

ADOLESCENT KNOWLEDGE OF CONTRACEPTION

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This thesis is dedicated with much love to my husband,

William Henry Kenworthy, III

for his constant love, support, and encouragement.

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ABSTRACT

This thesis is a descriptive study which documents the contraceptive knowledge of adolescent girls.

Data was obtained by use of ethnographic techniques. Ten young women were separately interviewed on tape. The information obtained from the ten interviews was then analyzed.

The major taxonomy of the study was "Ways to Prevent Pregnancy." Additional topics for analysis included: sources of contraceptive information, terminology for various birth control methods, time of greatest pregnancy risk, "safest" time of the month for unprotected intercourse, anatomic location of the IUD and the diaphragm, perceived mode of action, side effects, safety, and effectiveness of the medical methods of contraception, and knowledge about the cervical cap.

Analysis of the data revealed a significant amount of misinformation and superficial knowledge about contraceptive methods among adolescent girls.

Recommendations for nursing practice concerned the promotion of the nurse's role as contraceptive counselor.

Recommendations for research suggested repetition of the study with additional interviews, and repetition of the study with different populations.

CHAPTER 1

INTRODUCTION

Use of contraceptives in adolescence is related to a complex mosaic of knowledge, attitudes (fear, moral uncertainties, hedonistic concerns), availability, communication patterns, and motivation. After caring for a number of adolescents who had experienced an unplanned pregnancy, this author became interested in documenting the contraceptive knowledge of contemporary adolescent females. There is little information on this subject in the research literature to date. Understanding the knowledge base of young women as regards contraception would be invaluable for professionals who plan and implement care for this population.

Today, the incidence of unplanned adolescent pregnancies has reached epidemic proportions (Rauh, Johnson, and Burkett, 1973; Zelnik and Kantner, 1978). Many factors have been indicted as causative or contributory agents in discussions of this problem. As the average age of menarche has decreased, there has been a concomitant rise in the fertility span of adolescent women in the United States. In addition, studies have documented an overall increase in sexual activity, as well as the onset of sexual intercourse at earlier ages among today's adolescent population (Zelnik and Kantner, 1978; Zelnik, Kim, and Kantner, 1979).

Both the sexual revolution and the women's liberation movement have influenced traditional feminine roles with regard to sexual matters. To some degree, the onus of the "double standard" has lifted, and young women experience less ostracism because of sexual experimentation than did women in previous generations.

Dissemination of contraceptive information has improved from the practices in the early decades of this century. However, formal sex education classes are lacking in many communities across the United States despite overwhelming parental and teen approval for such instruction (Fam. Plan. Perspect., 1978; Fam. Plan. Perspect., 1979c). Moreover, student dissatisfaction with existing school programs is significant.

Finally, in the few studies that document actual contraceptive knowledge of female adolescents, researchers have found both an alarming lack of knowledge and much misinformation in this population (Goldsmith, Gabrielson, Gabrielson, Mathews, and Potts, 1972; Kantner and Zelnik, 1973; Presser, 1974; Zelnik, 1979).

Statement of the Problem

What do adolescent girls who come to a clinic for birth control information and services already know about contraception?

Significance of the Problem

One-half to three-quarters of adolescent pregnancies occur to unwed mothers (Rauh, Johnson, and Burkett, 1973; Zelnik and Kantner, 1978), with a national estimate of approximately one million such pregnancies each year. Studies have shown (Jaffe and Dryfoos, 1976;

Zelnik and Kantner, 1978) that seven in ten of these pregnancies are unplanned. In a major study (Kantner and Zelnik, 1973), half of the sexually active females aged 15 to 19 years were non-users of contraception at last intercourse. For adolescents younger than 15 in the sample, almost 70 percent were non-users at last intercourse. Available statistics (Zelnik and Kantner, 1978) show that nearly 60 percent of sexually active adolescent girls do not use any form of contraception at first intercourse. In addition, most of these young women wait one to two years before seeking professional contraceptive information. Tragically, half of all adolescent pregnancies occur in the first six months of exposure (Zabin, Kantner, and Zelnik, 1979).

Few research studies have documented the contraceptive knowledge of adolescent females. Data available (Kantner and Zelnik, 1973; Zelnik, 1979) show that there is a remarkable lack of knowledge and/or presence of misinformation about the fertile period, the menstrual cycle, and the ease of conception. The mode of action and proper use of various contraceptive methods is also inadequately understood. One research team has identified a significant relationship between a young woman's belief in her ability to get pregnant and the use of contraception (Kantner and Zelnik, 1973). Beliefs are often based on facts, accurate or inaccurate. Adolescent sources of sexual information remain, for the most part, their misinformed peers. Although sex education classes are being taught in the majority of the nation's high schools, teenagers do not find them helpful. Sadly, it appears to be a case of too little instruction, too late.

Many factors contribute to the non-use of contraceptives (and subsequent pregnancy), but knowledge is a key part of the problem. Through relevant education myths can be dispelled, learning can take place, and both attitudes and behavior can be altered. Health educators must understand the knowledge base of adolescents and then plan curriculum and content accordingly. Moreover, sex education programs must be started prior to sexual experimentation, i.e., in the pre-pubescent years, if they are to be useful and effective in breaking the cycle of unwed motherhood, with its attendant personal and societal consequences.

Purpose of the Study

The purpose of the study was to document the contraceptive knowledge base of adolescent females seeking birth control information at a family planning clinic. Information regarding the knowledge base of adolescent females is essential for the nurse to plan care suited to the needs of this client population.

Conceptual Framework

The concepts in this discussion include the following: knowledge, attitudes and practice. Knowledge is the collection of facts that resides in one's consciousness. It is drawn upon at will to solve problems, to make decisions, and to function on a daily basis. Attitude is the verbalized or demonstrated expression of a person's feelings or emotions about a particular subject. Sociocultural factors in an individual's experience also affect attitude. Practice refers to behavior, which is defined as actions, conduct, or manners (Webster, 1966).

Practice is closely associated with knowledge base and attitude, and is affected by both of these factors.

Knowledge, attitude, and practice are important components involved in the societal problem of unplanned adolescent pregnancy. Chilman (1980) defines adolescence as "that period of time in a person's life that stretches from the onset of puberty to young adulthood." In addition to physical changes, the adolescent experiences psychosocial changes which have an important impact on sexuality in general and contraceptive behavior in particular. In this paper, the words adolescent, teenager, and teen will be used interchangeably, and will refer to young people aged 15 to 19.

There are several developmental tasks for the adolescent female to complete. The first is to form a sense of personal identity. This is accomplished by assuming and discarding different personalities until the young woman finds one that is appropriate and comfortable for her. The answer to the crucial question "Who am I?" is now taking shape.

Acceptance of the sexual self is essential for the proper development of adolescent identity from that of a child into a mature adult (Chilman, 1980). This is often influenced by the psychosexual adjustments made prior to this stage. Indeed, a positive self-concept and a healthy life style are largely results of accepting one's sexuality. Moreover, this appears to be the critical factor influencing teenagers to actively seek contraceptive services (Needle, 1977). In the Freudian view, feminine identity is therefore established by means of resolution of the Oedipal conflict, identification with the mother or mother-substitute, and acceptance of the maternal/individual role (Stoller, 1977).

Various relationships influence the development of adolescent personality and sexual identity. Attitude about the self and the world is affected by one's social milieu. Supportive, interested parents contribute to the development of confidence and high self-esteem in adolescent children (Mussen, Conger, and Kagan, 1974). These young people have fewer problems managing the developmental task of autonomy vs. dependence. Autonomy implies maturity, which in itself requires responsibility for one's actions. It has been shown that degree of involvement in intimate relationships with the opposite sex has a positive influence on the regular use of contraceptives (Reiss, Banwort, and Foreman, 1975; Jorgenson, King, and Torrey, 1980), thus implying acceptance of one's sexuality in the female. There is also a strong positive relationship between peer contraceptive use and sexual activity level (Jorgenson et al, 1980). Society, then, and peers in particular, influence the sexual identity formation, attitudes, and behaviors of the adolescent female.

Perhaps one of the most important aspects of the developmental changes in adolescence is the change in cognitive function. Behavior is influenced by attitudes, but it is also influenced by knowledge. The adolescent female begins to outgrow the egocentrism of childhood and progresses to abstract thought (Lipsitz, 1979). Piaget termed this new stage "formal operations"--a stage in which all aspects of a problem can be considered and solutions found to solve it (Mussen et al., 1974).

The concept of locus of control (L.O.C.) is an important one in examining cognitive development and subsequent behavior. Rotter (1954) categorized people into two groups, those with internal locus of control and those with external locus of control. People with internal locus

of control believe that they have the ability to exercise control over their lives, while those with external locus of control believe that their destinies are controlled by chance, fate, or powerful others (MacDonald, 1970). Preschool and school children gradually learn to appreciate cause and effect relationships, and practice decision-making at some level. The adolescent proceeds one step further because of the ability for abstract and analytical thought (Pidgeon, 1977). Younger teens, then, are more likely to demonstrate an external locus of control, while older ones are more likely to demonstrate an internal locus of control. However, self-confidence, romantic and peer relationships, as well as acceptance of sexual identity may all influence the locus of control of the adolescent. There are conflicting findings with regard to locus of control and its relationship to knowledge, attitudes, and practice of contraception (MacDonald, 1970; Blignault and Brown, 1979).

Sexual knowledge and understanding are also undoubtedly affected by mental capacities. Just as adolescents physically mature at differing chronological ages, so too, their mental abilities mature at different rates (Lipsitz, 1979). Intellectual development is of great importance to assimilating the facts of sexuality and handling the interpersonal problems that may arise. Sex education courses and contraceptive counseling programs that treat each adolescent as an individual in these matters may be effective in promoting true learning (i.e., a behavioral change). More research is needed to establish what relationship exists between mental maturation and locus of control.

As previously stated, societal influences on the adolescent are important. Attitudes toward being female can be transmitted from

generation to generation (Ritvo, 1977). Women who are proud of their femininity pass this on to their daughters, who then are assertive and expressive of their femaleness. This would of course extend into the realm of contraceptive behavior. The Freudian view proposes that young girls who experience intense envy of the male sex are predisposed to body image problems at puberty (Ritvo, 1977). According to this theory, these girls are faced with the biologic fact of their femaleness at puberty, and cannot accept the sexual self. These psychoanalytic explanations may account for impaired identity formation and subsequent lack of contraceptive protection by some adolescents.

Knowledge, attitudes, and practice are interwoven aspects of the problem of unplanned adolescent pregnancy. Physical and psychosocial changes experienced in adolescence impinge on these three concepts. Research has been done for decades upon the sexual activity and rate of premarital pregnancies in the teenage population. More recently some investigators have documented use/non-use of contraceptives by adolescents. Attitudinal studies have been conducted to a lesser extent, but do provide important information about another major factor relative to teenage sexuality. Some attempts have been made to ascertain the relationship between mental capability and locus of control, and any subsequent influence on contraceptive practice. However, few studies have actually gone to the source of information, the teenage girl herself, to find out the knowledge base of the adolescent with regard to the subject of contraception. This research project will focus on the aspect of knowledge, about which little has previously been documented. A modification of the ethnographic technique will be used to obtain information

that will help define a cognitive set for this particular adolescent population.

Because adolescence has certain codes of conduct, modes of dress, styles of music, kinds of slang, and types of activities associated with it, the adolescent female may be considered a member of a "culture." Cultures can be investigated by ethnographic techniques. Ethnography is an examination of a culture from the viewpoint of the members of that culture (Spradley, 1979). A unique relationship between the investigator and the informant is inherent to the method. The researcher gathers information from the subject's point of view, utilizing the latter's terminology and definitions. The investigator is taught the significant terms, activities and relationship of importance to that particular informant as a member of a particular group. The respondent is the expert, because that person is a member of the group under investigation. Information is recorded from the "inside" as opposed to observations made by an outsider observing the culture.

The ethnographic interview is the primary tool used in this type of research. When properly utilized, the method provides minimal bias in determining the knowledge base of adolescent females with regard to contraception. General or "grand tour" questions are asked to elicit an involved explanation about an event or activity of interest to the researcher. (For example: "What kinds of things are there to do or to use to prevent pregnancy?") More specific questions would focus on a certain aspect of the response. (For example: "Can you tell me what to do to put in the diaphragm?") Clarification of the subject's terminology is of great importance to learn the "native language" of the

informant (Spradley, 1979). Asking contrast questions provides information about aspects of similarity and difference between two items (e.g., "What is the difference between where the IUD is placed and where the diaphragm is placed?"). Repetition of the informant's terms and the expression of cultural ignorance is of great importance to a successful interview (Spradley, 1979). The ethnographic method allows the researcher to learn from the adolescent what she knows about contraception, as expressed in her own words. Data can then be organized into categories based upon the information and arrangement made by the informant herself. The interviewer's bias is restrained by this method, because the respondent catalogues the knowledge according to her own set of standards.

This research study will utilize the ethnographic interview to document the knowledge base of adolescent girls on the subject of contraception. This will provide information that is culturally specific to the teenage population, and some insight concerning the knowledge aspect of the mosaic which includes the concepts of "attitudes" and "practice."

Assumptions

1. Informants are experts in the area to be investigated.
2. Lack of knowledge/misinformation is an important variable in the decision to use contraception.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews literature which relates to the study of adolescent knowledge of contraceptive methods. Topics to be examined are: adolescent pregnancy, adolescent sexual behavior, attitudes toward sexuality, and knowledge of fertility and its control.

Adolescent Pregnancy

Adolescent pregnancy currently affects approximately one million young women each year; of these pregnancies, 50 to 75 percent are out of wedlock (Rauh, Johnson, and Burkett, 1973; Zelnik and Kantner, 1978). Statistics vary as to the number of planned and unplanned pregnancies nationwide. In the early seventies, Presser (1974) found that more than 56 percent of the pregnancies to first-time mothers in her sample were unplanned. Jaffe and Dryfoos (1976) have stated that 66 percent of all adolescent pregnancies were unintended. In a sample of nearly 2,200 teenagers, Zelnik and Kantner (1978) found that 7 in 10 pregnancies were not intentional; and most recently (1980) Ryan and Sweeney obtained the same percentage of unplanned pregnancies (though in a much smaller sample).

The incidence of adolescent pregnancy is related, in part, to the earlier fertility of young American women, and the concomitant increase in sexual activity of this group (Rauh, Johnson, and Burkett,

1973). Today, the average age of menarche is approximately 12 years (Rauh, Johnson, and Burkett, 1973), while the average teenager can conceive by 14 years of age (Rauh, Burkett, and Brookman, 1975). Some studies have shown that the average age of coitus is about two years after onset of the menarche (Malo-Juvera, Goldsmith et al., 1972; Zabin, Kantner, and Zelnik, 1979). In their analysis of two national surveys, Zelnik, Kim, and Kantner (1979) reported that the median age for intercourse was 18.4 years (whites) and 16.6 years (blacks) in 1976. When compared to earlier data, they found an increase in the number of sexually active females in a five-year period, and an earlier age of sexual initiation. Forty percent of adolescent women aged 15-19 had experienced premarital intercourse in 1976 (Zelnik and Kantner, 1978).

With regard to the incidence of pregnancy, Zabin, Kantner, and Zelnik (1979) documented that half of all teenage premarital pregnancies occur in the first six months of sexual activity. Moreover, teenagers 15 years and younger have twice the number of pregnancies during those months than do adolescents who engage in intercourse at the ages of 18 and 19 (Zelnik, 1980). This fails to support a popular teen notion that because of their presumed infertility, younger teens are more protected against pregnancy than their older counterparts (Zelnik and Kantner, 1973; Rauh, Burkett, and Brookman, 1975).

Furstenberg (1976) studied 400 first-time adolescent mothers, and found that four out of five had approximately a two-year interval between initiation of sexual activity and conception. In 1971, 30 percent of all women sexually active before marriage had a premarital

pregnancy; this percentage declined to 28 percent in 1976 (Zelnic, 1980). The decline is presumed by Zelnic to be due to more frequent use of effective contraceptive methods. Overall, 35 percent of sexually active unmarried adolescents get pregnant before they reach 19 years of age (Zelnic, Kim, and Kantner, 1979). In their work concerning risk of adolescent pregnancy, Zabin, Kantner, and Zelnic (1979) document that 65 percent of those who never used contraception had conceived within two years of the initial coital event. In contrast, only ten percent of consistent users of contraceptive methods became pregnant during the two-year interval. Some young women used medical methods, such as the pill, the intrauterine device (IUD), or the diaphragm. Others used non-medical methods, such as foam and/or condoms, rhythm or withdrawal. Of consistent users, those who employed non-medical methods were three times as likely to get pregnant as compared to those who used medical methods.

Contraceptive Behavior

What is the incidence of contraceptive use among female teenagers? In their sample of nearly 2,200 adolescents, Zelnic and Kantner (1978) found that 40 percent of the young women used some method of contraception at the first coital experience, but only one-fourth of these had used a medical method. Jaffe and Dryfoos (1976) estimated that less than half of all sexually active teenagers used contraception at first intercourse in 1970. They cited statistics for 1975 that showed half of the adolescent clients at family planning clinics have not used contraception prior to the initial visit. Freeman's study (1978) of

329 women aged 15-40 is significant in documenting the percentage of contraceptive users by age group. Teenagers were 20 percent less likely to use birth control methods than were women in their twenties, and adolescents were half as likely to use contraception as were women aged 30 and older. More than half of the adolescents in the study had never used a contraceptive method, even though the majority were having intercourse regularly (Freeman, 1978).

Kantner and Zelnik's study of never-married black and white teens (1973) described risk-taking behaviors of this sexually active group. They cited 53 percent of the 15-19 year olds as non-users of contraception at last intercourse, and nearly 71 percent of those under 15 years of age as non-users at last intercourse.

Goldsmith et al. (1972) described contraceptive behavior in 1969-1970 for three groups of adolescents. The sample consisted of 210 never-pregnant teenagers seeking contraception, 100 pregnant teenagers requesting abortion, and 67 pregnant teenagers choosing to keep their infants. Non-use or use of ineffective contraceptive methods, such as douching, was compared. Fifty-seven percent of those seeking information were non-users or used ineffective methods; nearly 80 percent of the pregnant teens were in this category. Among users, the most popular methods were rhythm, condoms, and withdrawal (statistically, the least effective methods available). Only five percent of the never-pregnant teenagers and four percent of the pregnant teenagers had used medical methods of contraception.

In a six-year study of 400 adolescent first-time mothers, Furstenberg (1976) found that more than half of the sample had used

condoms occasionally. Although the majority of their single classmates did not want to get pregnant, more than half took chances just like the teen mothers. Freeman (1978) found that more than 70 percent of the adolescents using birth control in the sample employed non-medical methods. Zelnik and Kantner (1978) showed that although the majority of pregnancies were not intended, only 20 percent of the sexually active teenagers had been using contraception at the time they became pregnant. The researchers also describe a positive effect between increasing age and use of contraceptive methods, with teenagers less than 15 years old twice as likely to be non-users though sexually active. In addition, the percentage of adolescents who always used contraception nearly doubled in the five-year span between 1971 and 1976. The implication that age lends itself to increased use of contraceptive methods is not clear-cut, however. A Canadian survey of 794 undergraduates (Fam. Plan. Perspect., 1979a) reported that nearly 38 percent of the sample did not use any method at first coitus, and an additional 12 percent of the contraceptors used the most ineffective ones (i.e., rhythm or withdrawal). Nearly three-fourths of the women began contraception after the third or fourth exposure; over half chose the pill, one-fourth chose the condom, and only five percent continued to use ineffective methods.

Kantner and Zelnik (1973) showed that choice of contraceptive method varies with age and race; and that the number of methods tried increases with the user's age. The pill was found to be one of the most popular methods, and use of the condom was also quite common.

Kantner and Zelnik (1973) noted that blacks used medical methods more

often than whites did in 1971. They suggest a reason for this finding was that black teens frequently received care from clinics, where such methods are readily available. In addition, the researchers noted that adolescents who most recently used a medical method of contraception were significantly more likely to be current users than those teens who relied on non-medical methods. Unfortunately, the majority of adolescents have traditionally used non-medical methods of contraception, with their inherent problems of less effectiveness. Today the trend is toward use of the more effective devices for prevention of pregnancy (Zelnik and Kantner, 1978).

Contraceptive behavior of teen mothers post-delivery was studied by Furstenberg. He stated (1976) that half of all adolescent mothers experience a second pregnancy within three years of the first delivery. In his sample of 400 first-time mothers, 88 percent practiced birth control immediately after delivery, but more than 30 percent discontinued use after the first year. Thirty percent more teenage mothers stopped after the second year, and at the end of five years, only 20 percent of the sample continuously used contraception. This was an overall decrease to nearly 70 percent non-users. Zelnik and Kantner (1978) found that 60 percent of the white teens in their study utilized contraception following the first pregnancy, and 90 percent chose a medical method. However, there is no data on subsequent attrition rates. In 1980 Zelnik described some interesting findings concerning second pregnancies to unwed adolescents. From 1971 to 1976 rates of prevention of second pregnancy among older teenagers did not improve, but statistics supported the more effective use of contraception among

adolescents aged 15 years and younger. Whites who remained unmarried and terminated their first pregnancy by abortion showed a significant drop in repeat pregnancies within a two-year period of the abortion (Zelnic, 1980). This finding reflects increased use of contraception and use of more effective methods. On the other hand, women in the study who carried the pregnancy to term showed a significant increase in the percentage of second pregnancies within two years of the first birth. In addition, the researchers found that married adolescents were increasingly effective contraceptors, as reflected by a seven percent decline in second pregnancy rates in the first year after delivery.

Sexual Attitudes

Behavior is often dictated by attitudes and knowledge. Sexual attitudes are important factors that affect the use and non-use of contraception among adolescents, and thus, premarital pregnancy. Furstenberg (1976) found that the most common rationale for sexual activity was pressure from the male partner. Peer pressure was another factor in the decision to initiate coital activity (Malo Juvera, 1970; Furstenberg, 1976). In one study (Goldsmith et al., 1972), 70 to 90 percent of the sexually active teens responded that sexual intercourse had been a mutual decision. Interestingly, a higher percentage of responses indicating male pressure came from the pregnant teenagers interviewed than from the never-pregnant adolescents. It was found that the pregnant teens were twice as likely to accept their partner's decision as were their non-pregnant peers. In this study, a large majority felt their sexual activity was enjoyable (i.e., 85%-90%).

However, non-pregnant respondents more often selected the terms "extremely" enjoyable to describe their experience, while the pregnant teens commonly chose to qualify their sexual activity as "somewhat" enjoyable. Goldsmith et al. suggest that guilt and/or anxiety about pregnancy risk may be reasons for the less satisfactory experience of the latter young women.

Popular theory holds that some women use pregnancy as a method to snare a husband. Malo-Juvera interviewed 100 pregnant girls (1970) and found that the majority viewed marriage in negative terms, and had no plans for such a relationship in the near future. In addition, the mothers of these teenagers also held negative attitudes towards early marriage and wanted their daughters to accomplish other things. Kantner and Zelnik (1973) found that marriage plans had little bearing on contraceptive behavior. Attitudes toward childbearing were described in a small study (Johnson, Snow, and Mayhew, 1978) and showed that only 11 percent of the sample felt it was important to "obligate the man" or to punish him with a pregnancy.

Negative attitudes regarding unplanned pregnancies are documented in the literature. Zelnik and Kantner (1978) have shown that 7 in 10 pregnancies were unplanned. Presser (1974) found that 62 percent of the women in her study with unplanned pregnancies never wanted to be pregnant, or wanted a postponement. Nearly half of the adolescents in this sample wished the birth had occurred later in their lives. Negative attitudes were also reported by Johnson et al. (1978). Goldsmith et al. (1972) interviewed expectant teenagers for their reactions to a fictional story of an unplanned teen pregnancy. Eighty to ninety percent

of the young women made negative responses. Rationales for the answers included unwanted changes in plans for the future and feelings of inadequacy in the maternal role. It is interesting to note that only one to two percent of those teens interviewed who planned an abortion, and those who used contraception, felt that pregnancy would allow a teenager to marry and leave home. However, 14 percent of the adolescents who planned to keep their babies viewed pregnancy as a ticket to marriage and leaving home.

Ryan and Sweeney (1980) showed that attitudes toward pregnancy can differ among different adolescent populations. In a predominantly black sample of 87 unwed mothers, over half gave positive responses concerning their pregnant state. More than three-fourths of these unmarried adolescents felt that the pregnancy was not a problem for them, and 29 percent felt that it did not create any problems with their family. Moreover, 87 percent of these mothers had friends who also had infants out of wedlock (Ryan and Sweeney, 1980).

Various reasons for non-use/occasional use of contraception among adolescents have been documented. Furstenberg's study of teen mothers in the early seventies found only nine percent who deliberately failed to use contraception. In marked contrast are the findings of Ryan and Sweeney (1980): 63 percent of the young women in their sample deliberately chose not to use a method of birth control. Some women are afraid to use contraception for fear of real and imagined side effects (Malo-Juvera, 1970; Kay, 1974). Kantner and Zelnik (1973) reported that 25 percent of sexually active adolescents believed the birth control pill to be unsafe. Presser (1974) cited lack of motivation in nearly

40 percent of the women she sampled, attributing this as a primary factor in lack of contraceptive use. Some women have felt that contraception is the sole responsibility of the female (Johnson et al., 1978). Using a fictional account about planning for intercourse, Goldsmith et al. (1972) obtained responses from pregnant and non-pregnant teenagers. Passive responses, i.e., leaving things to the male, were found significantly more often among the pregnant teens. In any case, lack of communication between partners is prevalent (Johnson et al., 1978). In one study, 40 percent of the women had not talked about pregnancy prevention with their partners (Presser, 1974). Non-availability of contraception at the time of intercourse is another reason for lack of protection (Presser, 1974; Rauh, Burkett, and Brookman, 1975; Zelnik and Kantner, 1978). Invariably, passion prevails over reason, and the young woman is at risk of an unwanted pregnancy. Hedonistic objections such as concerns about pleasure and spontaneity are also cited as explanations for non-use of contraception (Presser, 1974; Rauh, Burkett, and Brookman, 1975; Freeman, 1978). In one study, more than 77 percent of the women were dissatisfied with various methods used; and over half did not want to continue using their current method in the future (Johnson et al., 1978).

Sexual Knowledge of Adolescents

Few studies document adolescent knowledge about contraception, but there are findings about peripheral issues. A Gallup poll in 1978 found that 4 in 10 teens has received a formal sex education course, and 3 in 10 has some birth control information included in the course (Fam.

Plan. Perspect., 1979b). The article relates that in a more recent poll, 66 percent of all teenagers admit to some sex education, but more than one-third feel that the classes were not helpful. Parental approval for sex education in the schools has risen from 65 percent in 1970 to 77 percent in 1976. Moreover, the percentage of parents who support discussion of birth control in sex education classes nearly doubled in the seven-year span (from 36 percent to 69 percent) (Fam. Plan. Perspect., 1978). However, a government study stated that there were still no sex education courses in slightly more than 30 percent of all communities in the United States (Fam. Plan. Perspec., 1979c).

Some data is available concerning adolescent sources of sexual information. Zelnik (1979) found that nearly 70 percent of all teens aged 15-19 had received a sex education course, and half had received birth control information in that course. Furstenberg (1976) stated that more than 90 percent of the young women in his sample had casual discussions about sexual matters with their parents, but they were generalized rather than explicit. Those teens who had been counseled by their parents to use a specific contraceptive method were twice as likely to have ever used birth control as compared to those who received vague instructions. Other studies show different statistics on the percentage of teenagers whose source of sexual information was their parents. In one study, more than 60 percent of the expectant teenagers had never talked with their mothers about sex, and only 10 percent had talked with a nurse (Malo-Juvera, 1970). In a later study (Goldsmith et al., 1972), the percentage of young women who had discussed contraception with their parents increased slightly.

Freeman (1978) found that the majority of women in her sample received contraceptive information primarily from physicians and clinic personnel. School and friends accounted for seven percent of the teens involved, while parents were a source for only three percent. Zelnik's study (1979) showed that less than two percent of all teenagers had received initial sex education from a medical source. The most common source was a school course; home was a far second. Moreover, he found that friends were the worst source of accurate information for both white and black teens in the sample. Ryan and Sweeney (1980) reported that more than three-fourths of their informants had received a formal sex education course. When asked to identify the best person for contraceptive counseling, 35 percent of the adolescents listed the physician, and 31 percent listed another choice. The nurse was chosen by only 11 percent of the sample, and was ranked after the mother (16%).

Lack of knowledge is slowly being corrected, but the question of comprehensive, practical knowledge is raised. Probably the most alarming factor with respect to non-use of contraception is the erroneous belief held by adolescents that they are knowledgeable about the fertile period in the menstrual cycle. The facts are to the contrary. To compound the problem, the great majority of teenagers are woefully misinformed about the risks of pregnancy with each act of unprotected intercourse. In addition, data from family planning clinics show that sexually active teens wait one to two years before seeking birth control information and services from professionals (Zabin, Kantner, and Zelnik, 1979). Misinformation about mode of action and use of various

contraceptive methods is another factor in non-use/incorrect use of contraceptives by adolescents.

In a study of contraceptive practice and pregnancy, Kantner and Zelnik (1973) found a significant number of young unmarried women, more than 60 percent, had a lot of misinformation concerning the time of greatest risk of pregnancy. Fifty percent of the adolescents in one study who used rhythm as a contraceptive method had the wrong idea about when the fertile period occurred each month (Goldsmith et al., 1972). In a Canadian study of college women, one-fourth of the contraceptors used the rhythm method, and slightly more than half were similarly misinformed (Fam. Plan. Perspect., 1979a). In Presser's study (1974) the percentage of all pregnant women who could not correctly identify the time of risk was even larger, with 80 percent of the teenage mothers giving the wrong answer. Zelnik's comparison of sex education and knowledge of pregnancy risk (1979) found that only one-third of those teenagers who had received a formal course could identify the period of greatest pregnancy risk correctly. It was also noted that blacks were twice as likely to give incorrect answers. In addition, teenagers who received contraceptive information initially from a medical source correctly identified the time of risk more often than those who had learned from some other source. Unfortunately, more than 98 percent of the adolescents sampled had not learned from a medical source initially.

Adolescent misinformation about the menstrual cycle and its relationship to both pregnancy and the rhythm method of contraception has been found in the literature (Johnson et al., 1978). There is also

widespread disbelief among teens concerning the ease of conception, even with minimal exposure (Malo-Juvera, 1970; Kantner and Zelnik, 1973; Rauh, Burkett, and Brookman, 1975; Furstenberg, 1976). Kantner and Zelnik (1973) have identified a strong relationship between the adolescent's perception of her fertility and the use of contraception. More than one-fourth of the white teens, and one-half of the black teens believed themselves unable to easily get pregnant from unprotected intercourse. Of those who strongly believed in their relative infertility, 70 percent were non-users of contraception at last intercourse. However, only 32 percent of those who strongly believed they could easily get pregnant were non-users at last exposure. Correction of misinformation concerning fertility is imperative if contraception is to be practiced consistently and correctly by motivated adolescents.

Young women also have incomplete and/or inaccurate knowledge concerning contraceptive methods. As cited earlier, correct understanding of the rhythm method and its relationship to the menstrual cycle is lacking. Ninety-six percent of the women in one study used the pill, but less than half knew how it worked to prevent pregnancy (Johnson et al., 1978). The researchers also noted that non-medical methods of contraception were best understood by the informants. High belief in the efficacy of the douche and withdrawal has been reported among teenage contraceptors (Goldsmith et al., 1972). Confusion exists concerning use, placement, and mode of action of both the diaphragm and the IUD. Two studies found that more than half of the women sampled had incomplete and/or incorrect knowledge about these methods (Johnson et al., 1978; Fam. Plan. Perspect., 1979a). Furstenberg (1976) mentions

the superficial nature of contraceptive knowledge among pregnant teenagers. Ryan and Sweeney (1980), however, state that 94 percent of the adolescents they sampled were considered knowledgeable because they were able to name two methods of contraception and how the methods worked. Unfortunately, Zelnik and/or Kantner, who have studied large adolescent populations, do not have any data concerning the actual knowledge of teenagers with regard to various contraceptive methods.

Summary

The literature has been reviewed concerning adolescent pregnancy, contraceptive behavior, attitudes towards sexuality, and sexual knowledge. Few research studies have investigated teenage knowledge of contraception. This lack of information justifies the need for the present study, which seeks to document the knowledge base of female adolescents in regard to contraception.

CHAPTER 3

METHODOLOGY

The following topics are presented in this chapter: design of the study, the sample, the setting, data collection, reliability and validity, protection of human subjects.

Design of the Study

This was a descriptive study designed to document the contraceptive knowledge of adolescent females. The data was collected by use of the ethnographic interview, that is, conversation focused by the informant. Ethnography seeks to elicit cultural information by this technique. In this study, information was obtained directly from a participant in the adolescent culture. Both broad and specific questions were asked to promote explanations from the young women about the events and activity of contraception. All interviews were recorded in private on an audio-tape machine. The information was then transcribed and analyzed to determine the domains and taxonomies relevant to the concept of contraception.

The Sample

Informants were recruited from new women patients who had made an appointment for contraceptive counseling at a family planning clinic. The researcher went to the clinic four days a week, both mornings and

afternoons, to obtain participants for the study. Once the young woman had signed in with the receptionist, and had completed the admitting history, the researcher ascertained from the client whether she might be interested in participating in the study. If the subject was interested, she was privately questioned about her age, marital, and pregnancy status. Adolescents were selected for the study if they met the following criteria: between the ages of 13 and 19 years, never married, and never pregnant. Only English-speaking adolescents were interviewed.

The prospective informant was then given a consent form which was read and discussed with her. If she still consented to the private interview, she was seen by the researcher prior to reading any clinic literature about birth control, and before completing her appointment with the nurse practitioner.

The Setting

This study was conducted in a private family planning clinic located in a major Southwestern city. All of the women were interviewed in a private room in the clinic, and each interview was recorded on tape. A contraceptive chart was removed from the wall, and other models and instructional aids were placed out of sight in the room in which the interview was conducted. The tape recorder was positioned between the informant and the researcher, and a directional microphone was used. The tape was started before the actual interview began, in order to allow the informant some time to relax and ignore the machine. The interviewer and the respondent sat facing each other so that eye contact could be maintained throughout the session. Every effort was

made to establish an informal and comfortable atmosphere for the adolescent.

Once the taping was completed, the investigator explained all the methods of birth control to the young woman by means of models and diagrams. Reproductive anatomy and physiology, as well as the menstrual cycle and its relation to pregnancy were also described. Misinformation that had been uncovered by means of the taped interview was corrected at this time. The young woman was then able to complete her appointment with the nurse practitioner to obtain a method of birth control. The researcher was informed of the young woman's choice of method before the client left the office.

Data Collection

Initially, a pilot study was conducted with two 16-year-old girls who had made appointments at the clinic for contraceptive counseling. The investigator offered a verbal explanation as to the purpose of the proposed interview, and asked for the adolescent's voluntary participation. Once permission was received, the researcher interviewed each informant on tape in a private room of the clinic. Each session lasted about thirty to forty minutes, and debriefing was a final portion of each interview. Research questions to be used for the study were developed from this data.

Data was collected by use of a series of questions relating to contraception. The interview technique was open-ended questioning. This yielded descriptive data from the point of view of the young women who

responded. The data was then organized into categories based on the information obtained from the adolescents.

The ethnographic interview was the tool used for data collection in this research study. The researcher employed certain techniques to gain information about the world as seen through the eyes of the informant. In this study the investigator needed to learn from the adolescent what were the methods to prevent pregnancy, and certain other aspects of contraceptive knowledge in the teenage culture.

Because the researcher was known to the informant as a nurse, the adolescents took for granted that certain parts of the information were already understood by the interviewer. In the ethnographic interview, however, it is essential to maintain cultural ignorance as a means to obtain every bit of data available. Everything needs to be explained by the respondent, and the investigator must permit the subject to elaborate on the event or item of interest.

In addition to descriptive questioning, the ethnographer made use of structural questions to elicit categories of information. These questions are used to verify an assumption that the researcher has made based on prior information from the respondent. An example would be: "You mentioned the term "coil." Is that a name for the IUD?" Other verification questions were used in the ethnographic interview to learn whether there was a relationship between two terms, and what the relationship meant. An example of this would be: "Is the pill a kind of birth control device?" (Is x and kind of y?) Contrast questions can also be employed to examine selected categories or domains of information for in-depth analysis. An example is: "You said you need to get fitted

for a diaphragm. Is there any other birth control method you need to be fitted for?" Another type of contrast question is: "How is the pill different from the IUD?"

The ethnographic interview provides the investigator with the knowledge base as expressed from the viewpoint of the member of the culture. In this study, structural and contrast questions were used to obtain information about the recognized modes of contraception among the adolescent population. Such questions also provided data on the perceived dangers, benefits, and mode of action of the various methods of birth control.

Once informants were found and had agreed to the interview, the researcher presented the following explanation and initial question: I am a nurse and have worked with young women who needed information about birth control. I have often wondered what today's young women already know about birth control. For this interview, pretend that I am your younger sister. I know nothing about birth control, and I've come to you for information. Can you tell me what kinds of things there are to do, or to use, so that a woman won't get pregnant?

All interviews began with the preceding introduction, and continued with the following questions:

1. How do you use it?
2. Who uses it? (male/female)
3. Where does it go? (i.e., placement)
4. Is it good (effective)?
5. Is it safe for my health?
6. Are there any dangers with it?

7. If there are dangers, what are the dangers?
8. Are there any special things involved in using the method?
9. Is there any time of the month when a woman is most likely to get pregnant if she doesn't use birth control? If so, when?
10. Is there any time of the month that a woman won't get pregnant if she doesn't use birth control? (i.e., a safe time) If so, when?

Demographic questions included:

1. How old are you now?
2. How old were you the first time you had sexual intercourse?
3. Did you ever have a sex education course? How old were you then?
4. Did the sex education course include specific information about birth control methods?
5. Who is/was your major source of birth control information?
6. Before today, did you ever talk to a nurse about birth control information? (school, hospital, clinic, or neighbor)
7. What method of birth control are you interested in obtaining from the clinic today?

Reliability and Validity

The ethnographic interview assumes that the informants are experts in the area under study. The content is validated by obtaining similar responses to identical questions asked of a particular population. Careful transcription of the data from the tape to paper minimizes errors in validity.

Utilizing the same questions, and the same pattern of interviewing, increases reliability of the information. In addition, only one person conducted all the interviews, thus minimizing bias from the use

of different techniques. Written transcription of the tape was also completed by this researcher alone, eliminating many of the errors that can occur from using assistants. Consultation with the major advisor was employed as a means to corroborate domains and taxonomies, to increase the reliability of the data.

Protection of Human Subjects

The research study was approved by the Human Subjects Committee of the University of Arizona (see Appendix A). All subjects received a written explanation of the study which was reviewed with the informant prior to obtaining consent for participation in the interview. The subjects were also informed that their participation was not required as a prerequisite for receiving care at the clinic, but was a voluntary action. In addition, subjects were told they could withdraw from the study at any time without any effect on their care. Confidentiality of the information was maintained by assigning a number to each taped interview. No names were used during the taping, nor were signatures required for consent (see Appendix B).

CHAPTER 4

PRESENTATION AND ANALYSIS OF THE DATA

This chapter contains the data collected, and its analysis. The form of presentation of the data is both descriptive and ethnographic.

Presentation and Analysis of the Data

Of the fourteen young women approached by the researcher, only one declined to be interviewed for the study. Upon further discussion with three of the adolescents, certain factors, i.e., marriage or prior pregnancy, eliminated them from the sample. This resulted in a total number of ten informants who provided data for the study.

The demographic information about the sample can be seen in Table 1. The age range of the ten adolescents interviewed was 15 to 19 years. The mean age was 18.1 years, and the mode was 19 years. All of the women were white, and one was not yet sexually active. The mean age at first intercourse was 16.4 years, while the mean interval between first sexual experience and the appearance at the clinic was 1.5 years.

Seven of the ten young women had received a sex education course in school. Mean age at the time was 15 years. However, four of the teens did not have explicit information concerning birth control methods in that course. Information gleaned from the tapes established that seven of the nine teenagers who were sexually active had at some time used a method of birth control. It was uncertain whether the other two

Table 1. Characteristics of the Sample

Subject Number	Current Age	Age at First Intercourse	Sex Education Course	Age at Sex Education Course	Ever Used Birth Control	Method of Interest and Method Obtained
1	19	19	No	--	Yes p.	pills
2	19	18	Yes	16	Yes c.	pills
3	19	18	Yes*	16	Yes c.	pills
4	18	17	Yes	15	?	pills
5	17	16	Yes	15	Yes p.	pills
6	19	15	No	--	Yes w., p.	pills
7	18	13	Yes*	13	Yes c.	pills
8	18	17	Yes*	14-15	Yes c.	pills
9	15	15	No	--	?	pills
10	19	--	Yes*	15-16	--	diaphragm

Key:

* did not include explicit birth control information

? unable to determine from the data

-- not applicable

c. condom

p. pills

w. withdrawal

respondents had ever used a method, as this was not volunteered by them. Three adolescents had used birth control pills previously, and four others had used the condom.

The birth control pill was selected as the method of interest by 90 percent of the sample at the start of the interview. One of these teens did express some interest in the diaphragm during the teaching segment, but still chose the pill before leaving the clinic. Only one adolescent was initially interested in the diaphragm and subsequently chose this method.

Five young women gave information about the use/non-use of contraception at the first sexual experience. Of these, three girls, i.e., 60 percent, did not use any method of birth control, nor did their partners.

Responses to the question "Who would you say is/was your major source of birth control information?" are particularly enlightening for nurses. Nearly all informants listed more than one source. "Clinic staff" was mentioned most often (five times). This referred to anyone who worked in family planning clinics, but the type of professional was not specified. "Friends" and "mother" each were named as resources three times. Two adolescents considered the school sex education class as a major source of information. One young woman proposed "reading material" as her source, and another answered with her "boyfriend."

Not one of the informants volunteered that she had ever asked a nurse about birth control information. To be certain of this finding, after the teenager had answered the above question, the investigator asked the following one: "Before today, did you ever talk to a nurse

about birth control information, including school nurse, clinic nurse, or neighbor?" One teenager had spoken to a clinic nurse about contraception, but not to her school nurse. None of the others had ever spoken about this subject with any nurse, including the school nurse. That is, of the nine teenagers who had access to a school nurse, no one requested birth control information from this source, and only one person out of ten informants had ever received instruction from any type of nurse.

Two major domains were established in the taxonomy of Ways to Prevent Pregnancy (Figure 1). These domains are: "things to do" and "things to use." Both females and males can do something or use something to prevent conception. Female things to do include: saying no, douching, and rhythm. Attributes of the rhythm category are: take temperature, look at mucous/discharge, and have intercourse at certain time of the month. Male things to do are: withdraw, use something. Female things to use include: pill, IUD, diaphragm, inserts, foam. The diaphragm can be used as follows: alone, with foam or jelly, with jelly, with cream. Male things to use include: condoms. Condoms are used as follows: alone, with foam, with jelly.

Information about the cultural terms for the various methods of birth control was obtained (Table 2). Oral contraceptives were usually referred to with the word "pill" in the term, although one teen called the method "birth control" and another called it "the birth control method." Most of the informants provided the term "IUD," one calling it the "interuterine device." Descriptions of this were: "piece of tubing--wire or plastic," "a little coil thing put in the uterus,"

THINGS TO DO	<u>Female</u>	<u>Saying No</u>	
		<u>Douching</u>	
		<u>Rhythm</u>	
THINGS TO USE	<u>Female</u>	<u>Withdrawal</u>	
		<u>Using Something</u>	
		<u>Pill</u>	
		<u>IUD</u>	
		<u>Diaphragm</u>	<u>Alone</u>
		<u>With foam or jelly</u>	
		<u>With jelly</u>	
		<u>With cream</u>	
		<u>Inserts</u>	
		<u>Foam</u>	
	<u>Male</u>	<u>Condoms</u>	<u>Alone</u>
			<u>With foam</u>
			<u>With jelly</u>

Figure 1. Ways to prevent pregnancy.

Table 2. Terms for Contraceptive Methods

Method	Terms/Descriptions
oral contraceptives	birth control the birth control method the pill little pills swallowed mini-pills hormone pills candy ones 28 days 21 days
intrauterine device	IUD interuterine device piece of tubing--wire or plastic a little coil thing put in the uterus small device--different shapes, coil something in your uterus something the doctor puts inside you plastic or copper thing, "z" shaped...with a string
diaphragm	diaphragm thing...it fits over the cervix physical barrier cap rubber cup cup-like thing the doctor...fits one for you
foam	foam chemical barrier chemical spermicide like shaving cream
vaginal suppositories	inserts like Semicid Encare...melt little do-hickeys something you insert like foam but...in a little capsule ...dissolves a chemical barrier...kills sperm

Table 2--Continued

Method	Terms/Descriptions
condom	condom rubber piece of rubber something the male uses what a guy puts on what the guy wears protection physical barrier condome condominiums rubber-envelope thing

"small device--different shapes," "something in your uterus," "something the doctor puts inside you," "plastic or copper thing, 'z' shaped...with a string."

Explanation of the diaphragm included: "a thing...it fits over the cervix," "physical barrier," "cap," "rubber cup," "cup-like thing," "the doctor...fits one for you," "what you put inside yourself...it's like if a guy would use a rubber." Foam was referred to as: "chemical," "chemical barrier," "spermicide," "like shaving cream." "Inserts" (vaginal suppositories) were also termed: [things] like Semicid," "little do-hickeys," "Encare," "something you insert," "like foam but ...in a little capsule," "little pill that you stick up inside you," "a chemical barrier." Three informants volunteered the information that this item melted, and one said it "kills sperm." Terminology for the word "condom" included: "rubber," "piece of rubber," "something the male uses," "what a guy puts on," "what the guy wears," "protection," "physical barrier," "condome," "condominiums," and "rubber envelope thing."

Informants were quite confused about the fertile time of the month. Asked when during the monthly menstrual cycle a woman was most likely to get pregnant, only one teenager knew the correct answer: "15 days before period." Four teens used the phrase "middle of the month," which on further investigation was meant to refer to the time between the ending of one period and the beginning of the next. When asked to figure out when they could get pregnant each month, the adolescents responded as follows:

- right after your period;
- 14 days after the last day of the period;
- 4 to 5 days after the period and 4 to 5 days before the next period;
- not sure...5 days after;
- 7 days after the period;
- 7 days before the period;
- 5 days after [the] period and 10 or 15 days after [the] period.

These informants calculated the time of greatest pregnancy risk from the end of menstrual flow, rather than from the first day of bleeding. In addition, two of the teenagers stated they did not know how one could determine the fertile period. In summary, 90 percent of the sample could not make any functional use of their knowledge about the menstrual cycle with respect to contraceptive practice.

In discussing the "safest" time of the month to have unprotected intercourse, two of the ten said it was safe after the period, but did not specify the number of "safe" days. One of the adolescents felt there was a safe time but didn't say when it occurred, while another said she had learned about it once but couldn't remember now. One teenager thought there might be a safe time, but said "it's not definite that you wouldn't get pregnant, it's just less risk." Three young women stated that someone would probably not get pregnant if she had unprotected intercourse during the menstrual period. One of these teens also thought it was "safe" 4 to 5 days before and after the period as well. This informant was confused in that she had earlier said that 4 to 5 days before the period was a likely time for pregnancy. Negative

responses to the suggestion of a safe time for unprotected intercourse were:

- as far as I'm concerned, no....I know there is, it's fairly safe, but I wouldn't trust it.
- I don't really think that any time is safe to not use [contraception].
- None, 'cause you're never sure...unless you're on your period.

Perceived Anatomical Location of the
Diaphragm and the IUD

Three informants were able to state the correct anatomical location of both the diaphragm and the IUD (Table 3). The three who gave this information were aged 17, 18, and 19 years. A couple of the other respondents attempted to guess the placement of the diaphragm:

- over the uterus or something
- the same place the IUD goes

Other vague answers were:

- up inside--somewhere in your vagina
- in your vagina
- it's inserted....I can't exactly tell you where.

One adolescent used an analogy: "The diaphragm is what you put inside yourself....It's like if a guy would use a rubber," while another teenager asked: "Diaphragm--that's what they put in the arm, isn't it? I don't know anything about [it]."

Aside from the three correct answers about the placement of the IUD, much confusion was apparent in the responses of the rest of the sample:

Table 3. Perceived Anatomical Location
of the Diaphragm and the IUD

Number of Responses		
Diaphragm	IUD	Location
2	1	"inside"
0	1*	in cervix
3	1*	in front of cervix
2	1	in vagina
0	3	in uterus
2*	1*	same place as IUD/diaphragm
2	5	don't know

* guesses

- Up inside--somewhere in your vagina.
- inside the uterus or the ovaries?...
- placed in the cervix? I don't know.
- [they] position it in you.

Two of the informants stated that they had no knowledge of the IUD at all and could not offer any information about it.

Aspects of Use of the Diaphragm and the IUD

Only two teenagers were unable to think of any special things to do in using the diaphragm. One had no knowledge, and the other knew only that "you insert it in yourself and it prevents pregnancy." Half of the sample knew the device had to be "fitted," and eight understood that it was removable by the woman herself. Two teens volunteered that the diaphragm had to be left in place for a certain amount of time after intercourse. One did not specify how long the period should be, while the other said "You put it in right before intercourse and then I guess take it out right after, or about an hour or two after." Interestingly, six of the teenagers said that foam was to be used with the diaphragm: three said foam only, two said foam or jelly, and one said foam or cream. Only one informant gave a correct statement, i.e., that the diaphragm can be used with jelly/cream or alone.

Of the seven informants who knew something about the IUD, six said the device stayed inside the woman for a certain length of time. When questioned further, however, half did not know a specific time period; one person said six months, one said one year, and one said three years. None volunteered the medically accepted answer that the

time duration depended upon the type of IUD prescribed, and the presence or absence of medical problems associated with the device. Two of the young women stated that "check-ups" were necessary. One said this was required every year, but gave no rationale; the other said that it was for weight gain or loss. The other four agreed with the suggestion that there was nothing to do once the IUD was in place. No one who professed knowledge of the IUD mentioned the need to check the string.

Perceived Mode of Action of the Methods

Information concerning the mode of action of the pill and the diaphragm was available from the responses of seven teenagers (Table 4). With regard to the mechanism of action of the pill, one reply, "prevents ovulation," was correct, and two others were essentially right:

-- I think it puts hormones in your system and makes you [your body] think you're pregnant.

-- I think [the pills] prevent the egg from leaving wherever it is [comes from].

Another adolescent explained: "It [the pill] stops your cycle until you take the candy ones [pills]." Three other teens admitted they "had no idea" or couldn't explain the mechanism of action.

Two of the seven teenagers who were asked about the diaphragm were unable to give a reason why the device prevents pregnancy. One of the informants merely restated that it "prevents pregnancy," the other said she didn't know the answer. Another girl stated the "chemical barrier," i.e., foam or cream used with it, "kills the sperm" and that the diaphragm itself was a "physical barrier." The rest of the adolescents also gave correct answers:

Table 4. Perceived Mode of Action of the Methods

Way Method Works	Types of Contraception		
	Diaphragm	IUD	Pill
blocks sperm	4	1	0
prevents pregnancy	1	5	0
kills sperm	1	1	0
prevents maturation of fertilized egg	0	1	0
stops your cycle	0	0	1
don't know	1	2	3
no data	3	-	3
Total	10	10	10

- works by blocking the sperm
- catches it (sperm) so it wouldn't go inside any further
- it prevents sperm from getting in the uterus
- covers cervix so sperm can't get up.

Two of the three teenagers who knew the correct anatomical location of both the IUD and the diaphragm also had an essentially correct understanding about the mode of action of the IUD. Of ten adolescents interviewed, two stated they knew nothing about the IUD and thus could not answer how it works to prevent pregnancy. Of eight respondents left, two had a basic knowledge of the mode of action of the IUD:

- They don't know why it works except that because it's in your uterus....I guess there's no way for a fertilized egg to mature.
- I think it irritates--so things can't settle in there.... You can't get pregnant because things can't settle.

Four adolescents believed that the IUD acted to prevent conception in some way:

- Somehow it's supposed to keep the sperm from getting you pregnant.
- From stopping the conceive...of the sperm and egg.
- They're not sure how it works but somehow it prevents you from getting pregnant.
- It stops you from getting pregnant.

One person ventured to guess: "It keeps the sperm from going any further?" and another teenager offered the following: "It builds up... the white blood cells, and that's what's supposed to kill the sperm."

Perceived Side Effects/Dangers of the Methods

All respondents were able to state dangers or side effects of the pill and/or IUD (Table 5). With regard to oral contraceptives, the teenagers noted the following dangers/side effects: weight gain, allergic reaction, breast lumps, increased blood pressure, blindness, sterilization, deformity of the child (if pregnant), loss of vitamin B₆ from the body, pimples. Five different teens said that cancer was a danger related to using the pill; three stated that heart disease was a danger; and two people mentioned each of the following conditions: cramps, bleeding between periods, stroke, blood clots.

Responses about the dangers/side effects of the IUD included: sterilization, heavy (vaginal) discharge, implanted [sic] in uterus, infection, "bad periods," "remote chance it can cause inflammation (aggravation?) of (other) problems." Two teenagers noted that bleeding between periods was a problem with this device; three said the IUD could fall out accidentally; and four others stated it caused pelvic cramps. None of the informants felt that there were any dangers associated with use of the diaphragm.

In summary, of the ten informants who stated the dangers of the birth control pill, no one mentioned headaches, visual disturbances, leg cramps, or sudden chest pain, all significant symptoms of stroke and/or blood clots. One adolescent listed the important finding of lumps in the breast, and another knew that high blood pressure was a danger associated with use of the pill. Moreover, only two of the ten specifically listed blood clots as a danger inherent to this method. Only one of the six adolescents who could name any dangers associated with

Table 5. Perceived Side Effects/Dangers
of the Pill and the IUD

Type of Response	Number of Responses*	
	<u>The Pill</u>	<u>The IUD</u>
weight gain	1	0
cancer	5	0
pelvic cramps	2	4
bleeding between periods	2	2
allergic reaction	1	0
breast lumps	1	0
increased blood pressure	1	0
blindness	1	0
sterilization	1	1
deformity of child (if pregnant)	1	0
heart disease	3	0
blood clots	2	0
stroke	2	0
takes B ₆ from the body	1	0
break out in pimples	1	0
heavy discharge	0	1
implanted [sic] in uterus	0	1
infection	0	1
bad periods	0	1
falls out	0	3
irritate other problems	0	1

* more than one response for each method per informant

the IUD noted that the IUD could cause infection, which is a significant risk with this contraceptive method. In addition, this young woman also inferred a risk of faulty implantation or movement by the device. However, no one listed the risk of perforation of the uterus.

Perceived Safety of the Methods

In regard to the safety of the diaphragm and the IUD (Table 6), two informants claimed no knowledge about either method. Concerning the diaphragm's safety, four teenagers merely stated "yes," while others amplified as follows:

- Relatively.
- Unless you have any problems...if it doesn't bother you.
- It's probably the safest.
- I haven't heard anything about anyone having any problems, so I guess [it's safe].

Two adolescents interviewed about the IUD did not offer any information about the safety of the device, while two others knew nothing at all about this medical method of contraception. Two additional informants felt that safety depended on the health of the person:

- Some people can't [use it]. It's just like the pill. It depends on the person.
- Different for everyone.

One young woman believed safety was dependent on age:

- With younger people, I don't think it'd be good [safe].

Another commented:

- I don't like anything inside me....I wouldn't use it.

Table 6. Perceived Safety of the
Diaphragm and the IUD*

	Yes	No	Probably	Don't Know	Other	Depends on Health	Age	No Data
Safety of diaphragm	5	0	2	2	0	1	0	--
Safety of IUD	0	0	2	2	1	2	1	2

Key:

- * data displayed as number of responses for each category
- not applicable

However, two of the adolescents gave qualified approval:

- Safe for most [people].
- I don't know why it wouldn't be safe.

When asked about the safety of the birth control pill (Table 7), none of the informants gave an unequivocal "yes." Age, state of health, and personal habits were all mediating factors to the safety of this method. Comments were:

- A lot of health risks involved....It just depends on the type of person you are. If you smoke a lot they're not good for you.
- Depends on the individual...and there's different brands.
- If you're young, I don't think there'd be any reason why you couldn't use it. Like up to maybe 30; but after that you should stop.
- If you don't have any medical problems where it'll do any damage or make an allergic reaction.
- Yes, if you don't smoke and if you don't drink....If you're over 35 maybe it can cause problems like heart disease.
- It can cause some problems...if you smoke.
- If you're healthy. If you don't have anything wrong with you, like high blood pressure.

One young woman made the ambiguous statement that the pill "can't be [safe], but I've heard that it helps a lot too." She did not explain why the pill was helpful. Two of the adolescents mentioned serious health hazards related to pill use:

- It causes blindness, cancer, sterilization.
- [Safety is] just like the IUD...except there's [a] remote chance...even death can result.

Table 7. Perceived Safety of the Pill*

	Yes	No	Other/Unsure	Health	Depends on Smoking Habits	Age
Safety of pill	0	1	2	3	3	1

Key:

* data displayed as number of responses for each category

Perceived Effectiveness of the Methods

Assessment of the effectiveness of the diaphragm in protecting against unwanted pregnancy was found in the responses of nine teens.

Three of the young women considered the device effective:

- Yes.
- As far as I know.
- I think it would be. Close enough to anything else, probably.

Four others also approved of the diaphragm's effectiveness "if used properly:

- Fairly effective, but the problem is people don't use it correctly.
- It's pretty reliable...only thing you might worry about is putting it in properly...about 96 percent.
- If you use it it's effective. But if you don't, it doesn't do any good.
- ...Supposed to be very effective if used properly. You could use the diaphragm instead of [the IUD] and it [diaphragm] would be just as good [effective].

Half of the sample had no idea about the effectiveness of the IUD in preventing pregnancy. One teenager said it was effective, but didn't amplify her statement. One reported it to be as effective as the diaphragm. Three informants gave percentage of effectiveness for the IUD:

- Almost as effective as the pill, but not quite as high...in the 90's.
- Up in the 09 percent that it would prevent pregnancies.
- Supposed to be 98 percent effective.

Comments about the effectiveness of the birth control pill also included statements of percentages:

- If you take it every day and you don't mess around with it, it's 99 percent.
- Supposed to be 99 percent effective.
- 99 percent effective.
- [Effective] about 98 percent of the time.
- 97 percent effective.

Two of the adolescents responded that the pill "keeps you from getting pregnant when you don't want to be [pregnant]," and that you "can't get pregnant." Another said it was effective "if you use it regularly." One teenager considered the pill's effectiveness to be the "best rate of all the various methods." Another termed the oral contraceptive "one of the better ways of making sure."

The Cervical Cap

The investigator was curious as to the knowledge of this adolescent population about one of the oldest medical methods of contraception (Lehfeldt, 1970), the cervical cap. Physicians in the United States have only recently become involved in research studies on this thimble-shaped rubber device. However, European women have used the cervical cap for nearly 60 years as a simple and effective mode of contraception. Women's magazines in the United States have featured articles about this alternative birth control method, as have some newspaper accounts. It is interesting to note that of the ten young women in this sample, nine had no knowledge of the cap. Three had "heard of it" but could not explain anything about it. Only one teen could give a correct definition of the term, but knew nothing further. In addition, this informant, and one other, stated that the device was something "new" on the medical scene.

Summary

This chapter summarized and analyzed demographic and ethnographic data. The major taxonomy of the study was "Ways to Prevent Pregnancy." This included the domains "things to do" and "things to use." Additional data was categorized as follows: characteristics of the sample, sources of birth control information, terminology for the various methods of contraception, time of the month one is most likely to get pregnant, "safest" time of the month for unprotected intercourse, anatomic location of the IUD and the diaphragm, aspects of use of the IUD and the diaphragm, adolescent perceptions about the mode of action, dangers/side effects, safety, and effectiveness of the medical methods of contraception, and knowledge about the cervical cap.

CHAPTER 5

CONCLUSIONS

This chapter presents the conclusions of the research study. Topics include: ethnographic data and their relationships to the review of the literature, recommendations for nursing practice, limitations of the study, and recommendations for further nursing research.

Ethnographic Data and the Literature

In a search of the literature on adolescent knowledge and contraception, no comparable ethnographic data were available. However, descriptive information concerning knowledge, attitudes, and behavior with regard to contraception is documented. For this sample of ten adolescent females, the mean age of first intercourse was two years younger than the 18.4 years reported by Zelnik, Kim, and Kantner (1979). Their data were collected in 1976, however, and the age of first sexual intercourse has been on the decline since that time. Although 40 percent of a national sample of teens in 1976 had experienced premarital intercourse (Zelnik and Kantner, 1978), 90 percent of this sample had experienced premarital intercourse.

Of the five adolescents who responded about unprotected first intercourse, three admitted to not using any form of birth control at that initial event. This is consistent with a nationwide statistic of contraceptive usage at first intercourse (Zelnik and Kantner, 1978).

Of seven informants questioned as to whether they had ever used a birth control method, all responded in the affirmative. This is a higher percentage than that cited by Jaffe and Dryfoos (1976) for use of contraception prior to initial clinic visit.

Selection of the birth control pill by 9 of the 10 informants is consistent with the statements of Jaffe and Dryfoos (1976). Kantner and Zelnik (1973) also documented the popularity of the pill with the adolescent users as early as 1973.

Seven of the ten young women in this sample had received a formal sex education course, as compared to four in 10 cited in a 1978 Gallup poll (Fam. Plan. Perspect., 1979b). The finding in this sample is consistent with Zelnik's study (1979), which showed that nearly 70 percent of all teenagers aged 15-19 had received a formal sex education course. Three of the seven informants received birth control information in that course, as compared to 50 percent of the teenagers in Zelnik's sample.

Clinic professionals were mentioned most frequently as a source of birth control information. However, the clinic staff was not the initial source of sex education, as each young woman mentioned some additional source. The school nurse was not identified as a source of contraceptive information by this group, and only one adolescent of the ten sampled had identified a clinic nurse as a past source for such information. This is also consistent with the poor image of the nurse as contraceptive counselor (Ryan and Sweeney, 1980).

Mean time interval between first sexual intercourse and first visit to this clinic was 1.5 years, which agrees with data from Zabin,

Kantner, and Zelnik (1979). However, it is unclear whether any of the young women had attended another clinic for information prior to the interview.

Nine of the ten young women in this study had incorrect knowledge of the relationship of the menstrual period to the time of greatest pregnancy risk. This is significantly larger than the 60 percent figure found by Zelnik (1973). The teenagers who responded were also less knowledgeable when compared to Zelnik's study (1979) relating sex education and knowledge of pregnancy risk. In his study, one-third of those teens who had a sex education course were able to correctly identify the time of greatest pregnancy risk. In this study, only one out of the seven informants who had received a formal course were able to correctly identify this time period.

Seven of the ten adolescents in the study were confused as to the use, placement, and mode of action of both the IUD and the diaphragm. This is a higher percentage than reported in 1978 by Johnson et al. However, no precise comparison between responses is possible, because that study did not employ the ethnographic method. Ryan and Sweeney (1980) reported that 94 percent of their sample were able to correctly identify two methods of birth control, and how the methods worked. In this study, three adolescents were able to give essentially correct information about the mode of action of two different medical methods of contraception. Three of seven respondents had an essentially correct understanding of how the pill worked, and five of the seven could explain how the diaphragm worked to prevent pregnancy. Only two young women of the ten in

the sample had a correct understanding of the mechanism of action of the intrauterine device. Interestingly, four young women believed that the IUD acted in some way to prevent conception. It became obvious that these adolescents did not understand that this device could act as an abortifacient under certain conditions.

No literature is available that documents other explicit knowledge of adolescent females with regard to contraception. The author will summarize other significant findings of this study, and compare the informants' knowledge with standard scientific theory.

Half of this sample knew that the diaphragm was "fitted," and eight of the ten knew it was removable. Two mentioned that a certain time period was required prior to removal, but both explanatory statements were incorrect. Six of the informants believed that foam is used with the diaphragm. Manufacturers do not recommend the use of foam with the device because spermicide in this form can rot the diaphragm after repeated usage.

Of seven adolescents who knew something about the IUD, six understood that it remained in place for a particular time period. No one knew that removal depended upon the type of device and presence of complications attributed to use of the IUD.

All informants were able to list some perceived dangers or side effects from the pill and/or the IUD. Misinformation in this area was rampant, however. Of the ten teenagers who listed dangers attributed to the pill, not one named significant symptoms of stroke and/or blood clots. Two of the ten did mention blood clots as a danger associated with pill usage, however. Only one of the six informants who professed

knowledge about the dangers of the IUD made mention of the risk of pelvic infection, which is significant with use of this device.

In regard to the diaphragm, no one thought there was any health risk associated with use of that method. This is essentially correct, although there may be a slight increase in the risk of bladder infection for some women.

Comments about the safety of the medical methods usually emphasized the mediating factors of age, state of health, and personal habits such as smoking. None of the informants was definitively for or against any particular method based on health risks.

Assessment of the effectiveness of the medical methods reflected a lack of correct information also. The birth control pill was generally rated with the highest percentage of efficiency, and described as the "best" or one of the "better" methods. More than half the sample did not know the effectiveness of the IUD as a contraceptive method. Of three statements concerning percent effectiveness, two informants had low estimates regarding the IUD. With regard to the diaphragm, the young women qualified its effectiveness based on proper use. Only one person mentioned a percentage for prevention of pregnancy, and this was low (96%). It is the author's opinion that the large amount of advertising and media attention, both good and bad, about the oral contraceptives would account for the relatively greater amount of knowledge concerning the pill among these adolescents. However, the "knowledge" of the informants in the sample was shown to be rather superficial.

The teenagers in this study were also ignorant of one of the older contraceptive devices for women, the cervical cap. Of the two

adolescents who had "heard of it," both had the wrong impression that it was an experimental device entirely new to the contraceptive scene, rather than a re-introduction of an old method.

Recommendations for Nursing Practice

This study documents the considerable amount of misinformation and superficial knowledge about contraceptive methods among a sample of contemporary adolescent females. It is essential for nurses to develop and maintain a high profile as contraceptive counselors for today's youth. School nurses are particularly available to the adolescent girl and could have a positive effect on the contraceptive education of the students. This could be the result of private counseling sessions or collaboration with other educators to provide sex education courses in the classroom. Nurses who work with physicians in office settings also have the opportunity to assess the needs of the adolescent population with regard to contraceptive education, and to provide for those needs. Nurses who are members of family planning clinics have more visibility as contraceptive counselors than other nurses, but the former group also needs to make known their expertise and skill. In all settings dealing with adolescents, nurses must assess the knowledge base of the individual client and proceed from that point to teach young clients about contraception. Varied teaching techniques, audio-visual aids, confidentiality, and respect for the individual are essential components for a successful learning experience.

With regard to course content, particular attention should be given to the relationship of the menstrual cycle and the time of greatest

pregnancy risk. This study also points up the necessity for promoting a functional understanding of the menstrual cycle, and of reproductive anatomy as it relates to the contraceptive methods. In addition, correct and current information about medical risks, benefits, and effectiveness of the various methods of birth control should be discussed with every adolescent. Finally, it is of the greatest importance to assess the individual adolescent, her life style, and her cognitive and emotional levels when the nurse functions as a contraceptive counselor.

Limitations of the Study

The results of this study may not be applicable to all adolescent women. The limitations of this study are:

1. Informants had some knowledge of contraceptive resources because the sample was derived from a population seeking contraceptive counseling.
2. Informants were of a middle to high socioeconomic family status, as evidenced by the fact that they patronized a private clinic instead of a public one.
3. Interviews were conducted only once with each client, therefore information may be limited or absent.

Recommendations for Nursing Research

The following recommendations for research are suggested:

1. Repeat the study, but interview the informants for a longer period of time in order to obtain the maximum amount of information available.

2. Design a questionnaire based on the areas of misinformation, and then use it in a study to document contraceptive knowledge of adolescents from a sample of first-time visitors to a family planning clinic.
3. Repeat this study, but interview adolescent males.
4. Repeat the study and compare two groups: never-pregnant first-time clinic visitors, and first-time clinic visitors with a pregnancy scare.
5. Repeat the study with adolescents from another ethnic group.
6. Conduct the study and interview both younger adolescents (aged 13-15) and pre-teens (aged 11 and 12).

APPENDIX A:

HUMAN SUBJECTS PROJECT APPROVAL

THE UNIVERSITY OF ARIZONA COLLEGE OF NURSING
MEMORANDUM

TO: Mary Ellen Kenworthy

College of Nursing

FROM: Ada Sue Hinshaw, R.N., Ph.D. AK
Director of Research

DATE: April 24, 1981

RE: Human Subjects Review: "Adolescent Knowledge of Contraception"

Your project has been reviewed and approved as exempt from University review by the College of Nursing Ethical Review Sub-committee of the Research Committee, and the Director of Research. A consent form with subject signature is not required for projects exempt from full University review. Please use only a disclaimer format for subjects to read before giving their oral consent to the research. The Human Subjects Project Approval Form is filed in the office of the Director of Research, if you need access to it.

We wish you a valuable and stimulating experience with your research.

ASH:ss
4/81

APPENDIX B:

SUBJECT'S CONSENT FORM

SUBJECT'S CONSENT FORM

Adolescent Knowledge of Contraception

I am requesting your voluntary participation in a research study entitled "Adolescent Knowledge of Contraception." The purpose of this study is to obtain information about the current sexual knowledge of today's young women. Although you may receive no direct benefit, the possible benefit of this study is that this information may help nurses, doctors, and teachers to better understand what adolescents know about birth control methods (contraception). With better understanding, adults can plan care to meet the special needs of adolescents.

If you decide to participate, you will be interviewed in private by the investigator. The interview will be tape recorded, and will take about thirty minutes of your time. Your participation in the interview will indicate your consent as a willing subject in this study. All data will be treated with anonymity and confidentiality. Your name will never be used.

There are no known risks involved in this study. There is no cost to you for participating in this study, and you will not be paid for your participation.

You are free to withdraw from the study at any time. This will not change your relationship with any member of the staff, or affect the quality of your care.

Mary Ellen Kenworthey, R.N.

Name of Investigator

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