zabin, Kantner, and Zelnick (1979) found that inadequate or inaccurate knowledge of the reproductive cycle and of contraception to be a leading factor regarding the use of contraception. Zabin, Hirsch, and Smith (1986) found that, even when teens knew where to obtain and how to use effective means of contraception, they failed to do so due to the side effects or inconvenience of the method. They also found that fear of parental discovery of the method was a deterrent to contraceptive use. The exception was if the parents held strong beliefs against premarital intercourse and contraceptive use. In this instance, the parents' beliefs regarding these topics strongly influenced the teen to delay initiation of sexual activity and to use contraceptives when they did become sexually active.

Problem Significance

Moore (1989) stated, "Each hour an average of 115 teens in the United States becomes pregnant. Within twenty-four months of their initial pregnancies, forty to fifty percent of adolescents become pregnant again" (p. 104). With the cost of these pregnancies estimated at $16.65 billion in Aid for Dependent Children, food stamps, and Medicaid payments in 1985 alone, it is easy to understand the impact of school-age pregnancies on the health care system (Burt, 1986). The current political climate in which social programs are being financially cut makes it

imperative that solutions to the problem of school-age pregnancy be found.

Many studies have offered theories about the causes of school-age pregnancy, but few have offered solutions. Little effort has been made to study those teens who are effective contraceptors to determine what sets them apart from their peers. The research which has been completed in this area has been inconsistent in the definition of terms, the determination of which factors are significant in terms of contraceptive use, and the definition of which age groups constitute adolescence.

The age at which adolescents become sexually active continues to decline. Younger adolescents are less likely to use effective means of contraception and their risk of pregnancy is increased compared to older adolescents (Zelnick, 1983). The fewer teens using effective means of contraception, the more likely that the rate of school-age pregnancies will increase. The more school-age pregnances there are, the more high school dropouts and welfare-dependent families there will be (The Future of Public Health, 1988). To prevent this increase in the rates of school-age pregnancies, a greater understanding of why some teens choose to use contraceptives is needed.

Nurses come into contact with teens in a variety of settings which provide opportunities to intervene in the area of contraceptive use. If nurses are aware of what factors influence contraceptive use, they may be able to maximize the positive influences and minimize the negative. Nurses in family planning clinics, schools, public and private clinics, and offices are in the ideal situation to impact this problem.

Purpose of Study

A group of adolescents who were effective contraceptive users and the cues to behavior that influenced them to utilize contraceptives were described. Based on a review of the literature and the author's observations, it was expected that important factors would be: 1) having a steady partner; 2) having future plans and goals; 3) age; and 4) having previous, accurate information regarding contraceptives and the reproductive cycle. Little research has been done in the area of contraceptive use that focused on the cues-to-behavior component of the Health Belief Model. It was hoped that, by focusing on this component, those teens at risk of being ineffective contraceptors would be identified and the question "*What are the cues to behavior that motivate adolescent females to use contraceptives?*" would be answered.

Conceptual Framework

The conceptual framework for this study was based on the Health Belief Model developed in the 1950s by Rosenstock, Kegeles, Hochbaum, and Leventhal (1974) to determine the impact of prevention and screening programs. The model is comprised of several different components: 1) Perceived Susceptibility — the likelihood of contracting the disease or condition; 2) Perceived Seriousness — how much of an impact this disease or condition would have on the ability to function normally; 3) Perceived Benefits of Taking Action — the available alternatives to reduce the seriousness of and susceptibility to the disease or condition; and 4) Perceived Barriers — the negative aspects of taking action, which may be physical, psychological, financial, unpleasant, or

painful aspects (Rosenstock, 1974) (see Figure 1). The model suggests that certain factors exist which serve as triggers to taking a particular action. These triggers are known as cues to behavior. The cues may be internal (coming from within the person) or external (coming from outside the person). The intensity of the cue needed to bring the person to action varies with the person's level of perceived susceptibility to and perceived severity of the disease or condition. An example of this would be the teen who determines that she is not only susceptible to pregnancy, but that pregnancy would have a severe impact on her life. This teen would only require minimal cues to motivate her to use contraceptives. If the teen does not perceive that she is susceptible to pregnancy or that pregnancy would have a severe impact on her life, it would take very intense cues to motivate her to use contraceptives (Rosenstock, 1974).

There are several modifying factors that may influence an individual's perceptions of susceptibility to and seriousness of pregnancy. These modifying factors include demographic, sociopsychological, and structural variables. Demographic variables include age, race, ethnicity, and socioeconomic status. Age influences the teen's perceived susceptibility to and seriousness of pregnancy. Young teens are not likely to perceive themselves as susceptible to pregnancy and are cognitively unable to perceive the seriousness of pregnancy upon their lives (Greydanus, 1983). Race and ethnicity may also influence the susceptibility to pregnancy and the seriousness of pregnancy on a teen's life. Lancaster and Hamburg (1986) found that some ethnic groups and cultures have a longer history of school-age pregnancy and are more accepting of

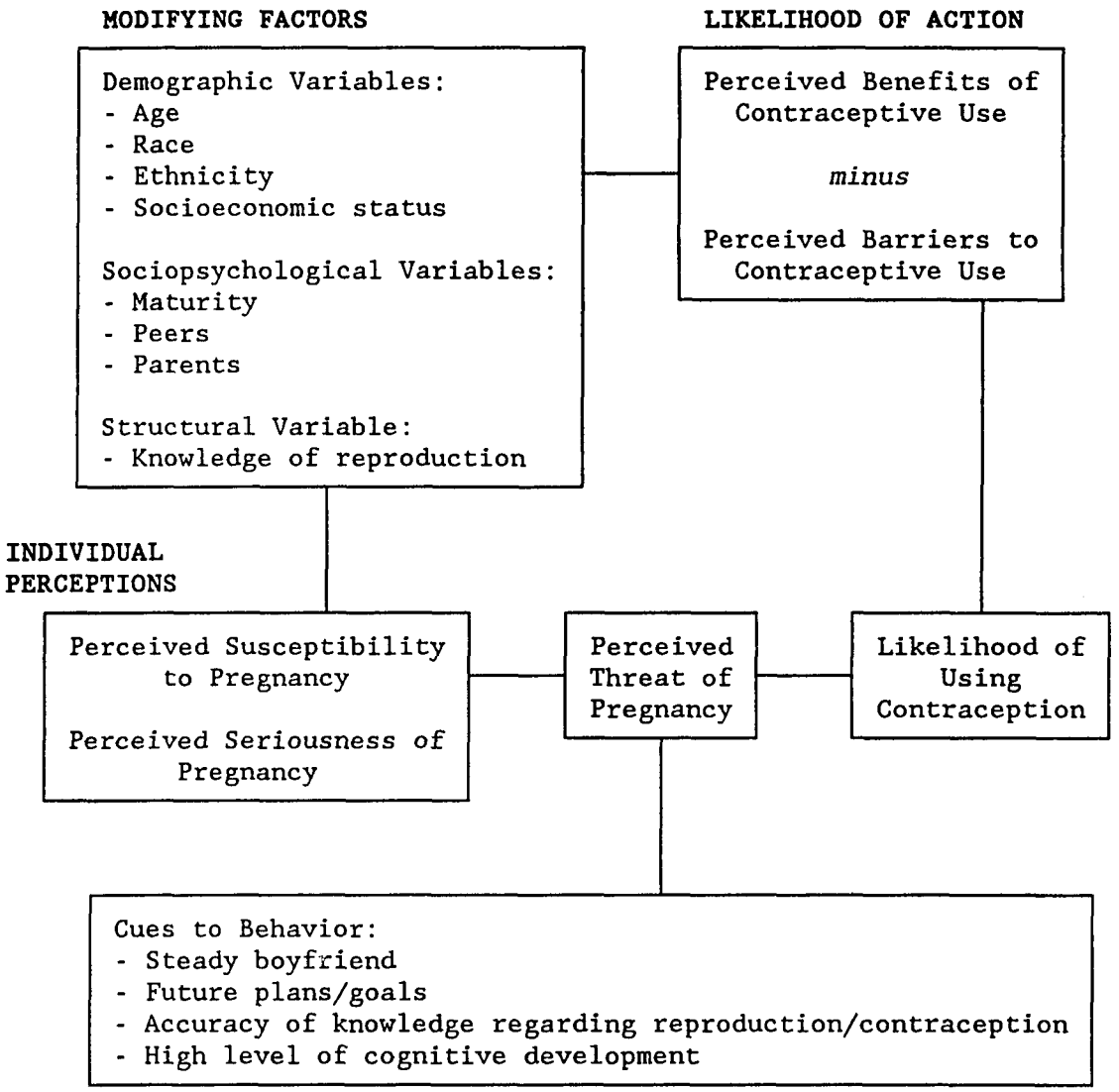

Figure 1. Conceptual Framework for Study. Adapted from Becker (1974).

this. They found that some Black teens opt for school-age pregnancy for social and cultural survival due to lack of job opportunities and high unemployment rates. Lancaster and Hamburg also studied these issues among the Hispanic population, but were unable to draw any definite conclusions. Chilman (1986) found that lower socioeconomic status also influenced perceived susceptibility to pregnancy as well as perceived seriousness. Those teens who came from a lower socioeconomic background were less likely to feel that pregnancy would have a serious effect on their lives and were less likely to take measures to prevent pregnancy.

Sociopsychological variables include factors such as maturity, peers, and parents. Most teens, especially younger teens, lack the maturity and the cognitive development to realize the consequences of their actions; e.g., the risk of engaging in unprotected intercourse. Peers influence a teen's perceptions of susceptibility to and seriousness of pregnancy. If a teen's peers do not feel that pregnancy could happen to them or see that becoming pregnant is without serious consequences, then a teen is likely to feel the same. Kreipe (1983) confirmed these findings. Strahle (1983) found that a peer becoming pregnant or having a baby may influence a teen to seek contraceptives, but is not enough of an influence to promote correct use of contraceptives. The amount of influence parents have on a teen's perceived susceptibility to and seriousness of pregnancy is variable. Most researchers agree that, if parents discuss these issues even minimally with their teen, the teens will feel that they are more susceptible to pregnancy and realize the serious consequences of pregnancy upon their lives. Shopper

(1984) found that the more information a teen received from her mother on these issues, the more likely she was to utilize contraceptives.

The knowledge a teen gains from her parents also relates to the structural variable of amount of reproductive knowledge a teen has. If a teen has inadequate or inaccurate knowledge of the reproductive cycle or contraceptive use, she is less likely to use contraceptives (Baldwin, 1983; Zabin et al., 1979). The modifying factors of demographic, socio-psychological, and structural variables also influence the likelihood of action. Rosenstock (1974) stated that, for a person to take action to prevent an undesirable situation, e.g., pregnancy, the benefits of taking action must outweigh the barriers to taking action. For a teen to take action to prevent pregnancy, the benefits of using contraceptives must outweigh the barriers to contraceptive use. Benefits of taking action — using contraceptives — would include prevention of pregnancy and the opportunity to obtain educational and career goals, freedom from child care/parenting until the individual is emotionally ready, and reduced worry about the consequences of unprotected intercourse (Moore, 1989). The barriers to contraceptive use may include fear of parental discovery, non-acceptance by peers, fear of side effects, fear of decreasing sexual pleasure, and acknowledgment of sexuality (Shopper 1984).

The modifying factors act upon the likelihood of action in much the same manner as they do upon the individual perceptions of perceived susceptibility to and seriousness of pregnancy. Demographic, sociopsychological, and structural variables all influence the teen's perceptions of benefits of contraceptive use versus barriers to contraceptive

use. Younger teens are less likely to perceive the need for contraceptives and their benefits than are older teens (Baldwin, 1983). Those from a lower socioeconomic background also have this attitude toward contraceptive use (Chilman, 1986). Teens with accurate information about reproduction and contraceptive use are more likely to perceive that the benefits of contraceptive use outweigh the barriers (Moore, 1989).

The degree of the perceived threat of pregnancy is influenced by how susceptible a teen feels to pregnancy and the degree of perceived seriousness she sees pregnancy to be in her life. There is little in the current literature about the threat of pregnancy, but most researchers imply that teens do not see pregnancy as a threat because they feel they are not susceptible to becoming pregnant. Baldwin (1983) found that most teens felt they were not at risk of becoming pregnant and therefore were not willing to take measures to prevent pregnancy. Greydanus (1983) found that teens were unable to acknowledge the consequences of sexual activity and therefore did not see pregnancy as a threat.

Some have argued that the Health Belief Model (HBM) is inappropriate for the study of pregnancy and its prevention since pregnancy is not an illness. This argument is without merit since many women wish to avoid pregnancy for a variety of reasons, thereby making pregnancy an undesirable state. Eisen, Zellman, and McAlister (1985) believed that the HBM was appropriate for their study of adolescent contraceptive use. They found that a woman's likelihood of using contraceptives was influenced by her perceptions of her susceptibility to pregnancy, the

severity of its impact on her life, and the benefits versus the cost of prevention.

White (1984) also used the HBM in her study of the factors that influence adolescents to use contraceptives. The variables used were the perceived susceptibility to pregnancy, the perceived seriousness of pregnancy, perceived effectiveness of oral contraceptives, and the perceived barriers to using oral contraceptives. She found that younger teens were more likely to initiate intercourse earlier and to wait longer before beginning contraceptive use than older teens. The teens in White's study could not list positive reasons for becoming pregnant, but most underestimated their susceptibility to becoming pregnant.

The HBM is appropriate to the study of adolescents. Every person varies in his/her perception of susceptibility to and severity of certain conditions. These perceptions may vary over time or in different circumstances. Teens may also vary in their perceived susceptibility to pregnancy and the severity of pregnancy's impact on their lives. Even if teens recognize that they are susceptible to pregnancy, and that pregnancy could have severe repercussions on many aspects of their lives, they may not choose to use contraceptives. The perceived barriers to contraceptive use may outweigh the benefits. The barriers may include fear of the method's side effects, fear of parental discovery, fear of disapproval from peers, or acknowledgment of their own sexual behavior.

This study attempted to determine which cues to behavior motivate the teen to use contraceptives. There is a paucity of research in the area of adolescent contraceptive use that utilizes the cues-to-behavior

component of the HBM; therefore, this study focused on the cues-to-behavior component of the HBM. Cues to behavior are those factors that trigger a person to take action. These triggers may be internal (from within a person) or external (from outside the person) (Rosenstock, 1974). Having a steady boyfriend and the accuracy of knowledge regarding reproduction and contraception are external cues. Future plans and goals and a high level of cognitive development are internal cues. The literature discusses many other possible cues to behavior such as parental or peer influence, religion, psychological factors, and previous pregnancy or threat of pregnancy. The cues of steady boyfriend, future plans and goals, accuracy of knowledge about reproduction and contraception, and level of cognitive development were chosen as the factors to be studied because they were most consistently cited in the literature as influencing contraceptive use. When pregnancy is seen as a threat, the cues to behavior are what are needed to stimulate the teen to take action to prevent pregnancy.

Definition of Terms

Adolescent: a person between 12 and 18 years of age.

Cues to Behavior: any factor that serves as a trigger to action; these may be internal (from within the person) or external (originating outside the person).

Effective Contraceptor: a person using contraceptive methods proven to have high effectiveness rates, including: oral contraceptives, provided they are used daily and not more than two pills per month are missed; an intrauterine device, provided correct placement is

checked monthly; a diaphragm, provided it is used correctly with every sexual act; and condoms or condoms with foam, provided they are used correctly with every sexual act.

Summary

This chapter discussed the various costs of school-age pregnancy and some of the problems associated with previous research in the area. The use of the Health Belief Model (HBM) as a conceptual framework was introduced. The HBM is an appropriate means of studying the cues to behavior that motivate a teen to use an effective contraceptive method. Nurses have contact with teens in a variety of settings. If they have a better understanding of why some teens choose to use contraception, they will be able to develop more effective intervention methods for use with sexually active, non-contracepting teens.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews the literature that reflects the following cues to behavior that have been related to adolescent contraceptive use: 1) having a steady boyfriend, 2) accuracy of knowledge regarding reproduction and contraception, 3) having future plans and goals, and 4) level of cognitive development.

Steady Boyfriend

Having a steady boyfriend is an external cue, something that happens outside of the person. Many researchers have found that having a steady boyfriend is a significant factor in whether or not a teen uses contraceptives. Freeman et al. (1980), in their study of 607 adolescents, found that most males left responsibility for contraceptive use to the female. Most of the adolescents in this study who used contraceptives were involved in steady relationships. Nadelson (1976) agreed that most teenage boys leave the responsibility for contraceptive use to their partners; however, the males were not likely to question their partners about whether or not they were using contraceptives. Those girls who were involved in long-term relationships, and had partners who were supportive of contraceptive use, were much more likely to use contraceptives than their counterparts who did not have steady partners or lacked partner support for contraceptive use.

Furstenberg, Shea, Allison, Hercog-Bacon, and Webb (1983) found that teens who were involved in a steady relationship were more likely to use contraceptives and also were more conscientious in the use of contraceptives. The amount of support a teen received from her boyfriend in regard to contraceptive use was also found to be significant in a study conducted by Greydanus (1983). If the girl's partner was not supportive of her using contraceptives, then the girl was less likely to use contraceptives. Research completed by Freeman and Rickels (1979) also confirmed that the amount of support a teenage girl receives from her partner influences her decision to use contraceptives.

Kreipe (1983) found that most teenage girls felt they had to engage in sexual activity in order to keep their boyfriends. These girls tended to be involved with only one partner on a long-term basis. Reichelt (1979) found that 92% of the teens who used contraceptives were those with one steady partner. Zelnick (1983), in his study of adolescent sexuality, also found that those teens most likely to use contraceptives were those involved in a steady relationship. Durant, Jay, Linder, Shoffitt, and Litt (1984) also found that those teens who used contraceptives were involved with one steady boyfriend. Those teens with multiple sexual partners were less likely to use contraceptives and to use them correctly. They also found that the majority of their subjects' partners were supportive of the utilization of contraceptives. In summary, those teens most likely to use contraceptives were those involved in a steady relationship and whose partners were supportive of them using contraceptives.

Accuracy of Knowledge Regarding Reproduction/Contraception

Accuracy of knowledge regarding reproduction and contraception is an external cue since this is something that is gained outside the person. There has been much controversy about whether the knowledge a teen has about reproduction and contraception influences her use of contraceptives. Some researchers believe that this is a significant factor. Others believe it is a factor, but other factors, such as access to contraceptives, are much more important. Reichelt (1979) stated that the primary reason for non-use of contraceptives is the lack of access to them and lack of knowledge regarding contraceptive use. These factors were also cited as the main reasons for discontinuation of contraceptives. Dryfoos (1984) argued that knowledge of contraceptives is not enough. She found that, even if a teen was knowledgeable about contraceptives and reproduction, if she did not have the desire to take steps to improve her life, she was not likely to make efforts to prevent pregnancy. This was found to be true even if she did not want to become pregnant. Taylor (1976) concurred that knowledge alone is not enough to inspire contraceptive use. Teens need to see the benefits of using contraceptives. If they are knowledgeable about contraceptive use, but see contraceptive use as having high costs or being of little benefit, they are not likely to use them, even if they do not want to become pregnant.

McNamara and Scroggin (1977) found that lack of or inaccurate knowledge about contraceptives was a significant factor in a teen's decision to utilize contraceptives. In their study of 440 pregnant teenagers, over one-half of the teens listed inaccurate side effects or

incorrect methods of use as reasons for discontinuing contraceptive use. They emphasized the need for continued efforts to educate teens in the area of reproduction and contraceptive use. Philliber, Namerow, and Jones (1985) also found that lack of knowledge about reproduction and contraceptives was a leading factor in teens discontinuing contraceptive use and becoming pregnant. This was especially true among younger, less experienced teens. Baldwin (1983) found inaccurate knowledge about reproduction and contraception to be the leading cause of contraceptive non-use. This was again true among the younger adolescents.

Freeman et al. (1980) found that over half of the teens they questioned had inaccurate knowledge about reproduction and contraceptives. Most teens gained their information from school classes, mothers, or peers. A majority of the teens felt they were more knowledgeable about reproduction and contraception than their peers. Furstenberg et al. (1983) found that, even if teens had adequate knowledge about reproduction and contraception, if the chosen method was inconvenient or if the teen had problems with the method, they were likely to discontinue use. Durant et al. (1984) agreed with these findings; however, they conducted their study for only a three-month period of time. A significant number of teens discontinued contraceptive use after this point in time. Hatcher et al. (1988) confirmed these findings. Only 34% of the teens in their study could correctly identify the time of month that a female could get pregnant. Attending sex education classes seemed to have an insignificant effect on the accuracy of knowledge a teen had about reproduction and contraceptives. In summary, the amount of knowledge a teen has about reproduction and contraception does appear to be a factor

in a teen's decision to use contraceptives. How much of an influence this factor has needs to be determined.

Future Plans and Goals

There has been limited research about how the internal cue of future plans and goals of teens affects their decision to use contraceptives. Segal (1977) found that those teens who came from a higher socioeconomic background were more likely to have plans and goals for their futures and were more likely to use contraceptives when they became sexually active than those that came from a lower socioeconomic background. These same teens were also among the most conscientious users of contraceptives. Johnson (1986) agreed that having future plans and goals is an important factor in contraceptive use, but stated that most teens are cognitively unable to connect sexual activity, pregnancy, and steps needed to prevent pregnancy until late adolescence.

Sugar (1984) found that educational ambitions of the adolescent were proportional to contraceptive use. The higher the educational ambitions of the teen, the more likely they were to correctly use contraceptives. Moore (1989) confirmed this finding. In the Moore study, teens who felt that the future had little to offer in terms of educational or employment opportunities were more likely to disregard the importance of delaying pregnancy or using contraceptives. Those teens who saw the future as full of educational and employment opportunities were more likely to use contraceptives as a means of delaying pregnancy until they were older and had fulfilled their goals. Chilman (1986) found that, if teens had high educational goals, they were more likely

to be effective contraceptive users and that they also were more likely to delay the initiation of and have decreased frequency of sexual activity.

Furstenberg et al. (1983) found that the most reliable predictors of effective contraceptive use were that the teen was enrolled in college-bound courses, was in school, or was employed. These teens were also likely to initiate contraceptive use before becoming sexually active or soon after. Those teens who had dropped out of school or who had low educational goals delayed using contraceptives for an average of six months or more after the initiation of sexual activity. Freeman and Rickels (1979) found similar results in their research with adolescent contraceptive users. They found that those teens most likely to become pregnant were those who lacked goals in their lives. These teens delayed initiation of contraceptive use for six months to one year after beginning sexual activity and stopped contraceptive use an average of three months after beginning use.

Lancaster and Hamburg (1986) reported that, if teens had family support to finish high school and to become gainfully employed, they were likely to delay initiation of sexual activity and to use contraceptives when they did become sexually active. Durant et al. (1984) also found that teens who felt hopeless about their future lives were likely to be ineffective contraceptive users and to become pregnant. Those teens who had a positive outlook — who had goals and plans for their futures — were likely to use contraceptives effectively. The studies that examined the factor of future plans and goals concluded that those teens who did have high educational and career goals were most likely to

delay the initiation of sexual activity, and when they did become sexually active, were more likely to be effective contraceptors than those who did not have future plans and goals.

Level of Cognitive Development

Most researchers are in agreement that the internal cue of level of cognitive development of adolescents does influence their contraceptive use. There is disagreement as to whether the ability to realize the consequences of sexual activity and to take the appropriate actions occurs only in late adolescence or whether it may happen at any point in adolescence. Freeman and Rickels (1979) found that younger adolescents are unable to deal with the consequences of sexual activity such as pregnancy and parenthood. This contributes to the attitude that pregnancy won't happen to them. They recommended personalized, small group discussions with teens about sexual activity and its consequences as a means of working with the limited cognitive development of teens in relation to these concepts.

Many researchers have discussed the cognitive development of adolescents. Freeman and Rickels (1979) discussed Piaget's theory of adolescent cognitive growth, which stated that teens have an incomplete ability to deal with abstractions. The prevention of pregnancy is an example of this inability. This contributes to the high rate of school-age pregnancy. Greydanus (1983) believed that adolescent development should be divided into three stages: early, from age 10 to 14; middle, from age 14 to 17; and late, from age 17 to 20. He stated that the younger adolescent is not developmentally prepared to understand the

concept of pregnancy or to acknowledge the consequences of sexual intercourse. Johnson (1986) agreed with Greydanus about the three stages of adolescence, but defined them differently. He stated that early adolescence is from age 11 to 13 years; at this age, the teen is unable to realize the consequences of actions. Mid-adolescence is from age 14 to 17 years; at this age, the teen has a variable ability to recognize the consequences of actions. Late adolescence is from age 17 to 21; consequences of actions are recognized and the teen is able to plan for the future.

Ustick (1982) discussed the development of teens using Erickson's eight stages of life. The fifth stage is identity vs. role confusion, and occurs between the ages of 12 and 18 years. During this stage, the adolescent must integrate all the traits of the previous stages such as industry vs. inferiority and initiative vs. guilt. If the teen has not been successful in resolving a crisis of an earlier stage, then establishing an identity is difficult. Even if the teen has successfully completed the first four developmental stages, the process of identity development may be disrupted by pregnancy. This, in turn, leads to prolonged immaturity of the teen and obstructs her decision-making ability. It is theorized that the developmental level of the teen will influence her ability to seek out and utilize contraceptives.

Harris (1986) believed that teens are unable to use contraceptives effectively because they lack the maturity and self-discipline needed to do so. Harris felt that discussing issues such as self-esteem, decision making, and peer relationships can counteract this problem. Johnson (1986) agreed that teens, especially young teens, lack the cognitive

development to use contraceptives effectively. Young adolescents most often think in concrete terms and are unable to realize the consequences of their actions and decisions. Middle adolescents have a variable ability to realize the consequences of their actions, yet have a tendency to deny that pregnancy or other consequences of sexual activity could happen to them. In late adolescence, the teen is able to cognitively realize the relationship between her actions and the consequences. At this point, the teen is most likely to take measures to prevent pregnancy. Nadelson (1976) also believed that teens, in general, lack the cognitive development to effectively use contraceptives.

The lack of cognitive development was found to be one of the leading causes of teen pregnancy by Petrella (1978). She found that many teens fluctuate in their ability to recognize the consequences of their actions. This varied ability leads to increased risk-taking behavior by teens, such as engaging in unprotected sexual intercourse. Schinke, Gilchrist, and Small (1979) found that most teens lack the cognitive development to use contraception. This, combined with the teen's inability to plan for the future, was one of the leading causes of teen pregnancy. They concluded that any program that deals with teen pregnancy needs to address the limited cognitive development of the teen to be an effective contraceptor.

Kreipe (1983) stated, "If adolescents establish reproductive capacity before attaining sufficient maturity to integrate this change into their developing self, there is a biological risk for premature parenthood" (p. 40). Cognitively, teens view pregnancy and parenthood as an abstraction, something that can't happen to them. This is one of

the major factors influencing non-use of contraceptives (Kreipe, 1983). Greydanus (1983) agreed that teens, especially younger adolescents, are not cognitively prepared to understand the concept of pregnancy and therefore do not acknowledge the consequences of sexual activity. This leads to the denial common among teens that pregnancy can happen to them.

Baldwin (1983) found that the leading reason for contraceptive non-use among teens was the belief that they were not at risk of pregnancy. This was especially true of the younger teen who lacked the cognitive development to take appropriate actions to avoid pregnancy. Hamburg (1986) agreed with this finding and stated that teens' cognitive abilities influence their response to information and how they make decisions regarding sexual activity and contraceptive use.

A majority of researchers in the area of teen contraceptive use agree that lack of cognitive development, especially among younger teens, is a major factor in the non-use of contraceptives. People who design programs that target prevention of teen pregnancy must recognize this factor and develop means of counteracting this limitation.

The level of a teen's cognitive development serves as an internal cue to motivate her to seek out and to use contraceptives. If a teen has achieved a high degree of cognitive development, she will be more likely to realize the consequences of her actions, e.g., becoming pregnant if she has unprotected sexual intercourse, and to take measures to prevent pregnancy.

Summary

The cues to behavior — steady boyfriend, accuracy of knowledge regarding reproduction and contraceptives, future plans and goals, and level of cognitive development — have been found to significantly influence adolescent contraceptive use by some researchers, but controversy regarding the cues persists. The conflicting results in relation to the cues-to-behavior component of the Health Belief Model and contraceptive use were the impetus for this study. This study explored the importance of the identified cues to behavior and their relationship to adolescent contraceptive use.

CHAPTER 3

METHODOLOGY

This chapter addresses the research design, data collection method, and the instrument used to answer the question *What are the cues to behavior that influence adolescent contraceptive use?*

Design

This study described a sample of adolescents who were effective contraceptive users to determine the cues to behavior that influenced adolescent contraceptive use. The Contraceptive Cue Questionnaire (Appendix C) was administered at a county family planning clinic. Potential participants who met study criteria — between 12 and 18 years old, using contraceptives correctly, and able to read and write English — were asked if they were willing to complete a paper-and-pencil questionnaire, the Contraceptive Cue Questionnaire (CCQ), at the time they checked in for their appointments. All those asked to participate in the study agreed to do so. A consent form that explained the purpose of the study, selection criteria, procedure, risks, benefits, costs, and confidentiality was given to the participants (Appendix B). After reading the consent and having any questions regarding the consent answered by the researcher, all participants signed the consent form. The CCQ was then administered by the researcher. Any answers to questions regarding the CCQ and clarification of statements were provided by the researcher as the participants completed the CCQ. The CCQ took

approximately seven minutes to complete. Any verbal responses made by the participants while they completed the CCQ were noted by the researcher.

Sample

The sample consisted of 40 adolescents who attended a county family planning clinic. The clinic was located in a Southwestern city of the United States. The clients at this clinic were primarily low income, with many living below the poverty level. The sample was mostly Hispanic, but also included Caucasians and Native Americans. The subjects were between 12 and 18 years of age, and had the ability to read and write English. They could have been pregnant before, and at the time of the study were using contraceptives correctly. The clients who met the study criteria were asked to participate in the study at the time they checked in for their appointments.

Protection of Human Rights

This research study was reviewed for approval by the University of Arizona Human Subjects Committee (Appendix A). The study was submitted to this committee due to the issue of requiring parental consent for studies involving minors. This requirement was waived for the study since parental consent is not required to attend the family planning clinic and obtaining parental consent for this study would have severely limited the number of available, willing participants. A consent form was attached to the questionnaire which explained the purpose of the study and any risks involved, and assured that confidentiality would be

maintained (Appendix B). All participants were volunteers and had the right to refuse participation in the study without affecting their care.

Instrument

The Contraceptive Cue Questionnaire (CCQ) was initially developed by Waggoner (1987) to study the cues to contraceptive behavior among college women (Appendix C). Content validity was 1.0. The reliability of the CCQ was found to be 0.78. The CCQ was adapted for use with adolescents by this researcher based on observations of the population to be studied. The instrument is divided into two parts and contains a total of 26 items which measure cues to behavior related to adolescent contraceptive use and demographic characteristics of the participants. An additional open-ended question at the end of Part II was designed to elicit any additional information the respondents felt was important to them in their decision to use contraceptives.

For the cue of steady boyfriend, the influence of a steady boyfriend on the decision to use contraceptives is measured in Part I by questions #5, about going steady, and #6, about the amount of love for the boyfriend, and in Part II by #6, #7, #8, and #14 regarding the amount of support from the boyfriend for the girl to use contraceptives. The influence of future plans and goals is measured in Part I by questions #2 and #3, which ask about school and work, and in Part II by #1 (finishing school), #13 (not becoming pregnant), and #17 (having a job or career). The accuracy of knowledge regarding reproduction and contraception is measured in Part I by question #9 (type of birth control used), and in Part II by #2 (occasional sex), #3 (pill is the best

method of birth control), #4 (time of month most likely to become pregnant), #9 (becoming pregnant if don't use birth control), #10 (sex/health education class), and #11 (birth control is bad). The level of cognitive development is measured in Part I by questions #1 (age), #7 (age when first had sex), and #8 (previous pregnancy), and in Part II by #5 (chance to mature), #12 (fear of pregnancy), #13 (no pregnancy at this time), #15 (supporting self and baby), and #16 (embarrassed to use birth control).

Validity of the revised CCQ was addressed by expert evaluation. The CCQ was submitted to a panel of five experts in the field of family planning to determine contant validity. There was 100% agreement among the experts; however, they believed that a yes/no format would be more appropriate for the adolescent population than the five-point Likert scale on the original instrument. They also suggested that some items that were similar in nature be condensed to one item to shorten the instrument, and that the language of some items be simplified to make them more suitable for the adolescent population. The instrument was revised and then resubmitted to the experts for approval of the format. The revised version was then judged to be a valid tool for use with adolescents.

Test-retest reliability was assessed. The CCQ was administered to 10 volunteers and then readministered 14 days later. The mean correlation coefficient for the CCQ was 0.72, a higher-than-moderate, test-retest reliability.

Data Analysis

Descriptive statistics were used to answer the question *What are the cues to behavior that influence adolescent contraceptive use?* Frequencies, percentages, and standard deviations were used.

Summary

This chapter discussed the methodology for the conduct of this descriptive study, criteria for subject inclusion in the study, and the instrument for data collection. The Contraceptive Cue Questionnaire was found to be a valid and reliable instrument by means of expert evaluation and test-retest reliability.

CHAPTER 4

DATA ANALYSIS AND RESULTS

This chapter presents the results of the data analysis. The sample characteristics and the variables of steady boyfriend, accuracy of knowledge regarding reproduction and contraception, future plans and goals, level of cognitive development, and other variables found to be important in cuing adolescents to use contraceptives are discussed.

Sample Description

Forty participants completed the Contraceptive Cue Questionnaire while attending a county family planning clinic. Table 1 displays a summary of the demographic characteristics of the participants.

The age of the participants ranged from 14 to 18 years, with a mean age of 16.9 years and a standard deviation of 1.2 years. The majority of the participants were between 17 and 18 years, with 72.5% of the participants falling in this age range. Fourteen-year-olds comprised 5% of the sample, 15-year-olds 12.5%, 16-year-olds 10%, 17-year-olds 37.5%, and 18-year-olds 35% of the sample.

The majority of the participants attended school (82.5%). Two (5%) of the participants were in the eighth grade, four (10%) were in the ninth grade, and four (10%) were in the tenth grade. There were seven (17.5%) participants who attended eleventh grade, ten (25%) who were in twelfth grade, and six (15%) who were pursuing post-high school

Table 1. Demographic Characteristics of the Participants.*

Variable	$\bar{x}$	s.d.	n	Percent
Age (years)				
14	16.9	1.2	2	5.0
15			5	12.5
16			4	10.0
17			15	37.5
18			14	35.0
Attend School				
Yes			33	82.5
No			7	17.5
Grade				
0	9.2	4.5	7	17.5
8			2	5.0
9			4	10.0
10			4	10.0
11			7	17.5
12			10	25.0
13			5	12.5
14			1	2.5
Work				
Yes			11	27.5
No			29	72.5
Race				
Caucasian			9	22.5
Hispanic			25	62.5
Native American			6	15.0
Steady Boyfriend				
Yes			36	90.0
No			4	10.0
Amount of Love for Boyfriend				
0 (no love at all)	3.7	1.7	5	12.5
1			1	2.5
2			2	5.0
3			6	15.0
4			6	15.0
5 (great love)			20	50.0

Table 1 — Continued.

Variable	$\bar{x}$	s.d.	n	Percent
Age First Had Sex (years)				
9	15.0	1.6	1	2.5
13			4	10.0
14			10	25.0
15			9	22.5
16			10	25.0
17			6	15.0
Previous Pregnancy				
Yes			30	75.0
No			10	25.0
Type of Birth Control				
Pill			34	85.0
IUD			1	2.5
Condom			2	5.0
Condom and foam			3	7.5

*N = 40.

education. Twenty-nine (72.5%) of the participants said they were not working.

Over half of the subjects were Hispanic (62.5%). The remainder of the subjects were Caucasian (22.5%) or Native American (15%).

Almost all the participants (90%) said they currently had a steady boyfriend. Participants were also asked to rate the amount of love they felt for their boyfriends. The response ranged from zero (no love at all) to five (great love), with 20 participants (50%) reporting they felt great love for their boyfriends. The mean was 3.7, with a standard deviation of 1.7. Surprisingly, five participants (12.5%) reported no love at all for their boyfriends. This may be due to peer pressure to have a steady boyfriend.

The age at which the participants initiated sexual activity ranged from 9 to 17, with a mean age of 15 and a standard deviation of 1.6. One participant became sexually active at the age of 9 (2.5%), four at age 13 (10%), ten at age 14 (25%), nine at age 15 (22.5%), ten at age 16 (25%), and six at age 17 (15%).

An unexpected finding was that most of the participants had experienced pregnancy in the past, with 30 (75%) of them stating they had been pregnant previously. Thirty-four (85%) of the participants used oral contraceptives as their method of birth control. Other birth control methods used by the participants included: IUD (n = 1, 2.5%), condom (n = 2, 5%), and condom and foam (n = 3, 7.5%).

Responses to the Research Question

To answer the question *What are the cues to behavior that influence adolescent contraceptive use?* the responses to the CCQ will be discussed by the cues of steady boyfriend, accuracy of knowledge regarding reproduction and contraception, future plans and goals, level of cognitive development, pregnancy, and other factors found to be significant.

Steady Boyfriend

Ninety percent of the study participants had steady boyfriends and 50% of them felt great love for their boyfriends. Table 2 provides a summary of the responses to questions about having a steady boyfriend. In response to the question regarding the boyfriend encouraging the girl to use the best birth control method, 29 participants (72.5%) said their boyfriends did not do this. Twenty-three respondents (57.5%) disagreed with the statement that their boyfriends told them that birth control was up to them. Many of the participants stated to the researcher that birth control was not a topic that they usually discussed with their boyfriends. The majority of the participants (80%) felt that their boyfriends would respect them if they did use birth control. Over half of the participants (62.5%) stated that their boyfriends did not use condoms. This is of relevance even if the girl was using other means of birth control because all women who attend the family planning clinics are encouraged to use condoms to prevent the spread of AIDS and other sexually transmitted diseases.

Having a steady boyfriend does seem to be an important cue in influencing an adolescent girl to utilize a birth control method. The

Table 2. Questions Addressing the Cue of Steady Boyfriend.*

Question	$\bar{x}$	s.d.	n	Percent
Do You Have a Steady Boyfriend?				
Yes			36	90.0
No			4	10.0
Amount of Love for Boyfriend				
0 (no love at all)	3.7	1.7	5	12.5
1			1	2.5
2			2	5.0
3			6	15.0
4			6	15.0
5 (great love)			20	50.0
Boyfriend Said to Use Birth Control				
Yes			11	27.5
No			29	72.5
Boyfriend Uses Condoms				
Yes			15	37.5
No			25	62.5
Boyfriend Said Birth Control Up to Me				
Yes			17	42.5
No			23	57.5
Boyfriend Won't Respect Me If I Use Birth Control				
Yes			7	17.5
No			32	80.0
Missing			1	2.5

*N = 40.

teens who are involved in a steady relationship may know that they are going to have sex on a regular basis and because of this take measures to prevent pregnancy, though the respondents verbally indicated to the researcher that they and their boyfriends do not discuss the use of contraceptives.

Accuracy of Knowlege Regarding Reproduction/Contraception

Responses to questions designed to test the participants' knowledge about reproduction and contraception indicated that the majority had accurate knowledge about these topics. Table 3 is a summary of responses to questions regarding this cue. In response to the question about becoming pregnant if they had only occasional sex, 33 respondents (82.5%) felt this could happen; 28 (70%) felt that the pill was the best method of birth control. Most of the participants (80%) knew the time in the menstrual cycle that they were most likely to get pregnant. All of the participants agreed that they could get pregnant if they did not use birth control; however, 14 (35%) felt that birth control methods were bad (harmful) to use. This is important, considering that 62.5% of the participants had had a sex education course and reported inaccurate information about birth control methods to the researcher. This indicates that sex education courses are not doing an adequate job of teaching adolescents about birth control methods.

Future Plans and Goals

A high percentage of the participants were in school (82.5%), with almost half (42.5%) in their last two years of high school. Table 4 is

Table 3. Questions Addressing the Cue of Accuracy of Knowledge Regarding Reproduction/Contraception.*

Question	n	Percent
Type of Birth Control Used		
Pill	34	85.0
IUD	1	2.5
Condoms	2	5.0
Condoms and foam	3	7.5
Cannot Become Pregnant If Have Only Occasional Sex		
Yes	7	17.5
No	33	82.5
Pill Best Type of Birth Control		
Yes	28	70.0
No	12	30.0
Most Likely to Become Pregnant Two Weeks After Period Starts		
Yes	32	80.0
No	8	20.0
Can Become Pregnant If Do Not Use Birth Control		
Yes	40	100.0
No	0	0.0
Have Had Sex Education Classes		
Yes	25	62.5
No	15	37.5
Birth Control Is Bad (Harmful)		
Yes	14	35.0
No	26	65.0

*N = 40.

Table 4. Questions Addressing the Cue of Future Plans and Goals.*

Question	$\bar{x}$	s.d.	n	Percent
Do You Attend School?				
Yes			33	82.5
No			7	17.5
Grade				
0	9.2	4.5	7	17.5
8			2	5.0
9			4	10.0
10			4	10.0
11			7	17.5
12			10	25.0
13			5	12.0
14			1	2.5
Currently Working				
Yes			11	27.5
No			29	72.5
Race				
Caucasian			9	22.5
Hispanic			25	62.5
Native American			6	15.0
Becoming Pregnant Will Hurt Your Chances of Finishing School				
Yes			19	47.5
No			21	52.5
I Do Not Want to Become Pregnant at This Time				
Yes			23	57.5
No			17	42.5
Want to Get a Job or Have a Career				
Yes			40	100.0
No			0	0.0

*N = 40.

a summary of responses to questions about the subjects' future plans and goals. A surprise was that a large number of the participants (52.5%) felt that becoming pregnant would not hurt their chances of finishing school, though previous research indicates that those teens who do become pregnant are unlikely to complete their education (Height, 1986). Since 82.5% of the participants were attending school at the time of the study, and 75% of the participants were previously pregnant, this seems to indicate that many of the participants may be raising a child and continuing their educations. All of the participants stated they would like to have a job and/or career, indicating they do have some plans for their futures. A number of participants (n = 17, 42.5%) indicated that they want to become pregnant at this time. This seems unusual since they all reported correctly using a means of birth control at the time of the study. If they really wanted to become pregnant, why were they using effective means of birth control? Were they accurately reporting their use of a birth control method?

Level of Cognitive Development

The majority of the participants (72.5%) in this study were 17 and 18 years old, when adolescents are supposed to have a greater ability to realize the consequences of their actions than younger teens. Table 5 provides a summary of responses to questions about the subjects' level of cognitive development. Almost half of the respondents initiated sexual activity at age 14 or 15 (47.5%). This may explain the large number of respondents who had been pregnant in the past (75%), since teens of this age have a limited ability to recognize the consequences

Table 5. Questions Addressing the Cue of Level of Cognitive Development.*

Question	$\bar{x}$	s.d.	n	Percent
Age				
14	16.85	1.19	2	5.0
15			5	12.5
16			4	10.0
17			15	37.5
18			14	35.0
Age When First Had Sex				
9	14.95	1.57	1	2.5
13			4	10.0
14			10	25.0
15			9	22.5
16			10	25.0
17			6	15.0
Had a Previous Pregnancy				
Yes			30	75.0
No			10	25.0
Using Birth Control Would Give Me a Chance to Grow Up				
Yes			14	35.0
No			26	65.0
Had Feared That Maybe I Was Pregnant				
Yes			28	70
No			12	30
Would Have Trouble Supporting Self and Baby				
Yes			23	57.5
No			17	42.5
Embarrassed to Use Birth Control				
Yes			5	12.5
No			34	85.0
Missing			1	2.5

*N = 40.

of their actions. Most of the respondents (65%) felt that using birth control, thereby preventing pregnancy, would make no difference in their chances of becoming emotionally mature. This may be because those participants who were currently raising a child verbally reported they felt that this experience had made them mature faster than their friends who don't have children. Most of the subjects (70%) had had at least one experience of waiting for their periods to begin, fearing that they were pregnant. This experience may have helped them to realize the consequences of having unprotected sexual intercourse — that pregnancy could happen to them. Thirty-four (85%) were not embarrassed to use a birth control method, which may indicate that they have come to terms with their sexuality, a developmental task of older teens. Just over one-half of the respondents (57.5%) felt that they would have difficulty supporting themselves and a baby. This indicates that these teens had a degree of cognitive development that allowed them to acknowledge the reality of caring for themselves and a child.

Of the 29 participants who were 17 or 18 years old, 15 were aged 15 or younger when they initiated sexual activities. This is important because research has shown that younger adolescents are unable to realize the consequences of their actions and are unlikely to take measures to prevent pregnancy (Harris, 1986). The participants were not asked the length of time between initiating sexual activity and starting contraceptive use, a factor that might have been important.

Pregnancy

Pregnancy was not a factor that was chosen to be studied because the literature infrequently mentioned this as an important variable in studying adolescent contraceptive use. Pregnancy, however, was found to be a very important cue with these subjects, since 75% of the participants had been pregnant previously. All of the Native Americans in the study had been pregnant previously, as well as 63.3% of the Hispanics. This may be due to ethnic or cultural influences which make these groups more tolerant of school-age pregnancy.

Other Factors

An open-ended question, in which participants were asked to list any other things that helped them to decide to use birth control, was placed at the end of the CCQ to elicit information regarding other factors that influenced the participants to use birth control. Twenty of the respondents (50%) answered this question. The most frequently cited factor was the desire to avoid pregnancy. Two respondents stated they used oral contraceptives to regulate their periods and three respondents cited avoidance of sexually transmitted diseases as a motivating factor for them to use condoms or condoms and foam. One stated she chose the pill because it was an easy method to use, and one stated she used contraceptives because she had friends who had become pregnant and dropped out of school and she wished to avoid this.

Limitations

There were limitations to this study that must be considered when looking at the results.

The sample size of the subjects was small and contained a large number of older teens. The small number of younger teens included in the study may have skewed the results. A large percentage of the respondents were of Hispanic background, and cultural and religious factors may have influenced their responses.

The setting, the family planning clinics, may not have provided a sample that was truly representative of the teen population as a whole since those attending these clinics are mostly from a low socioeconomic background. The setting also provided no opportunity to explore other factors such as religious or cultural influences upon the decision to use contraceptives.

The yes/no format is not as sensitive as the Likert-type scale, and some of the respondents stated they had difficulty giving a yes or no answer to some of the questions. Several of the respondents stated they found the wording of some questions to be confusing and required an explanation from the researcher before they were able to answer them. These questions would need to be reworded before the CCQ was used again. A question regarding the length of time between initiation of sexual activity and starting contraceptive use and additional questions regarding the effects of a previous pregnancy on contraceptive use should be added to the questionnaire.

Summary

The responses to the Contraceptive Cue Questionnaire were reported using descriptive statistics. Results of the data analysis were presented and limitations of the study were discussed. The factors of a

previous pregnancy, steady boyfriend, and accuracy of knowledge about reproduction and contraception seem to be important in influencing an adolescent female to use contraceptives. Having future plans and goals did not seem to be important since many respondents felt they would be able to complete their education and have jobs and/or careers, though previous research indicates otherwise (Height, 1986). Since most of the respondents were 17 or 18 years old, the importance of the factor of level of cognitive development could not be accurately determined.

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The relationship between the conceptual framework and the study findings, the conclusions, and recommendations for further research are discussed.

Discussion

The Health Belief Model (HBM) was used as the basis for the conceptual framework for this study. The HBM has several different components that are designed to explain why a person decides to engage in a particular behavior. The cues-to-behavior component was utilized to determine what cues triggered adolescent girls to use contraceptives.

The purpose of this study was to describe a population of female adolescents who used contraceptives effectively, to determine what cues to behavior were important in their decision to use contraceptives. The question *What are the cues to behavior that influence adolescent contraceptive use?* was addressed. Cues that were thought to be important before the study were: 1) having a steady boyfriend, 2) having future plans and goals, 3) level of cognitive development, and 4) accuracy of knowledge regarding reproduction and contraception. The results indicate that having a steady boyfriend and accuracy of knowledge regarding reproduction and contraception were important cues influencing contraceptive use. Having future plans and goals did not appear to be an important cue to most of the respondents in influencing their use of

contraceptives. The importance of the cue of cognitive development was not able to be accurately determined for this population because most of the respondents were older teens and there were not enough younger teens in the study to obtain a comparison between the different age groups. A previous pregnancy was found to be an important cue in triggering adolescent contraceptive use. The majority (75%) of the respondents had been pregnant before, and one-half of the respondents listed this cue as influencing their contraceptive use.

Nurses in a variety of health care settings could use this information to determine which adolescents are most likely to use contraceptives and to encourage them to do so. Those teens who have been pregnant, are currently involved in a steady relationship, and are older are likely to utilize contraceptives. Those teens who are younger, have not been previously pregnant, and have inaccurate knowledge about reproduction and contraception are not as likely to use contraceptives. Nurses could use this information with sexually active teens to influence them to seek out and use effective means of contraception.

Conclusions and Recommendations

As mentioned in Chapter 4, the Contraceptive Cue Questionnaire needs to be revised before it is used agin. The Likert format of responses is more sensitive than the yes/no format that was used, but may be a deterrent to the completion of the questionnaire. Some respondents felt that two of the items in Part II were confusing and requested explanations for these items. Item #5, "Using a birth control method would give me a chance to grow up," was confusing because some

respondents did not know what the phrase "grow up" meant. Item #11, "I have heard that birth control methods are bad," was confusing to some respondents because they did not know what was meant by "bad." It would be beneficial to add a question about the length of time between the initiation of sexual activity and the seeking of contraceptives, and to delve further into the cue of a previous pregnancy and the influence of this on contraceptive use.

It would also be helpful to have a larger sample population, with a greater number of younger teens and a greater variety of racial and ethnic backgrounds included in the sample, or to focus on a particular group, such as Hispanics, to investigate all possible cues that influence their use of contraceptives. It would be beneficial to also administer the Contraceptive Cue Questionnaire to a group of sexually active teens who were not currently using contraceptives and to compare the results with a similar group of teens who were using contraceptives to determine if there were any important differences between the two groups.

Nurses in a variety of settings can influence the adolescent to use contraceptives. Community health nurses in particular are in an ideal position to work with sexually active adolescents to influence their use of contraceptives. They could target girls who are age 15 and younger for teaching about reproduction and contraception, and devise methods to help them realize the consequences of their actions. By networking with others in the community who work with adolescents, those teens who are at risk of becoming pregnant could be identified using

those cues that were found to be important in influencing contraceptive use.

Further study is needed in the area of adolescent contraceptive use to increase health professionals' knowledge of cues that trigger adolescent contraceptive use. Other cues such as parental involvement, peer pressure, and religious beliefs may also be important, but were not explored in this study. The effect of previous pregnancy needs further study to determine if this is important only for this sample or if this can be generalized to the population as a whole.

Summary

The relationship between the conceptual framework and findings, the conclusions, and recommendations were discussed. Important cues in regard to adolescent contraceptive use were discussed. Those cues found to be important were previous pregnancy, having a steady boyfriend, and having accurate knowledge of reproduction and contraception.

APPENDIX A

RESEARCH APPROVAL

THE UNIVERSITY OF
ARIZONA
HEALTH SCIENCES CENTER

November 16, 1990

Kathleen B. Malkin, R.N.
c/o Jacqueline Sherman, Ph.D.
College of Nursing
Arizona Health Sciences Center

RE: **HSC A90.181** ADOLESCENT CONTRACEPTIVE USE: CUES TO BEHAVIOR

Dear Ms. Malkin:

We received your Project Approval Form and accompanying consent form, adviser's letter and sample questionnaire for your above referenced project. The procedures to be followed in this study pose no more than minimal risk to participating subjects. Regulations issued by the U. S. Department of Health and Human Services [45 CFR Part 46.110(b)] authorize approval of this type project through expedited review procedures, with the condition(s) that subjects' anonymity be maintained. Although full Committee review is not required, a brief summary of the project procedures is submitted to the Committee for their endorsement and/or comment, if any, after administrative approval is granted. This project is approved for a period of one year effective 16 November 1990.

The Human Subjects Committee (Institutional Review Board) of the University of Arizona has a current assurance of compliance, number M-1233, which is on file with the Department of Health and Human Services and covers this activity.

Approval is granted with the understanding that no further changes or additions will be made either to the procedures followed or to the consent form(s) used (copies of which we have on file) without the knowledge and approval of the Human Subjects Committee and your College or Departmental Review Committee. Any research related physical or psychological harm to any subject must also be reported to each committee.

A university policy requires that all signed subject consent forms be kept in a permanent file in an area designated for that purpose by the Department Head or Comparable authority. This will assure their accessibility in the event that university officials require the information and the principal investigator is unavailable for some reason.

Sincerely,

William F Denny

William F. Denny, M.D.
Chairman
Human Subjects Committee

WFD:rs

c: Departmental/College Review Committee

APPENDIX B

CONSENT FORM

CONSENT FORM

ADOLESCENT CONTRACEPTIVE USE: CUES TO BEHAVIOR

I AM BEING ASKED TO READ THE FOLLOWING MATERIAL TO ENSURE THAT I AM INFORMED OF THE NATURE OF THIS RESEARCH STUDY AND OF HOW I WILL PARTICIPATE IN IT, IF I CONSENT TO DO SO. SIGNING THIS FORM WILL INDICATE THAT I HAVE BEEN SO INFORMED AND THAT I GIVE MY CONSENT. FEDERAL REGULATIONS REQUIRE WRITTEN INFORMED CONSENT PRIOR TO PARTICIPATION IN THIS RESEARCH STUDY SO THAT I CAN KNOW THE NATURE AND THE RISKS OF MY PARTICIPATION AND CAN DECIDE TO PARTICIPATE OR NOT PARTICIPATE IN A FREE AND INFORMED MANNER.

Purpose

I am being invited to voluntarily participate in the above-titled research project. The purpose of this project is to explore and describe the "cues" or factors which help teens decide to seek methods of birth control.

Selection Criteria

I am being invited to participate because I am between the ages of 12 and 18, currently use contraceptives correctly, attend a Pima County Family Planning Clinic, and read and write English.

Procedure

If I agree to participate, I will be asked to agree to the following: completion of the Contraceptive Cue Questionnaire (CCQ), which takes approximately seven (7) minutes to complete. This questionnaire will be administered at the Pima County Family Planning Clinic.

Risks

There are no known risks from participation in this study.

Benefits

There are no benefits from participation in this study.

Confidentiality

My name will not be written on the questionnaire, nor at any time will it be used in regard to the study. Any information given on the questionnaire will be reported in group form only. Data from this study may be used as a basis for future research. Results of the study will be available to me at my request.

Participation Costs

There are no costs to me for participation in the study.

Authorization

BEFORE GIVING MY CONSENT BY SIGNING THIS FORM, THE METHODS, INCONVENIENCES, RISKS, AND BENEFITS HAVE BEEN EXPLAINED TO ME AND MY QUESTIONS HAVE BEEN ANSWERED. I UNDERSTAND THAT I MAY ASK QUESTIONS AT ANY TIME AND THAT I AM FREE TO WITHDRAW FROM THE PROJECT AT ANY TIME WITHOUT CAUSING BAD FEELINGS OR AFFECTING MY MEDICAL CARE. MY PARTICIPATION IN THIS PROJECT MAY BE ENDED BY THE INVESTIGATOR OR BY THE SPONSOR FOR REASONS THAT WOULD BE EXPLAINED. NEW INFORMATION DEVELOPED DURING THE COURSE OF THIS STUDY WHICH MAY AFFECT MY WILLINGNESS TO CONTINUE IN THIS RESEARCH PROJECT WILL BE GIVEN TO ME AS IT BECOMES AVAILABLE. I UNDERSTAND THAT THIS CONSENT FORM WILL BE FILED IN AN AREA DESIGNATED BY THE HUMAN SUBJECTS COMMITTEE WITH ACCESS RESTRICTED TO THE PRINCIPAL INVESTIGATOR, KATHLEEN MALKIN, OR AUTHORIZED REPRESENTATIVE OF THE COLLEGE OF NURSING. I UNDERSTAND THAT I DO NOT GIVE UP ANY OF MY LEGAL RIGHTS BY SIGNING THIS FORM. A COPY OF THIS SIGNED CONSENT FORM WILL BE GIVEN TO ME.

_____ _____

Subject's Signature Date

_____ _____

Witness Signature Date

Investigator's Affidavit

I have carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in her participation and her signature is legally valid. A medical problem or language or educational barrier has not precluded this understanding.

_____ _____

Signature of Investigator Date

APPENDIX C

CONTRACEPTIVE CUE QUESTIONNAIRE

CONTRACEPTIVE USE QUESTIONNAIRE

Part I: Demographic Data

Please mark the appropriate answer, or write in where indicated.

1. How old are you? _____ (write in)

2. Do you go to school? ___ Yes ___ No

3. Do you work? ___ Yes ___ No

4. Are you: ___ Caucasian ___ Black ___ Hispanic
   ___ Asian ___ Native American ___ Other

5. Are you going steady with a boy now? ___ Yes ___ No

6. On a scale of 1 (no love at all) to 5 (great love), rate the amount of love you feel for your boyfriend. Circle the number that indicates your feeling.

   (no love at all) 1 2 3 4 5 (great love)

7. How old were you when you first had sex? _____ (write in)

8. Have you ever been pregnant? ___ Yes ___ No

9. What form of birth control do you use?
   ___ a. Oral contraceptive (the pill)
   ___ b. Diaphragm with contraceptive jelly or cream
   ___ c. Intrauterine device (IUD)
   ___ d. Condom (rubber)
   ___ e. Condom and foam
   ___ f. Natural family planning method with professional guidance
   ___ g. Spermicidal jelly, foam, cream, suppository, tablet, or sponge
   ___ h. Other (write in) _____
   ___ i. None

Part II: Contraceptive Cue Inventory

Please circle yes or no following each statement.

1. Becoming pregnant while going to school will hurt my chances of finishing school. yes no

2. I cannot become pregnant if I have sex only once in a while. yes no

3. I think that the pill is the best method of birth control. yes no

4. I am most likely to get pregnant about two (2) weeks after I have started my period. yes no

5. Using a birth control method would give me a change to grow up. yes no

6. My boyfriend told me to use the best birth control. yes no

7. My boyfriend does not use "rubbers." yes no

8. My boyfriend told me that using birth control was up to me. yes no

9. If I do not use birth control, I can become pregnant. yes no

10. I received information on birth control in sex/health education classes in school. yes no

11. I have heard that birth control methods are bad. yes no

12. In the past, after having sex without using birth control, I lived in fear until my next period came, thinking I might be pregnant. yes no

13. I do not want to become pregnant at this time. yes no

14. My boyfriend won't respect me if I use birth control. yes no

15. I would have trouble supporting myself and a baby. yes no

16. I feel embarrassed to use birth control methods because they are associated with sex. yes no

17. I want to get a job and/or have a career. yes no

If you are now using birth control, please list any other things that helped you to decide to use a birth control method. _____

_____

_____

_____

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