THE METHOD AND TIMING OF CONTRACEPTIVE COUNSELING RELATED TO EFFECTIVENESS OF CONTRACEPTIVE USE AMONG ADOLESCENT FEMALES

by

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The Commission on Population and the American Future (1972) concluded that more needs to be known about factors affecting control of fertility, especially among young adolescents. Although the birth rate for the United States is generally low, the pregnancy rate for adolescents is the highest in the world (Guttmacher Institute, 1976). This poses an interesting question for sex educators. In a society where the norm is fertility control through effective contraception, why is it that young teenagers continue to risk pregnancy? There appear to be multiple causes for the dramatic rise in adolescent pregnancies in America, such as (1) earlier physical maturation, (2) spread of a teenage culture accepting sexual activity at an earlier age, (3) developmental factors that make the use of contraception unlikely at this earlier age, (4) possible lack of knowledge about sex and fertility. First, the age of menarche in America has decreased from age 15 in the early 1900's to age 12.2 in 1977 (Zelnik & Kantner, 1977), making pregnancy possible at an earlier age. Second, American adolescent subculture permits intercourse at an increasingly early age, sometimes before teenagers

have developed the ability to predict the consequences of such behavior (Chilman, 1979). Consequently, girls who are just beginning to develop decision-making skills may need to make decisions about sexual behavior. Third, young girls are often unable to see the relationship between intercourse and pregnancy because they are not yet adept at predicting long range outcomes. The abilities to understand that one can get pregnant, to make a decision, and to make the necessary arrangements to prevent pregnancy are related to cognitive development, education, and the mores of the community in which one lives (Kantner & Zelnik, 1972).

It is apparent that consideration of developmental factors is an important part in planning education. Educators are aware of the importance of "readiness to learn" and have used developmentally based methods to increase the learning of students. According to developmental theory, adolescents learn abstract ideas better when accompanied by concrete and personal examples (Erikson, 1969; Piaget, 1969; Glick & Wapner, 1968). The adolescent's own experience may provide the examples by which abstract ideas may be more comprehensible. For example, Lindemann (1974) suggested that a "pregnancy-scare" may motivate teenagers to seek expert contraceptive advice. Based on such reasoning, the present study will explore the idea that the time of a negative pregnancy test can provide a link personal enough

and concrete enough to make contraceptive counseling more acceptable and useful to adolescents. More specifically, it is hypothesized that the time of a negative pregnancy test provides a "teachable moment" when adolescent females are more likely to accept contraceptive counseling and choose a method of birth control.

A fourth factor cited as contributing to high pregnancy rates among adolescents is lack of knowledge. It has been assumed that unintended pregnancy results from inadequate and inaccurate sexual knowledge. Still, why have not the present methods of sex education together with increased availability of contraceptives lowered the pregnancy rate for younger adolescents as they have for women over the age of 18 (Barnes, 1978)? Recent research implies that there is little relationship between birth control knowledge and contraceptive use. Miller (1976) found that although most females of high school age had some knowledge about ovulation and the menstrual cycle, few were able to relate that knowledge to their own fertility. Other studies on knowledge, attitude, and practice have found very little relation between contraceptive knowledge and birth control practice among younger teenagers (Kar, Marcus, Rykwalder, Serko, & Tell, 1979). Thus, it appears that while lack of knowledge may result in non-use of contraceptives, contraceptive information alone does not promote a high rate of contraceptive use. This study will examine the relation

between sexual and contraceptive knowledge and acceptance of a method of birth control by adolescent females.

In addition to the four factors discussed above that influence pregnancy risk-taking among young adolescents, the following reasons for failure to use contraceptives have been reported in many surveys of adolescents (Luker, 1975; Kantner & Zelnik, 1972; Shah, et al., 1975). These reasons include reluctance to admit sexual activity, or to believe pregnancy is possible, inability to communicate with sexual partner regarding contraception, misconceptions about availability of contraception, and concern about the side effects of contraceptive use. This study will explore the effectiveness of the use of a developmental method of contraceptive counseling that deals with these issues and misconceptions.

In summary, this research will examine the effects of three variables: (1) timing of contraceptive counseling, (2) adolescent's knowledge of sex and contraception, and (3) the type of contraceptive counseling, (either conventional or developmental) on the contraceptive behavior of adolescents. The information derived from the study should be of use to health care providers in planning contraceptive programs for younger adolescents.

Review of the Literature

In this review of the literature, first the relation of the adolescent's contraceptive knowledge to use of contraception will be explored. Next, the relation of pregnancy risk-taking to normal adolescent development will be discussed along with the reasons adolescents advance for not using contraceptives will be presented. Third, historic as well as recent research regarding sensitive periods for learning will be reviewed and related to the timing of contraceptive teaching. This section will include research concerning the effectiveness of using a "pregnancy-scare" to promote greater contraceptive use among sexually active adolescents.

Knowledge and Use of Contraceptives

Margaret Sanger founded the planned parenthood clinics on the belief that lack of contraceptive knowledge is the primary cause of unwanted pregnancy. Research by Furstenburg, Gordis, and Markowitz (1969), Sorenson (1973), and Goldsmith, Gabrielson and Gabrielson (1972) have supported this lack-of-information explanation for the non-use of contraceptives among sexually active adolescents who say that they do not want to become pregnant. In the study by Furstenburg, et al., 90% of the 226 teenagers interviewed said that they did not have adequate birth control information. Of the subjects in Sorenson's sample, 68% reported

receiving no sex education at home or at school. Goldsmith, et al. found that, despite attendance at formal sex education classes, many of the sexually active adolescents in their sample were ignorant about sexual matters and birth control. Kantner and Zelnik (1973) noted that those of their subjects who knew the least about pregnancy risks were those who were most likely to have early, unprotected intercourse.

These findings might lead to the conclusion that sex education is the key to reducing the number of adolescent pregnancies. However, programs based on this assumption have not had the intended effect upon younger adolescents' risk-taking behavior. Miller (1976) found that contraceptive knowledge had little effect upon sexual behavior, use of birth control devices, or avoidance of unprotected intercourse. He concluded that this knowledge seems to remain on an intellectual level rather than being transferred into the behavior of younger adolescents. Cvetkovich, Grote, Bjorseth, and Sarkissian (1975) expressed the belief that the failure of formal sex education to address the personal aspects of sexual knowledge may account for the finding of no difference between adolescents who do use contraception and those who continue to take pregnancy risks. They believed that sex education must be made personal to be effective. They suggested that the very act of stating an idea such as "If _____ and I have sex, I could

become pregnant" makes the idea personal enough to be internalized by young adolescents. Other investigators (Monsour & Stewart, 1975; Luker, 1975; Lindemann, 1974; Kane, Moan, & Bolling, 1974) have all concluded that little, if any, relationship exists between levels of measured knowledge and the contraceptive behavior of young adolescents. For older women, a relation does appear to exist. Thus, Miller (1973) found a high correlation between contraceptive knowledge and use for women over age 18 years. This finding was in accord with the fact that the birth rate among older women decreased significantly with the increased availability of contraceptive information (Guttmacher Institute, 1976).

In summary, the literature suggests that while formal sex education is important, intellectual knowledge about contraception is not enough to prevent unprotected intercourse among young adolescents. Knowledge appears to be a necessary but not a sufficient condition for contraceptive use.

Pregnancy Risk-taking and the Reasons Adolescents Give For Non-use of Contraceptives

The sexual risks taken by adolescents are, to a considerable degree, inherent in their stage of psycho-social and cognitive development and in the existence of an adolescent subculture. American tradition has held that the

transition from virgin to non-virgin should occur within marriage. In the past, this ideal was enforced with taboos against premarital sexual activity and supported by secrecy about sexual behavior (Miller, 1980). This ideal has clearly broken down in practice. Zelnik and Kantner (1977) found that first intercourse not only occurs premaritally, but during the teen years for about 75% of women. The problem thus created is that normal development equips adolescents for physical intimacy, but often leaves them without the interpersonal skills to regulate that intimacy in a manner acceptable in our culture. One result of such a developmental gap can be unprotected intercourse and pregnancy (Shinke, Gilchrist, & Small, 1979). The problem is compounded by the adolescent's need to develop independence from parents. Thus, peer values tend to be more influential than parental values (Miller, 1980). Additionally, many parents fail to discuss sexual issues with their children, making reliance upon peer guidance even more likely (Lindemann, 1974).

In 1972, Zelnik and Kantner found that 9% of their sample of 15-year-old girls reported having had unprotected intercourse. In a subsequent study in 1976, Zelnik & Kantner (1977) found that the percentage had risen to 19%. Considering this increase in initiation of intercourse at an early age, it is clear that more teenagers today become sexually active before they have acquired the cognitive and

social skills to adequately calculate or cope with the risks involved (Klein, 1978; Chilman, 1979). It may be assumed that the majority of teenagers could say that pregnancy is the result of intercourse when no birth control is used. The lack of contraceptive use in the face of such knowledge has been the topic of considerable research. The following are some of the most common reasons which adolescents in the studies gave for non-use of contraception.

The first reason given was "I didn't plan to have sex, it just happened and I didn't think it would happen again." Miller (1976) has emphasized that early sexual experimentation is frequently accompanied by a period of emotional turmoil in which young adolescents fail to see themselves as sexually active and deny that sexual activity will continue. They sometimes see sexual activity as "bad" and believe that avoiding contraception is the same as avoiding intercourse. Osofsky and Osofsky (1978) found that females, especially early in the course of their sexual activity, are ashamed to use birth control devices or ask their boyfriends about contraceptive measures. They fear that such inquiries might give rise to the suspicion that they are sexually experienced or promiscuous and they are concerned that intercourse will appear premeditated rather than spontaneous. These findings have been supported by Klein (1978), and Pierson (1978) in their research. Chilman (1979, p. 1) summarizes these findings in her comment, "adolescents,

who are insecure about their own self-worth, would tend to be unable to face realities about themselves to cope effectively with mate relationships and use contraception." Chesler (1980) believes that young teenagers often lack the ego-strength to say "no" or to insist upon contraception.

Secondly, teenagers say that they thought that they could not get pregnant. Shah, Zelnik and Kantner (1975) found that 7 out of 10 of the pregnant teenagers surveyed gave this reason for failure to use birth control. Almost 31% thought that they were "too young to get pregnant"; approximately 40% thought it was the "wrong time of the month"; and the remainder thought that they did not have sexual relations "often enough" to get pregnant. These findings were supported in studies by Needle (1977), Klein (1978), and Chilman (1979).

The third reason commonly given by teenagers for non-use of contraceptives is the belief that effective birth control is not available to them. They don't know where to get contraceptives, whether they can get a prescription, or even whether they would be allowed to buy contraceptives at a drug store. They fear that parental permission would be required, or that health providers would discuss their sexual activity with their parents (Shah, et al., 1975; Needle, 1977; Osofsky & Osofsky, 1978; Chilman, 1979).

The fourth reason adolescents give for non-use of contraception is fear of the side effects of using contraception.

Jorgensen (1976) claimed that a teenager must be comfortable with the method of birth control selected or she will not use it. Her concerns center around change in body image, making sexual activity unnatural, harming her future fertility, and having anything foreign in her body. She worries about the serious medical complications that she has read about. Osofsky and Osofsky (1978) found that the young teenagers failed to use birth control because of worry about side effects such as weight gain, irregular bleeding, high blood pressure, stroke, and cancer from the use of oral contraceptives, and infection and heavy bleeding from the use of the IUD. They had read about the failure rate with condom and foam alone and believed these methods would be "too messy" or unacceptable to their boyfriends. Little thought was apparently given to the risk of pregnancy associated with failure to use birth control methods.

Finally fear of being "put down" by the doctor or nurse made their advice seem unacceptable. The Syntex survey (1980) found warmth, acceptance, sincerity and honesty were all ingredients in establishing a good relationship with the adolescent patient. But above all, two things were essential, namely, assurance of confidentiality, and non-judgmental acceptance. Such attitudes established an atmosphere of trust wherein the girl felt comfortable enough to discuss her fears and to resolve the questions she had about contraceptive use.

If the above are the reasons given by adolescents for failure to take contraceptive measures, then they are the issues that must be addressed by those responsible for designing programs to prevent unwanted adolescent pregnancies. Adolescents need counseling to realize that they will probably continue their sexual activity; that pregnancy can and probably will result if intercourse is unprotected; that effective contraceptives are easily available to them without loss of privacy; that the responsibility for the use of contraceptives to prevent unwanted pregnancy can and should be their own; that the consequences of non-use of birth control measures are serious and more likely to occur than are the serious side effects of contraceptives; and that medical personnel exist who are interested primarily in them as persons and who desire to help them avoid serious life complications.

Timing of Contraceptive Teaching

The issue of critical periods of development and learning has been of interest to scientists for some time. As long ago as 1872, William James, in his "Textbook of Psychology," suggested that there is a crucial period, sometimes short, when, and only when a behavioral pattern can develop. While most experimental studies have been conducted with animals, some of their data appear to be applicable to humans as well. For instance, Harlow and Harlow (1962) used monkeys as

subjects for their studies because the relatively long period of development of the monkey is analogous to that of the human child. This similarity permits generalizations to human behavior. Their data clearly suggest that learning which occurs at the developmentally crucial period is internalized with ease and behaviorally expressed at the appropriate time.

More recently, developmental psychologists working with human subjects have continued to espouse the "teachable moment" theory of development, but viewed it more as a point on an ongoing developmental process rather than on a now-or-never time schedule (Erikson, 1969; Freud, 1969; Havighurst, 1950; Piaget, 1969). Developmental growth is dependent upon experiences which promote or block learning. The practical implications of this theory for use in teaching adolescents is that learning can be promoted by enhancing experiences with a teaching method that leads to growth in responsibility and avoiding experiences which tend to block learning. Barnes (1978) suggests that since individuals differ in their need and readiness for learning and change, health educators must be sensitive to teachable moments. They should assist individuals to become aware of the need and potential for change, provide relevant information, demonstrate "how to do it," make the action socially acceptable, and offer support and follow-up until the action is internalized.

The theory that cognitive development occurs in a

sequential manner unless experience intervenes to promote or block learning underlies Lindemann's (1974) conclusions. She found that young women usually go through three stages of contraceptive use: (1) the natural stage when no contraception is used, (2) the peer stage when ineffective methods are experiemented with, and finally (3) the expert stage in which a professional is consulted and effective, consistent birth control measures are accepted. She calls this the "prescriptive process."

Kantner and Zelnik (1972) hypothesized that early in the course of sexual activity less effective methods of birth control, if any, are used. They found that among adolescents, only those 18 to 19 years of age were likely to use medically prescribed methods of birth control. For younger adolescents, knowing about birth control was not synonymous with being aware of the need for it. The problem is that while sexual activity can continue with a low level of self-awareness, the use of contraceptives is a conscious, fully aware act. Just as the possibility of becoming pregnant is not a part of the adolescent's self-concept, neither is the possibility of using contraceptives, according to Lindemann (1974). She believes that a "pregnancy-scare" is the major propellant in the decision to seek effective contraception, as it forces the teenager to realize the possibility of becoming pregnant and to recognize self as sexually active. Even the pregnancy of a friend can have this effect and can trigger openness to contraceptive use, if the barriers,

both subtle and concrete, are not too difficult to overcome.

The only direct reference in the literature to the relationship between a negative pregnancy test and subsequent contraceptive use was by Evans, Selstad, and Welcher (1976) who explored adolescent contraceptive behavior and attitudes following abortion, childbearing or a negative pregnancy test. Evans, et al. provided conventional contraceptive counseling for all study participants, but did not specify the theoretical approach used in their counseling. They found that knowledge and use of effective birth control methods by teenagers was much greater 6 months after abortion or delivery, than after a negative pregnancy test. The latter continued to take risks and subsequently 17% became pregnant. Among those willing to accept contraceptive counseling, many did not make use of birth control methods.

More recently, research by Chesler (1980), Klein (1978), Miller (1980), and Polsby (1974) have emphasized the importance of linking contraceptive counseling to the adolescent developmental process. Counseling should recognize the reasons adolescents give for non-use of birth control if the counseling is to be acceptable and personal enough to be useful to them. It is also important to recognize that the logical reasoning required to foresee the consequences of behavior is a cognitive skill which develops in varying degrees among adolescents. Polsby (1974) contends that, with these circumstances in mind, a well

developed program to prevent adolescent pregnancy must include cognitive factors which are more complex than a simple intellectual discussion of types of contraceptives and directions for their use. Conventional sex education is too narrow when it imparts only specific knowledge of sex and contraception. The healthy development of one's sexuality involves the total development of the individual as a feminine person (Chilman, 1979).

In conclusion, this review of the literature may be summarized by the following statements: (1) adolescent contraceptive behavior is influenced by a complex interaction of developmental factors which can block effective use; (2) lack of sexual and contraceptive knowledge is an important but not a primary reason for non-use of contraceptives among younger adolescents; (3) sensitive periods for learning have been identified in animal studies, and presumed by educators using "readiness" as a guide to promote learning in humans; (4) contraceptive teaching, in order to be translated into behavior should be given to young adolescents at a teachable moment and should use a developmental method of counseling; (5) research is needed to determine whether the time of a negative pregnancy test provides such a teachable moment and whether the use of developmental counseling at such a time leads to more effective contraception by teenagers than does conventional counseling.

Statement of the Problem

The general purpose of this study is to answer three questions. First, can "teachable moments" in the sexual development of adolescents be identified and can they be used to prevent unplanned pregnancies? Second, is the amount of sexual and contraceptive knowledge related to the effective use of birth control methods by adolescents? And, third, will a method of contraceptive counseling based on adolescent developmental theory be more useful than the conventional method of contraceptive counseling in aiding younger adolescents to practice contraception effectively?

Specifically, the following hypotheses are tested.

Hypothesis 1: Sexually active adolescents are more likely to accept contraceptive counseling at the time of a negative pregnancy test than at the time of a routine medical visit.

Hypothesis 2: Adolescents who are counseled at the time of a negative pregnancy test will become more effective users of contraceptives than adolescents counseled at other times.

Hypothesis 3: The amount of knowledge about sex and contraception does not necessarily distinguish between adolescents who are and those who are not effective users of contraceptives.

Hypothesis 4: Adolescents counseled by a "developmental" method are more effective users of contra-

ceptives than are adolescents counseled by a conventional method.

Rationale for the Study

America has the highest adolescent pregnancy rate in the world, including the underdeveloped nations (Guttmacher Institute, 1976). According to the United States Census Bureau, approximately 1 in 10 school-aged girls becomes pregnant each year. Births to girls between the ages of 14 and 18 have increased by 75% in this country since 1961. It is estimated that over one million girls 15 to 18 years old and another 30,000 girls under age 15 will become pregnant this year. Of these, about 58% will choose to carry the pregnancy to term, and the majority of the remainder will choose abortion. In fact, about one-third of the 1.3 million abortions in the U.S. last year were obtained by adolescents (Stanford Research Institute, 1979).

These alarming statistics do not adequately describe the consequences for the girls, their babies, and society. The medical risks for girls under age 18 are generally higher than for women in their twenties. They are at greater risk for anemia, toxemia, and complications during delivery. Their babies are more likely to be premature or of low birth weight and three times more likely to die in the first year of life than the children of women 20 to 24 years of age (Goldstein, 1980). The social risks are just as

disturbing since 8 out of 10 teenagers who become unwed mothers drop out of school. Consequently, it is unlikely that they will ever attain the skills to earn an adequate living for themselves and their children. Last year it cost American taxpayers 8.3 billion dollars in welfare and related outlays for adolescents who chose to deliver their babies out of wedlock (Stanford Research Institute, 1979). Nor does marriage solve the problem since over half of the marriages of pregnant teen-agers end in divorce. Emotional depression is not an uncommon result of teenage marriage and the suicide rate is high (MacKenzie, 1980). For these reasons, the development of procedures that decrease the incidence of teenage pregnancy is highly desirable.

CHAPTER II

METHOD

Subjects and Setting

The subjects for this study were selected from among adolescent members of the Northwest Kaiser Permanente Medical Care Plan (KPMCP), located in Portland, Oregon. There are approximately 27,000 members aged 13 to 18 years, most of whom are enrolled through their parents' subscription to the Plan. The demographic and socioeconomic characteristics of the subscribers correspond very closely to those of the Portland Metropolitan population as a whole, except that KPMCP members are slightly better educated and have slightly higher family incomes (see Table 1). It may be assumed, therefore, that the adolescent members of the Plan comprise a fairly representative sample of the adolescent population of the area, insofar as socioeconomic status is concerned. In reference to race, also, KPMCP adolescents resemble the broader population. According to the 1970 U.S. Census report, the adolescent population of the Portland Metropolitan area was 2% black, 96% white, and 2% other. A 1971 survey conducted by the KPMCP research department revealed that 3.3% of the adolescent members were black, 2% were non-white and the remainder were

white.

Subjects were obtained from those attending any of the five Kaiser Clinics in the Portland Metropolitan area. Because there are some regional differences in the areas in which clinics are located, it may be assumed that there are some differences in the populations attending each clinic. Clinic A is located in what is commonly regarded as a middle to upper middle class area, with both gynecological and pediatric clinics. Clinic B is in a poorer, inner-city area and has both gynecological and pediatric clinics; and Clinics C, D and E are clustered in a middle class area. There is a gynecological clinic at Clinic C, and pediatric clinics at Clinics D and E. Plan members may use any clinic, with all records filed at a central department and sent to the clinic upon request. Laboratory tests are performed at a central location, and results are available at any clinic upon request.

Among the clinic services available to adolescent health plan members are medical examinations, contraceptive counseling, prescriptions, and pregnancy testing. A girl may obtain a pregnancy test without referral by medical personnel or permission of her parents. The girl needs simply to bring a sample of urine to the clinic laboratory and to telephone the next day for the results. The number of tests requested each day is highly variable. During October, 1980, anywhere from 1 to 15 adolescents requested pregnancy

tests each day, and of these tests, from 1 to 8 were negative. The pediatric nurse practitioners report that they examine 2 to 4 adolescent females each day and the pediatricians see several others for various complaints.

The sample for this investigation was drawn from clients in these two categories, those receiving medical care and those requesting pregnancy tests. To be eligible for participation, the girl had to be from 13 through 18 years of age, unmarried, sexually active by self report, but not desiring a pregnancy and not using contraceptives regularly. All adolescents who received negative pregnancy tests during the period of November, 1980, through January, 1981, and who met the criteria were contacted to participate in the research. Similarly all girls who were in clinic for routine medical visits and who were identified as meeting the criteria were asked to participate.

Data

Data were gathered by means of interviews, through the administration of tests, and examination of clinic records.

Measurement of the Independent Variables

The three independent variables of this study were timing of an offer of contraceptive counseling to an adolescent, the adolescent's knowledge of sex and contraception, and the type of contraceptive counseling given. Counseling

Table 1

Socioeconomic Characteristics of Kaiser Permanente Medical Care Plan (KPMCP) Subscribers and the Population of the Portland Standard Metropolitan Statistical Area (SMSA)

Characteristic	KPMCP Per Cent	SMSA Per Cent
Occupation		
Professional/technical	25 %	21 %
Managerial	7	8
Clerk/sales	14	15
Semi-skilled	11	11
Crafts	11	11
Laborer	4	4
Service	8	13
Public assistance	21	17
Education		
0-8 years	6	19
9-11 years	8	17
High school	27	35
Some college	29	15
College graduate	13	8
Post college	17	6
Family Income		
Under $10,000	26	31
$10,000-14,999	17	17
$15,000-19,999	22	22
$20,000-24,999	16	18
Over $25,000	19	12

Sources: Kaiser Research Dept. Study (1971); also U.S. Census Bureau (1971)

was offered at either of two times, namely, following a routine medical visit (scored 0), or following a negative pregnancy test (scored 1).

The second variable, knowledge of sex and contraception was measured by the Reichelt Sex Knowledge Test (SKT). See Appendix A for copy of this instrument. This 44-item test was designed to evaluate sex education programs in high schools. It has been used with 1,190 teenagers, some as young as 13 years. The test primarily measures sexual and contraceptive knowledge, although a few questions about sexual attitudes and sources of sexual information are included. It is worded to be easily understood by adolescents, although it avoids use of subcultural slang. It requires approximately 10 minutes to complete. The student responds "true," "false," or "don't know" to each item, permitting the scorer to distinguish between lack of information and misinformation. The score is calculated by the number of correct answers so that higher scores represent greater knowledge of sex and contraception. Scores may vary from 0 to 42.

Content validity of the SKT was established by deriving the items from available scientific literature, and by subjecting the instrument to review by a panel of health professionals (Reichelt & Werley, 1975).

The third independent variable, the form of contraceptive counseling, had two nominal values, "conventional"

counseling (scored 0) and "developmental" counseling (scored 1). Conventional counseling is that counseling described by the KPMCP nurse practitioner protocol, and is similar to that taught at the University of California and the California State University at Los Angeles for use by nurse practitioners. Conventional counseling includes four steps, (1) assessment of individual contraceptive risks on the bases of the health history, physical examination, and pap smear, (2) discussion of methods of birth control, (3) prescription for a specific contraceptive, and (4) instructions regarding use of method prescribed. (See Appendix B for copy of the Protocol.)

Developmental contraceptive counseling was formulated by the investigator. The protocol is as follows:

1. Compliment the girl for her maturity and responsibility in seeking birth control information.

2. Emphasize that intercourse is a choice, not a necessity, but that contraception is an essential part of the choice to have intercourse when a pregnancy is not desired. Discussion of the probability that pregnancy will occur if no birth control is used. Personalization of the discussion by encouraging the teenager to say, "if _____ and I have sex, I could get pregnant" and "the problems that could result if I were pregnant right now would be _____, _____, and _____."

3. Discussion of birth control as a sign of promiscuity

or sexual experience, and its effects on spontaneity. The "goodness" of birth control use if sexual activity is to occur will be discussed. Specific ways to bring up the subject of contraception with male partner will be explored.

4. Discussion of the right to access and use of birth control, and personal responsibility for its use.

5. A review of responses to the Sex Knowledge Test, with discussion of erroneous ideas.

6. History, physical examination, pap smear, and assessment of any special individual contraceptive risks are performed, taking time to explain the procedure and its purpose.

7. The risks and benefits of the different methods of contraception are discussed and the girls' ability to make decisions about the most appropriate method of birth control for herself are to be supported.

8. Specific instructions for use of the method chosen are given along with a prescription and information about obtaining a new supply. At least one other "back-up" method is discussed.

9. Follow-up instructions are made specific with instructions regarding coping with any problems that may arise.

It may be noted from the protocol that developmental counseling is similar to conventional counseling with respect

to the four steps of assessment, discussion of birth control methods, prescription of a specific contraceptive, and instructions in use of that method. However, developmental counseling differs from conventional in that it is based on developmental theory and on empirical research into the reasons given by adolescents for failure to use contraceptives. Such reasons include "I didn't think I could get pregnant" (see item 2 of protocol), "It is 'bad' to be prepared for intercourse or to seem experienced" (item 3), "I didn't think I could get birth control without my parents' permission or I didn't know where to get it" (see items 4, 7, and 8), and "I felt put-down by professionals" (see items 1 and 4).

Some specific elements of developmental theory have been incorporated into developmental counseling. First, Schinke's (1979) principle that verbalization may be employed to improve the adolescent's developing ability to foresee results of behavior is reflected in item 2 of the protocol. Second, developmental counseling accepts Piaget's view (1969) of adolescence as a period when the young individual develops ego-strength and sense of personal competence. Chilman (1979) and Cvetkovich, et al. (1975) claim these traits are fundamental to the assumption of sexual responsibility by the adolescent. Developmental counseling promotes growth in these areas by supporting the adolescent's decision to learn about birth control methods (item 1), confirming

her choices in sexual matters (items 2,3,4, and 7), teaching acceptable ways of insisting upon protection from pregnancy (items 2,3,4, and 8) and discussing her personal responsibility for the use of contraception (items 2,4, and 7). Since there may be "gaps" in the adolescent's growing body of knowledge, the counselor discusses any incorrect answers on the SKT (item 5), and explains the physical assessment process (item 6), again promoting the teenager's sense of personal competence. The developmental counseling format has not yet been validated but it was designed in accordance with current thinking and research to be effective with younger adolescents in an area where conventional methods have not proved entirely successful.

Measurement of the Dependent Variable

The two dependent variables were acceptance/nonacceptance of contraceptive counseling, and effective/ineffective use of contraceptives related to the type of counseling used, the timing of the counseling, and the adolescent's knowledge of sex and contraception. The first variable, acceptance/nonacceptance of contraceptive counseling by the adolescent was determined by the adolescent's accepting and keeping a clinic appointment for contraceptive counseling (scored 1). Adolescents who refused or broke the appointment were assigned a score of 0. The second variable, effective/ineffective use of contraception, was determined by a review of the chart. Adolescents who returned to clinic

in 2-3 months for follow-up, who phoned in for prescription refills, or who otherwise were recorded as saying that they took oral contraceptives regularly, had IUD in place, used foam and condom or a diaphragm regularly, or did not have intercourse were considered effective users of contraceptives. Those who did not return or call for prescription refills or who were recorded in the chart as saying that they were sexually active and not using a form of birth control regularly were considered as ineffective users of contraceptives. They received a score of 0, whereas effective users received a score of 1.

Design

The design for testing the first three hypotheses was ex post facto and correlational since the independent variables could not be manipulated. In the first and second hypotheses, the independent variable, timing of the offer, was determined by the subjects' requests for pregnancy tests or routine medical visits. In the third hypothesis, the independent variable was the adolescent's knowledge of sex and contraception before counseling. Both of these independent variables were beyond the control of the investigator. The fourth hypothesis was tested through use of a true experimental design. The method of counseling was manipulated with each subject randomly assigned to developmental or conventional counseling. The temporal aspects of the entire investigation are sketched in detail in Figure 1.

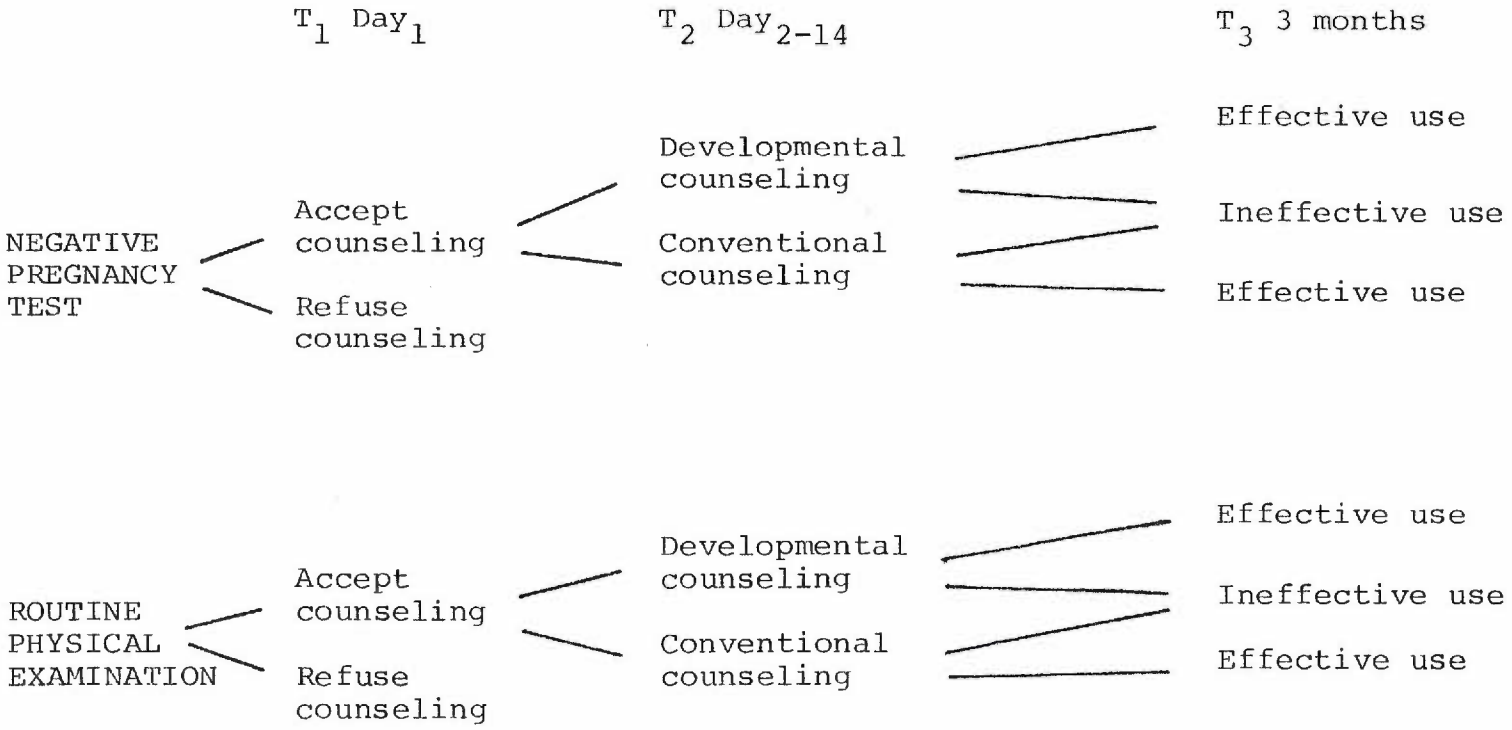

Figure 1. Temporal aspects of design.

Procedure

At the time this research was commenced a clerk in the Kaiser central laboratory each day prepared a list of pregnancy test results and transmitted this list to the nurses who answer the telephones in the gynecological clinics. The telephone nurses then asked the screening questions of each adolescent who had a negative pregnancy test to determine if she met the study criteria. (See screening protocol in Appendix C.) If she did, she was offered a contraceptive counseling appointment. If she refused, a record was kept of this fact. If she accepted, she was given an appointment with a nurse practitioner, randomly selected from among the 6 OB-GYN and 2 pediatric nurse practitioners. The nurse practitioners were randomly assigned to employ a conventional method of contraceptive counseling or the "developmental" method of counseling. Each nurse practitioner reserved one time slot each morning, and one time slot each afternoon for adolescent counseling so that appointments might be made as soon as was convenient for the adolescent.

Each adolescent attending the clinic for a routine medical visit was asked by the clinic nurse to complete a confidential screening questionnaire in the privacy of the examination room (see Appendix D for copy of the questionnaire). The questionnaire was not included in the

chart, but was reviewed by the attending physician. If he determined that she met the study criteria (sexually active and unprotected from pregnancy) he offered her contraceptive counseling by giving her a "TEEN COUNSELING" card with the phone number of the telephone nurses. She was instructed to call that number to request Teen Counseling. The telephone nurse responded by offering an appointment with one of the nurse practitioners. The physician disposed of the questionnaire before leaving the examination room, and made a note of the name and chart number of adolescents offered counseling on a form (see Appendix F). No other information was on the list. The lists of names were collected by the investigator and kept in a locked drawer.

At the time of the appointment the Reichelt Sex Knowledge Test was administered first so that the results might be used in counseling the adolescent. The score was recorded on the form listing the names and chart numbers of all adolescents counseled (see Appendix G). The test sheet was destroyed before the adolescent left the clinic. After a physical examination, counseling was given according to the method assigned to the nurse practitioner. If the adolescent desired a prescription, it was handled in the usual manner. A follow-up visit was scheduled for 2-3 months later. See diagram of the procedure in Appendix E.

Approximately 3 months after the beginning of the study

the charts of all adolescents offered counseling, whether they accepted the offer or not, were reviewed. It was noted whether or not the adolescent had returned for the follow-up visit, and whether or not she reported using the prescribed contraceptives regularly. All other statements in the chart regarding level of sexual activity, pregnancy, and use of contraceptives were likewise recorded.

Analysis of the Data

A variety of methods were used to analyze the four hypotheses. The first hypothesis tested the relationship between the time contraceptive counseling was offered and the adolescent's acceptance or non-acceptance of that counseling. The number of adolescents accepting and the number refusing counseling at the time of a negative pregnancy test were recorded as were the number accepting and the number refusing counseling at the time of a routine medical visit. Chisquare was used to test the significance of the difference in the numbers accepting and refusing at the 2 times. The second hypothesis regarding the relationship between the time of counseling and the effectiveness of contraceptive use was likewise tested by the chisquare technique.

In order to test the relationship between the amount of knowledge of sex and contraception, and effectiveness

of contraceptive use, first the mean scores for those who were effective users of contraceptives and those who were not effective were calculated, then the significance of the difference between the mean scores of the two groups was determined by a t-test. To examine the relationship between the type of counseling, and effective use of contraceptives, again a 2x2 contingency table was constructed, cross-classifying effectiveness of contraceptive use with type of counseling received, conventional vs. developmental. A chisquare was calculated to determine the significance of the difference in distribution of effective vs. ineffective users of contraceptives in the two counseling groups. A contingency coefficient was calculated to estimate the magnitude of the association.

CHAPTER III

RESULTS AND DISCUSSION

Description of the Sample

During the time period November, 1980, through January, 1981, there were 62 girls 13 through 18 years of age who did not want to be pregnant and who received negative pregnancy tests at the KPMCP clinics. During these same three months, 60 girls in the same age bracket, who came to clinic for routine medical visits were identified as sexually active, unprotected by contraceptives, and not wanting to become pregnant. These 122 adolescents constituted the subjects for the present investigation.

In accordance with clinic policy, all 122 adolescents were offered contraceptive counseling. Of these, 80 (65.5%) accepted and received contraceptive counseling. The question then arises: Did those who refused differ significantly from those who accepted? It is possible to answer this question partially with respect to age, and with respect to socioeconomic status. In Table 2 the age distributions of those adolescents accepting and those refusing counseling are presented. It would appear that the two groups are not significantly different in age (chisquare = 4.23, df = 2). A similar finding was obtained by Kantner and Zelnik (1977).

Table 2

Distribution by Age of Adolescent Girls Accepting Contraceptive Counseling and Adolescent Girls Refusing Contraceptive Counseling

Age	Number accepting counseling	Number refusing counseling	Total
13-15	18	12	30
16	25	6	31
17-18	37	24	61
Total	80	42	122

Chisquare = 4.23, df = 2, not significant.

Their 1976 survey revealed that younger adolescents were just as likely as older adolescents to visit a physician or clinic for medically prescribed contraceptives. This represented a change from 1971, when younger adolescents were distinctly less likely to make such visits.

The socioeconomic status of the adolescents may be approximated by noting the clinics attended. Clinic A serves mainly a middle and upper-middle income population. Clinics C, D and E serve a middle and lower-middle income group, and Clinic B serves a low-income, inner-city population. If the clinic attended is accepted as the measure of socioeconomic status, it would appear from Table 3 that there was no difference in socioeconomic status between those accepting and those refusing counseling (Chisquare = .64, not significant).

The records were reviewed 3-4 months after counseling was offered. Among those adolescents not accepting counseling, information regarding contraceptive use was available for about 57%. The records indicate that 5 girls were still sexually active and using no contraceptive method, 14 girls had subsequently (2-4 months later) contacted a previously known physician for contraceptive prescriptions, and 5 had become pregnant within 3 months (see Table 4).

Acceptance of Contraceptive Counseling in Relation to Timing of Offer

The first hypothesis stated that sexually active adoles-

Table 3

Distribution by Clinic of Adolescent Girls Accepting Contraceptive Counseling and Adolescent Girls Refusing Contraceptive Counseling

Clinic	Number accepting counseling	Number refusing counseling	Total
A	13	9	22
C, D & E	53	25	78
B	14	8	22
Total	80	42	122

Chisquare = .64, df = 2, not significant.

Table 4

Outcome for Adolescents Who Refused Contraceptive Counseling

Outcome	Time of a negative pregnancy test	Time of a routine medical visit	Total
Returned to MD for contraception 2-4 months later	9	5	14
Became pregnant	4	1	5
Sexually active but not using contraceptives	3	2	5
Unknown	10	8	18
Total	26	16	42

cents are more likely to accept contraceptive counseling at the time of a negative pregnancy test than at the time of a routine medical visit. This hypothesis was formulated on the view expressed by Lindemann (1974) and Miller (1976) that a "pregnancy scare" is the greatest motivator for teenagers' seeking medically prescribed contraceptives. The result of the test of this hypothesis for this sample of 122 adolescents is presented in Table 5. In that table it may be noted that 36 (58%) of the 64 adolescents offered counseling at the time of a negative pregnancy test accepted counseling, in contrast to 44 (73%) of the 60 adolescents offered counseling at the time of a routine medical examination. Contrary to prediction, it was the girls receiving the negative pregnancy test who were less receptive to counseling. However, the difference between the two groups of adolescents was not statistically significant (Chisquare = 3.21). Clearly, the hypothesis was not supported in this test.

Can this failure to support the hypothesis in the present instance be explained by the confounding influence of extraneous factors? Did the two groups differ systematically in ways, other than timing of offer, which influenced acceptance or rejection of counseling? Past research (Kantner & Zelnik, 1972; Needle, 1977; Chilman, 1979) has indicated that teenagers who are older or of higher socioeconomic status are more likely to accept medically prescribed contraceptives

Table 5

The Relationship of Timing to Acceptance or Refusal of Contraceptive Counseling by Adolescents

Time	Number accepting counseling	Number refusing counseling	Total
Negative pregnancy test	36	26	62
Routine medical visit	44	16	60
Total	80	42	122

Chisquare = 3.21, not significant.

than teenagers who are younger or of lower socioeconomic status. For this sample, the girls in the negative pregnancy test group were significantly older than the girls in the routine medical visit group (mean ages of 16.7 vs. 15.9, $t = 3.58$, $p < .001$). They were also of significantly higher socioeconomic status, as may be seen in Table 6 (Chisquare = 7.8, $p < .01$). Nevertheless, a smaller proportion of the negative pregnancy test group accepted counseling than of the younger, possibly less affluent girls of the routine medical visit group. Clearly, it must be concluded that the timing of an offer for contraceptive counseling does not influence acceptance, and that by this measure the time of a negative pregnancy test is perhaps not a particularly "teachable" moment.

It may be remembered that Lindemann (1974) and Miller (1976) claimed that a "pregnancy scare" was a strong motivator for taking contraceptive action. Whether or not the present finding may be considered a refutation of that proposition depends on the definition of what constitutes a pregnancy scare. Perhaps a negative pregnancy test does not qualify as a pregnancy scare, but rather is a confirmation of infertility which reinforces the previous behavior of unprotected intercourse. Support for this interpretation may be found in the work of Cvetkovich, et al. (1975) and of Evans, et al. (1976). The former reported that many young women subscribed to a "personal fable" that they were sterile

Table 6

Distribution by Clinic of Adolescents Offered Contraceptive Counseling at the Time of a Negative Pregnancy Test and at At the Time of a Routine Medical Visit

Clinic	Time of a negative pregnancy test	Time of a routine medical visit	Total
A	17	5	22
C, D, & G	34	44	78
B	11	11	22
Total	62	60	122

Chisquare = 7.80, $p < .01$; C = .58.

because they did not become pregnant after a few sexual encounters. In their sample, Evans, et al. found that more than 40% of the young women who had received negative pregnancy tests failed to follow through on referrals for contraceptive advice. The authors attributed this failure to the women's tendency to interpret a negative pregnancy test as proof they had no need for contraception.

Timing of Contraceptive Counseling and Effectiveness of Contraceptive Use

It has now been shown that adolescents in this sample were not significantly more receptive to an offer of contraceptive counseling at the time of a negative pregnancy test than at other times. The question then arises: For those adolescents who accepted counseling, did the timing of counseling affect contraceptive success? An answer to this question is provided by the test of Hypothesis 2: Adolescents who are counseled at the time of a negative pregnancy test will become more effective users of contraceptives than adolescents counseled at the time of a routine medical visit. This hypothesis was formulated in accord with Miller's (1976) finding that contraceptive use was greatest when fear of pregnancy was high, and on the further assumption that fear of pregnancy is higher at the time of a negative pregnancy test than it is at the time of a routine medical visit.

In this investigation, 80 adolescents received

counseling. Effective use of contraceptives was measured by the adolescent's statement that she did or did not use an approved method of contraception consistently. Since adolescents are routinely requested to return to clinic 3 months after contraceptive counseling, follow-up information was available from the medical records for 78 of the counseled adolescents approximately 3 months after the initial interview. (One girl had moved away and another had married and was planning a pregnancy.) Table 7 provides a cross-tabulation of data by timing of counseling and effectiveness of contraceptive use. Among the 34 adolescents counseled after receipt of a negative pregnancy test, 27 (79.4%) were judged to be effective at contraception at follow-up. Of the 44 girls counseled after routine medical visits, 34 (77.3%) were effective. These differences were not significant. The second hypothesis was, therefore, not confirmed.

This unanticipated finding was doubly surprising in that the girls in the negative pregnancy test group were about one year older, on the average, than the girls in the other group. On the basis of their older age, they might be expected to be more effective users of contraceptives (Kantner & Zelnik, 1973; Evans, et al., 1976). However, in this sample, age apparently was not a factor influencing success at contraception. Table 8 indicates teenagers from 13 to 15 years of age practiced contraception just as effectively as older teenagers.

What are the implications of these findings for the

Table 7

Effectiveness of Use of Contraceptives by Adolescents By Time of Contraceptive Counseling (N=78)[a]

Time	Effective users	Ineffective users	Total
Negative pregnancy test group	27	7	34[a]
Routine medical visit group	34	10	44
Total	61	17	78

Chisquare = .05, not significant

[a]Follow-up data were not available for one subject. A second subejct married and desired a pregnancy, so no longer met the criteria for inclusion in the study. Both were from the negative pregnancy test group.

Table 8

Effectiveness of Use of Contraceptives

Approximately 3 Months After Counseling;

By Age of Adolescents (N=78)[a]

Age	Effective users	Ineffective users	Total
13-15	14 (78%)	4 (22%)	18
16	18 (75%)	6 (25%)	24
17-18	29 (80%)	7 (20%)	36
Total	61	17	78

Chisquare = .27, not significant

[a]No follow-up data available for 1 adolescent. The second adolescent was married and now desires pregnancy, so no longer meets the study criteria.

proposition that a pregnancy scare is the major motivator for adolescent contraceptive use? Lindemann (1974) and Miller (1976) implied that girls receiving either positive or negative pregnancy test results would subsequently become more effective at contraception than other girls. Evans, et al. (1976) found contrary evidence for that proposition in that adolescents in their sample whose pregnancy scare was confirmed through a positive pregnancy test subsequently practiced contraception more appropriately (67% to 83% were highly effective users) than adolescents whose anxiety was allayed through a negative test (only 20% were highly effective). The results of the present study contradict the pregnancy scare proposition in that girls receiving negative pregnancy test practiced contraception no more, and no less, effectively than girls not experiencing such a pregnancy scare. Both groups appeared to be quite successful, much more so than the negative pregnancy group followed by Evans, et al.

Perhaps differences might emerge after a longer time had transpired since counseling. The three-month follow-up interval is short (the follow-up data used by Evans, et al. were obtained at 6 months) and some evidence exists that with the passage of time adolescents may become less cautious (Furstenberg, 1976). It is also possible that adolescents receiving a positive pregnancy test might be even more effective users of contraceptives than the groups tested here. It is recommended, therefore, for a further

test of the pregnancy scare proposition that future research compare subsequent contraceptive use in adolescents following positive pregnancy tests, negative pregnancy tests, and at other times; that a follow-up period of one year be used, that the adolescent's fear of pregnancy be measured directly, and that the relation between receipt of a negative pregnancy test and a sense of inability to conceive be explored.

In that the first and second hypotheses have not been upheld, it may be concluded that the time of a negative pregnancy test is no more "teachable" a moment for contraceptive counseling than the time of a routine medical visit. The study confirms that counseling provided at either time may result in subsequent effective contraceptive behavior.

Knowledge of Sex and Contraception Related to Effectiveness of Contraceptive Use

Most planning for increasing contraceptive use by teenagers has been aimed at sex education programs that increase information about contraception. Early research regarding adolescent contraceptive use indicated considerable lack of information among adolescents (Sorensen, 1973; Kantner & Zelnik, 1972). More recent studies (Monsour & Stewart, 1973; Miller, 1976; Chilman, 1979; Goldstein, 1980) agree that factual information from sex education courses, publicity about contraception, and awareness of available services do not necessarily insure personal awareness of need for

use of contraceptives. The question remains: Does contraceptive knowledge influence effectiveness of contraceptive use? The answer may be provided by the test of Hypothesis 3: The amount of knowledge about sex and contraception does not necessarily distinguish between adolescents who are and those who are not effective users of contraceptives. The Reichelt Sex and Contraceptive Knowledge Test (SKT) was administered to all adolescents prior to counseling, and their scores (i.e., number of corrrect answers) were used as a measure of their knowledge. The mean score for the 61 adolescents judged to be using contraceptives effectively at follow-up was 30.9, almost identical with the mean score (30.5) obtained by the 17 adolescents judged to be using contraceptives ineffectively (see Table 9). The hypothesis was then, supported. There was no statistically significant difference in initial knowledge between those who became effective and those who became ineffective users of contraception. Similarly, Nadelson (1980) has reported finding that amount of knowledge of contraception was unrelated to previous or subsequent use of contraceptives by adolescents.

The amount of knowledge possessed by this sample varied widely, with a range of scores from 6 to 42. However, the mean score of 30 indicated a moderate amount of information, in that the maximum possible score was 42. This sample scored considerably higher than the sample tested by Reichelt and Werley (1975), with a mean score of 18.5. Perhaps the difference

Table 9

Mean Scores on Reichelt Sex and Contraceptive Knowledge Test of Adolescents Rated as Effective and Ineffective Users of Contraceptives; by Time of Contraceptive Counseling (N=78)

Time of Counseling	Effective Users Mean Score	SD	(N)	Ineffective Users Mean Score	SD	(N)	Total Mean Score	SD	(N)
Negative pregnancy test	32.74	3.97	(27)	31.14	7.17	(7)	32.41	4.71	(36)
Routine medical visit	29.44	7.57	(34)	30.0	7.07	(10)	29.57	7.38	(44)
Total	30.90	6.41	(61)	30.47	6.91	(17)	30.81	6.48	(78)[a]

[a]Data were missing for 2 subjects regarding effectiveness of contraceptive use.

reflects a trend over the decade toward better or more sex education classes in the schools and wider dissemination of contraceptive material through the mass media. Despite the fair amount of knowledge implied by their scores, the adolescents themselves believed they did not have adequate information. Most of the teenagers responded "true" to the first item of the SKT, which states "I would like to know more about contraception." Kantner and Zelnik (1972) also remarked that their adolescent subjects claimed not to have enough information about contraception.

There are some other findings of interest. First, the negative pregnancy test group did not achieve a significantly higher score on the test than did the routine visit group (32.4 vs. 29.6 points, t= 1.84, df = 78, not significant) even though they were older and from higher socioeconomic backgrounds. Second, inspection of Table 10 reveals that the younger girls were less knowledgeable than the older girls. When the sample is divided into two groups, the 13-16 year olds and the 17-18 year olds, the difference in mean scores is significant (t = 2.73). Third, the nurse practitioners report that all of the adolescents in the study said they had been sexually active for a period of 6 months to 3 years and had not used effective methods of contraception. This would imply that knowledge alone was not a key factor in use of contraceptives for these girls. Most indicated that they had had some "sex education" at school but that they

Table 10

Mean Scores of Adolescents on Reichelt Sex and Contraceptive Knowledge Test; by Age and by Time of Counseling Offer (N=80)

	Negative Pregnancy Test			Routine Medical Visit			Total		
Age	Mean	SD	(N)	Mean	SD	(N)	Mean	SD	(N)
13-15	30.0	5.88	(8)	28.0	7.16	(10)	28.89	6.52	(18)
16	31.5	5.99	(6)	28.3	8.33	(19)	29.1	7.84	(25)
17-18	33.1	4.44	(22)	32.2	5.83	(15)	32.8	5.00	(37)
Total	32.2	5.06	(36)	29.6	7.38	(44)	30.7	6.54	(80)

were more likely to have discussed sexual matters with a girlfriend or a boyfriend. The questions most frequently answered correctly were those concerning use of oral contraceptives, considered to be the most effective method of contraception. The group of questions most frequently incorrectly answered or marked "don't know" were those about foam, condom, and the "natural" methods (rhythm and withdrawal), which were the only methods ever used previously by this group of teenagers.

Type of Counseling and Effectiveness of Contraceptive Use

The fourth hypothesis stated that adolescents counseled by a "developmental" method are more effective users of contraceptives than are adolescents counseled by a conventional method. In order to test this hypothesis, adolescents were randomly assigned to the nurse practitioners, half of whom employed a conventional method and half a developmental method of counseling. Of the 80 adolescents, 34 received conventional counseling and 46 developmental (see Table 11).

As indicated by Table 12, 21 (64%) of the 33 conventionally counseled girls were rated as practicing contraception effectively as compared to 40 (89%) of the 45 adolescents counseled developmentally. Those counseled by the developmental method were significantly more effective users of contraceptives than those counseled by the conventional method. The hypothesis was supported.

The developmental method of counseling has not been

Table 11

Distribution of the Two Groups of Adolescents, Negative Pregnancy Group and Routine Medical Visit Group, Counseled by the Two Methods of Contraceptive Counseling, Developmental and Conventional

Method	Negative pregnancy group	Routine medical visit group	Total
Developmental counseling	18	28	46
Conventional counseling	18	16	34
Total	36	44	80

Table 12

Relation of Method of Counseling, Developmental or Conventional, to Effective of Ineffective Use of Contraceptives (N=78)

Method	Effective use of Contraceptives	Ineffective use of Contraceptives	Total
Developmental	40	5	45
Conventional	21	12	33
Total	61	17	78

Chisquare = 7.099, df = 1, $p < .01$.

used in previous research as it was developed specifically for this investigation, incorporating principles cited in the literature as influencing effective use of contraception. For example, Needle (1977) distinguished between an informational and educational approach, the former characterized by presenting information alone, and the latter actively involving the recipient in the learning process, integrating new knowledge into her preexisting knowledge, attitudes, experience, and perceptions, and expressing it in behavior. Needle recommended the educational approach for teaching young adolescents to avoid untimely pregnancy. Reichelt and Werley (1975) also demonstrated that an educational approach using an informal rap session to discuss psychosocial concerns among sexually active adolescents prior to contraceptive prescription improved knowledge of contraceptives. In still another study, Cvetkovich, et al. (1975) suggested that failure of sex education to address the personal aspects of sex knowledge may account for the failure to find a difference in amount of knowledge between contraceptors and young women who have unplanned pregnancies. The results of the present study would tend to support the views advanced by these authors.

The method of contraception chosen by the large majority of adolescents was the pill which is medically considered to be the most effective method of contracption for adolescents. (See Table 13 for details.) A similar trend away

Table 13

Type of Contraceptive Chosen At the Two Different Times and With the Two Different Methods of Counseling (N=80)

Type	Negative pregnancy group	Routine medical group	Developmental counseling	Conventional counseling
Pill	32 (88%)	39 (89%)	39 (85%)	32 (94%)
IUD	0	1 (2.3%)	0	1 (2.3%)
Diaphragm	0	1 (2.3%)	1 (2.3%)	0
Foam & condom	1 (2.3%)	2 (4.5%)	2 (4.5%)	1 (2.3%)
Abstinence	3 (8.3%)	1 (2.3%)	4 (9%)	0

from foam and condom to use of pills was noted by Zelnik and Kantner (1977) when they compared a 1971 survey with a 1976 survey to find that with the advent of Planned Parenthood clinics (increased accessibility to professional prescriptions) fewer girls were using the "drugstore" methods. That trend was more pronounced in this 1981 study. As in Miller's (1980) sample a few girls (4) expressed some regret about their sexual activity and seemed relieved to be offered some techniques for delaying a relationship they were dissatisfied with. These were the girls who decided on abstinence.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In recent years, the unplanned pregnancy rate in the United States has decreased for women over 18 years of age, but not for younger adolescents. For the latter, the pregnancy rate has continued to rise despite the increased effectiveness and availability of contraceptives. This trend has been a matter of deep concern for parents, health care providers, and society-at-large. Sex education in the school has been proposed as one remedy. Although such education has improved adolescents' knowledge about contraception, it has not correspondingly improved their practice of contraception. A review of the theories of adolescent development provides some cues as to the reasons that girls may have difficulty in requesting contraceptives and using them consistently. It is suggested that health care providers consider these developmental cues in planning special contraceptive programs for sexually active adolescents. It is suggested also that such programs be evaluated on an ongoing basis and their effectiveness critically appraised.

The purpose of this study was to determine the impacts of a "teachable" moment, sexual and contraceptive knowledge, and a developmental method of counseling on the acceptability

of contraceptive counseling to adolescents, and on the effectiveness of contraceptive use. Specifically, four hypotheses were tested. First, sexually active adolescents are more likely to accept contraceptive counseling at the time of a negative pregnancy test than at the time of a routine medical visit. Second, adolescents who are counseled at the time of a negative pregnancy test will become more effective users of contraceptives than adolescents counseled at other times. Third, the amount of knowledge about sex and contraception does not necessarily distinguish between adolescents who are and those who are not effective users of contraceptives. Fourth, adolescents counseled by a "developmental" method are more effective users of contraceptives than are adolescents counseled by a conventional method.

The first two hypotheses were based on the proposition that a pregnancy scare promotes willingness to seek effective prescription methods of contraception, and to use such contraceptives consistently. The time of a negative pregnancy test was selected to represent such a pregnancy scare. Neither of the two hypotheses was supported. The percentage of adolescents who accepted the offer of counseling following receipt of a negative pregnancy test (58%) did not differ significantly from the percentage accepting the offer following a routine medical visit (73%). In addition, adolescents counseled at the time of a routine visit were subsequently

just as effective at contraception as adolescents counseled at the time of a negative pregnancy test. A high proportion of each group was found to be using contraceptives correctly at follow-up. It appears that adolescents generally are receptive to counseling when appointments are scheduled conveniently and promptly, and when privacy is ensured.

The third hypothesis was supported by the data of this study. Effective and ineffective users of contraceptives received almost identical mean scores on the Reichelt Sex and Contraceptive Knowledge Test. Their scores indicated sufficient lack of information or misinformation to justify inclusion of such educational materials into counseling sessions. The fourth hypothesis was also supported. It had been formulated on the belief that learning is enhanced when mode of instruction is attuned to the stage of development of the learner. In this study population, a significantly greater percentage of the adolescents counseled by the developmental method reported effective use of contraceptives at follow-up, than of the adolescents counseled by the conventional method. This finding underlines the importance of teaching adolescents not as adults are taught, but by a method using principles derived from research on adolescents. Programs aimed at reducing the adolescent pregnancy rate should be grounded in a developmental perspective.

The following conclusions may be drawn from the findings of this study. First, while many adolescents accept contraceptive counseling at the time of a negative pregnancy test, it does not appear to be a more teachable moment than the time of a routine medical visit. Second, adolescents counseled at the time of a negative pregnancy test often become effective users of contraceptives, but they are not more likely to do so than adolescents counseled during a routine medical visit. Both times are equally favorable. Therefore, contraceptive counseling should be offered to all adolescent females identified as sexually active. Third, cognitive information is an important factor in the successful practice of contraception, but it is not sufficient in and of itself. Hence, providing a sex education class to high school students is unlikely to solve the adolescent pregnancy problem. Fourth, considerable misinformation and lack of information still prevail among adolescents regarding sex and contraception, indicating a need for continuing efforts at education. Finally, although conventional methods of counseling may lead to effective contraceptive use by younger adolescents, a method of counseling which is appropriate to their stage of development may be even more successful with that population.

The tentative nature of these conclusions must be recognized in view of limitations in method of the present research. Circumstances precluded the inclusion of a control

group of sexually active adolescents who were not offered counseling. Circumstances also prevented followup on adolescents who refused counseling. Additionally, time constraints dictated the use of a short followup interval of 3 to 4 months. Confidence in the results of this investigation would have been greater had it been possible to compare directly the effectiveness of contraceptive practice of sexually active adolescents receiving counseling with those refusing counseling, and with those not offered counseling. Confidence in the results would also have been greater had a followup period of one year or more been employed. Future investigators would do well to design their studies with these considerations in mind.

In ending, the following suggestions are offered for future research. The difference in the psychological meaning to an adolescent between receipt of a positive and a negative pregnancy test should be examined, together with the implications of such a difference in meaning for the adolescent's subsequent use of contraceptives. A repertoire of alternative methods of contraceptive counseling should be made available and systematically evaluated for their fit with the needs of adolescents with different personalities and different backgrounds. Sex education courses in the schools based on developmental principles might be devised and compared for effectiveness with more traditional courses. Finally, broad educational programs for the public

might be planned, implemented and evaluated, by which parents would be instructed in the principles of adolescent growth and development so as to enable them better to understand and assist their adolescent children in coping with the problem of their sexuality. With such a multi-pronged approach, it might be possible to reverse current trends and decrease substantially the number of unwanted pregnancies among our youth.

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APPENDICES

APPENDIX A

SEX KNOWLEDGE TEST

(Reichelt and Werley, 1975)

SEX KNOWLEDGE TEST

The purpose of this questionnaire is to evaluate your knowledge of contraception. Your answers will help the nurse practitioner to know in what areas you need more information and to avoid going over areas you already understand.

THIS FORM IS CONFIDENTIAL AND VOLUNTARY

This form is confidential:

- It will not become part of your medical record or chart.
- The nurse practitioner may refer to this form during this visit--but only during this visit.
- Before you leave today you may tear up this form and throw it away. Only your score will be recorded.
- Research reports based on this form will only refer to groups of respondents, and not to individuals.

Your completion of this form is voluntary:

- You may refuse to answer any or all of the questions.
- Your participation or non-participation will not affect in any way your eligibility or relationship to the medical care program.
- If you choose to not complete this form, please read its contents anyway, and give the blank form to the nurse.

Have you ever had serious conversations about sex, birth control, pregnancy, or human sexuality with: (Check Yes or No for EACH part of the question.)

	Yes	No
your parents?	_____	_____
a teacher or school counselor?	_____	_____
a minister or priest?	_____	_____
a doctor?	_____	_____
a nurse?	_____	_____
a male friend?	_____	_____
a female friend?	_____	_____

Other? (write in)_____

What is the MAIN source of your information about sex, birth control, pregnancy, or human sexuality? (Check only ONE answer.)

_____friends
_____books, magazines, newspapers, movies, etc.
_____parents
_____teachers or school counselors
_____other (write in)_____

The following are all statements concerning human sexuality. For EACH statement answer True, or False, or Don't Know by circling the T or F or DK in front of the statement.

T F DK I don't know as much as I would like to know about birth control.

T F DK Rhythm is a highly effective method of birth control.

T F DK A girl can get pregnant the first time she has intercourse (makes love)

T F DK Douching after intercourse is a highly effective birth control method.

T F DK Sperm can live in the female's reproductive system for about 72 hours (3 days)

T F DK If a woman does not have an orgasm (climax) during intercourse, she won't get pregnant.

T F DK Withdrawal (pulling out) is a highly effective method of birth control.

T F DK The "natural" methods don't work.

Venereal Disease (VD)

T F DK Many cases of VD are caught by contact with toilet seats, drinking fountains, and swimming pools.

T F DK If the symptoms of VD disappear by themselves, no treatment is needed.

T F DK Once you've had VD, you can't get it again.

T F DK VD is not really dangerous to your health.

T F DK Minors can be treated for VD in Oregon without permission from their parents.

Menstruation (Monthly period)

T F DK Menstruation is a clearing of the uterus to prepare again for possible pregnancy.

T F DK A woman's fertile time (when she is most likely to become pregnant) usually covers the middle of the interval between her menstrual periods.

The Birth Control Pill

T F DK The pill must be stopped every year for three months.

T F DK The pill is generally dangerous to use.

T F DK The pill may be taken along with other medications without decreasing its effectiveness.

T F DK The pill may not be taken if the woman has a history of certain illnesses.

T F DK The pill is the most effective method of birth control.

The Diaphragm

T F DK The diaphragm must be worn at all times.

T F DK A diaphragm should be used only after having been fitted for it by a doctor or nurse practitioner.

T F DK The effectiveness of the diaphragm is increased when used with a cream or jelly.

The condom (rubber)

T F DK Using a rubber can help prevent the spread of venereal disease.

T F DK A rubber should be tested before use.

T F DK Rubbers break easily.

T F DK The rubber should be held around the base of the man's penis when withdrawn.

The IUD (intrauterine device, such as the loop or coil)

T F DK The IUD is inserted before each act of intercourse (making love).

T F DK The IUD cannot be felt by the man or woman during intercourse.

T F DK The IUD is the second most effective method of birth control.

T F DK The IUD usually works best if the uterus (womb) has been stretched by a previous pregnancy.

Foams, Creams, & Jellies

T F DK They should be inserted just before each intercouse.

T F DK They work by killing sperm.

T F DK They can be bought without a prescription in any drug store.

T F DK When used with a rubber, they are an effective birth control method.

T F DK They should be washed out with a douche after intercourse.

Abortion

T F DK An abortion can be done safely and easily by a doctor during the first 12 weeks of pregnancy.

T F DK Anyone can tell if a girl has had an abortion.

APPENDIX B

KAISER-PERMANENTE PROTOCOL FOR CONVENTIONAL CONTRACEPTIVE COUNSELING

Initial Start or Annual Exam	Oral Contraceptive Refill
SUBJECTIVE:	
Must include: 1. LNMP and PMP. 2. Medical history update and age. 3. Assessment of problems with BCPs. 4. Histroy of: a. Abdominal pain. b. Chest pain, shortness of breath. c. Headaches. d. Eye problems, blurred vision. e. Severe leg pains. f. Smoking. g. Strong family history of MI or CVA under age 40. h. Strong family history of thrombo. i. Diabetes (early onset within immediate family).	Must include: 1. LNMP and PMP. 2. Medical history update and age. 3. Assessment of problems with BCPs. 4. History of: a. Abdominal pain. b. Chest pain, shortness of breath. c. Headaches. d. Eye problems, blurred vision. e. Severe leg pains. f. Smoking. g. Strong family history of MI or CVA under age 40. h. Strong family history of thrombo i. Diabetes (early onset within immediate family). 5. History of BTB or amenorrhea; refer to appropriate protocal.
OBJECTIVE:	
Must include: 1. Routine exam. 2. Normal BP; evaluate if 140/90 mmHg or greater. Laboratory 1. Routine Lab. 2. Fasting triglycerides for family history or parents with CVA under age 40.	Must include: 1. Normal BP; evaluate if 140/90mmHg or greater. 2. Abdominal examination for gross enlargement of liver.

3. Blood sugar for strong immediate family history of early onset diabetes.

ASSESSMENT

Diagnosis

Annual exam.

Oral Contraceptive Refill-Generally 1/50 mcg or less.

PLAN

1. Give BCPs according to schedule.
2. RTC for refill per schedule or p.r.n. for problems.
3. Patient signs consent form.

1. Give BCPs according to schedule.
2. RTC for refill or p.r.n. for problems.
3. Evaluate change in headache pattern or problems with blurred vision.

Patient Education

1. Reinforce BCP education.

1. Reinforce BCP education.

Refer to M.D.

1. Abdominal pain.
2. Chest pain, shortness of breath.
3. Severe leg pain.
4. Abnormal blood sugar or triglyceride.

1. Abdominal pain.
2. Chest pain, shortness of breath.
3. Severe leg pain.

PATIENT EDUCATION

1. Reinforce IUD education. 2. Stress checking for IUD string.	1. Stess checking for IUD string.

REFER TO M.D.

Abnormal pelvic exam or history of severe bleeding or pain.	Abnormal pelvic exam or history of severe bleeding or pain.

CONTRACEPTIVE EXAMS - IUD

Annual Exam	IUD Check
SUBJECTIVE	
Must include: 1. LNMP and PMP. 2. Medical history update. 3. Assessment of problems with IUD. 4. Negative history of: a. Abdominal pains. b. Abnormal bleeding. c. Fever and chills. d. Abnormal discharge.	Must include: 1. LNMP. 2. Assessment of problems with IUD. 3. Negative history of: a. Abdominal pains. b. Abnormal bleeding. c. Fever and chills. d. Abnormal discharge.
OBJECTIVE	
Routine physical exam with other systems as indicated.	Must include: 1. Negative pelvic exam. 2. Notation of string length.
Laboratory	
Routine Lab (See Procedure Manual: Laboratory Section).	
ASSESSMENT	
IUD Annual Exam.	IUD check.
PLAN	
1. Note and record length and type of IUD string(s). 2. Assess bleeding pattern. 3. RTC annually or p.r.n. for problems.	1. Note problems. 2. Refer to IUD Missing String protocol if IUD string not visible. 3. RTC for annual.

CONTRACEPTIVE EXAMS - DIAPHRAGM

Annual Exam	Diaphragm Fitting	Diaphragm Check (1yr. or prn)
SUBJECTIVE		
Must include: 1. LNMP and PMP. 2. Medical history update. 3. Negative history of allergy/irritation to rubber, mercury, cream/jelly.	Must include: 1. LNMP and PMP. 2. Medical history update.	Must include: 1. LNMP and PMP. 2. History of problems: a. Uncomfortable when diaphragm in place. b. Client not using diaphragm.
OBJECTIVE		
Routine physical exam with other systems as indicated.	Pelvic exam.	Pelvic exam.
Laboratory		
Routine (See Procedure Manual: Laboratory Section.)		
ASSESSMENT		
Diagnosis		
Annual Exam.	Diaphragm fitting.	Diaphragm check.

PLAN

1. Check client's present diaphragm for "wear," fit and correct usage. 2. RTC every year for annual exam or p.r.n. for problems with diaphragm (not in place).	1. Fit diaphragm. 2. Have Client demonstrate ability to properly insert and remove diaphragm. 3. RTC every year for annual exam or p.r.n. for problems with diaphragm (not in place).	1. Check diaphragm for correct fit and usage. 2. RTC every year for annual exam or p.r.n. for problems with diaphragm (not in place).

Patient Education

1. Reinforce diaphragm education 2. Check for and counsel on possible black discoloration of diaphragm due to mercury in contraceptive cream/jelly.	1. Reinforce diaphragm education. 2. Check for and counsel on possible black discoloration of diaphragm due to mercury in contraceptive cream/jelly. 3. Provide with Informed Consent handout (The Diaphragm).	1. Reinforce diaphragm education. 2. Check for and counsel on possible black discoloration of diaphragm due to mercury in contraceptive cream/jelly.

APPENDIX C

SCREENING PROTOCOL FOR USE BY

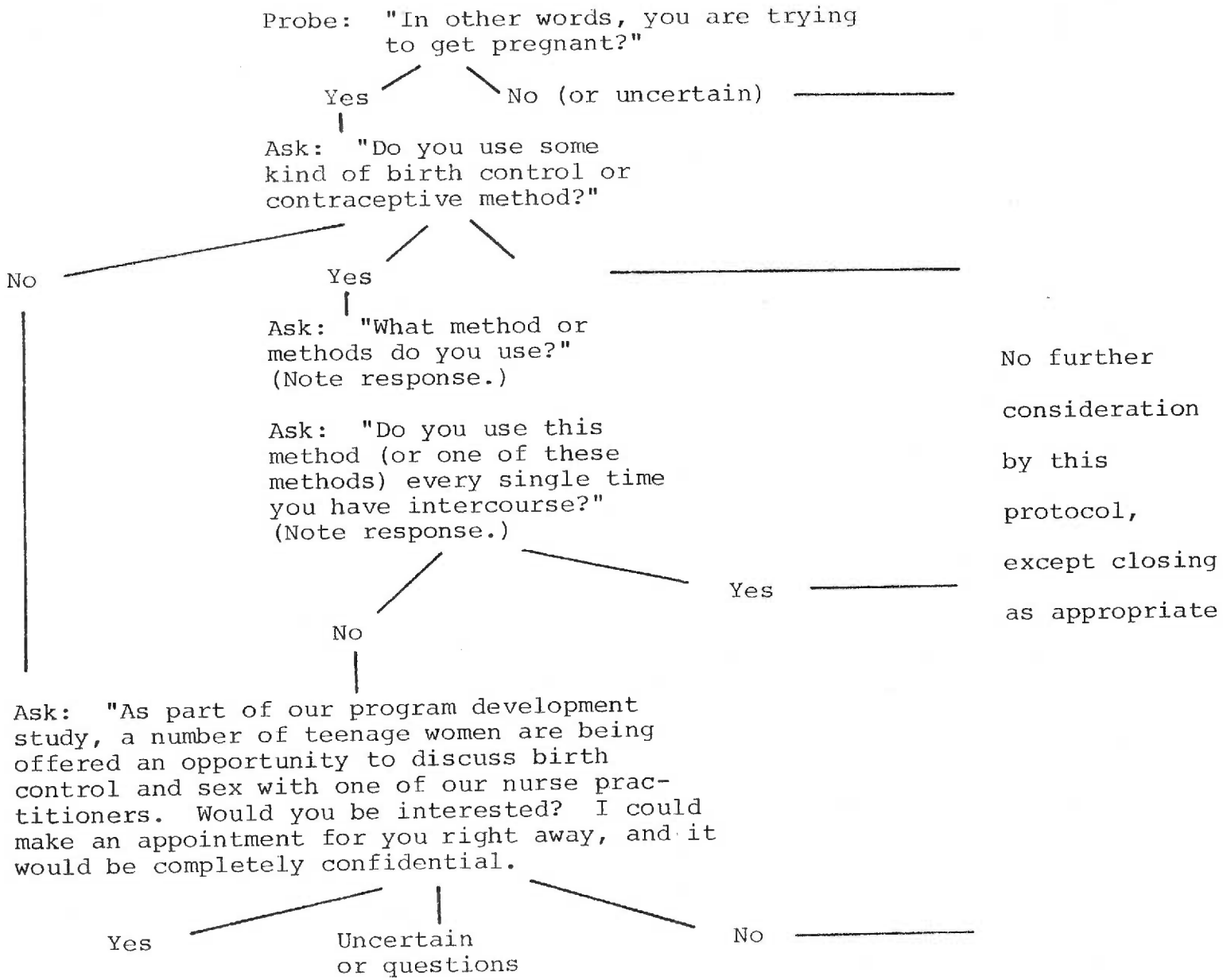
TELEPHONE ADVICE NURSE

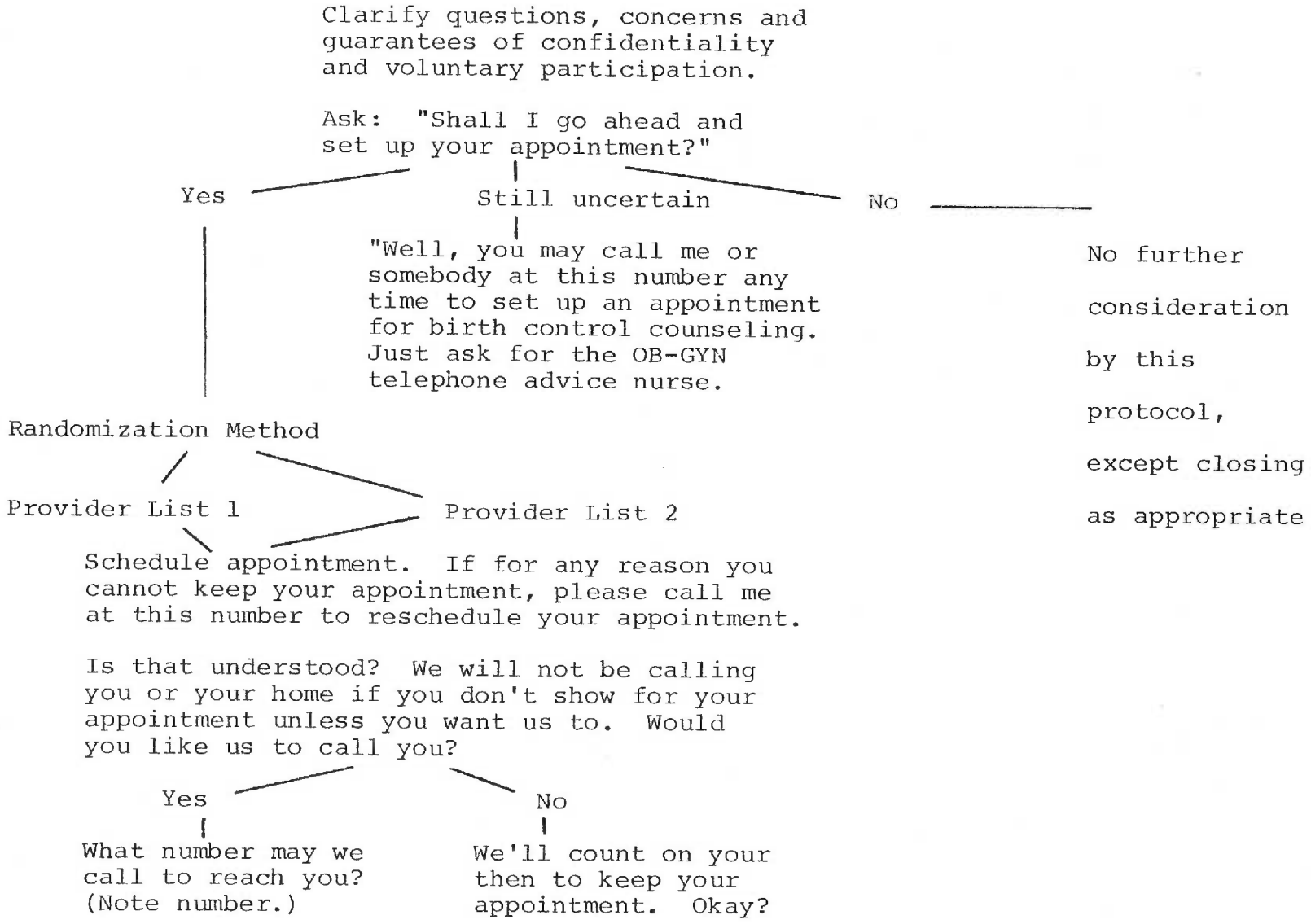
WITH NEGATIVE PREGNANCY TEST GROUP

Screening and Assignment Protocol
for Use by Telephone Advice Nurses who Provide Patients
with their Pregnancy Test Results*

Does name on pregnancy test list have an asterisk?
(Indicate age: 13 age 18)

- Yes
  - Is the test negative
    - Yes
      - Patient requests result of test?
        - Yes
          - Provide test result. Then say: "The medical care program is conducting a study to determine the effectiveness of offering some new types of birth control counseling to teenage women. As part of this program, I would like to ask you a few confidential questions. You are free to refuse to answer any or all of the questions. Is that OK? May I ask you a few questions?
            - Yes
              - Ask: "Please tell me your age."
                - 13 age 18
                  - Ask: "Are you happy to find that you are not pregnant?"
                    - Yes (or uncertain)
                    - No ——— No further consideration by this protocol, except closing as appropriate.
                - Age 19 ———
            - No ———
        - No ———
    - No ———
- No ———


Probe: "In other words, you are trying to get pregnant?"
Yes
No (or uncertain)
Ask: "Do you use some kind of birth control or contraceptive method?"
No
Yes
Ask: "What method or methods do you use?" (Note response.)
Ask: "Do you use this method (or one of these methods) every single time you have intercourse?" (Note response.)
Yes
No further consideration by this protocol, except closing as appropriate
No
Ask: "As part of our program development study, a number of teenage women are being offered an opportunity to discuss birth control and sex with one of our nurse practitioners. Would you be interested? I could make an appointment for you right away, and it would be completely confidential.
Yes
Uncertain or questions
No


Clarify questions, concerns and guarantees of confidentiality and voluntary participation.
Ask: "Shall I go ahead and set up your appointment?"
Yes
Still uncertain
No
"Well, you may call me or somebody at this number any time to set up an appointment for birth control counseling. Just ask for the OB-GYN telephone advice nurse.
No further consideration by this protocol, except closing as appropriate
Randomization Method
Provider List 1
Provider List 2
Schedule appointment. If for any reason you cannot keep your appointment, please call me at this number to reschedule your appointment.
Is that understood? We will not be calling you or your home if you don't show for your appointment unless you want us to. Would you like us to call you?
Yes
No
What number may we call to reach you? (Note number.)
We'll count on your then to keep your appointment. Okay?

APPENDIX D

SCREENING QUESTIONNAIRE TO IDENTIFY SEXUALLY ACTIVE ADOLESCENTS AT A ROUTINE MEDICAL VISIT

THIS PAGE IS CONFIDENTIAL AND WILL NOT BECOME PART OF YOUR CHART

It will be seen only by your doctor and you may throw it away after your visit.

It is voluntary and while we will appreciate it if you do fill it out, you may refuse without jeopardizing your health care.

1) Have you ever had a sex education class? Yes No
2) Who would you be most likely to discuss sex or contraception with? Mother Father Sister Boyfriend Girlfriend Doctor Nurse
3) Have you ever had sexual relations (intercourse)? Yes No
4) Have you ever used a method of birth control? Yes No
   What kind? Pills IUD Diaphragm Foam Condom (rubber)
5) How frequently do you use birth control?
   Every time I have sex Almost every time Most of the time
   Sometimes Never
6) Are you interested in learning more about birth control?
   Yes No

APPENDIX E

CONTRACEPTIVE COUNSELING PROCEDURES

1 - For Negative Pregnancy Test Group

2 - For Routine Medical Visit Group

DIAGRAM OF THE PROCEDURE 1

To be followed for each adolescent entering the system by submitting a pregnancy test

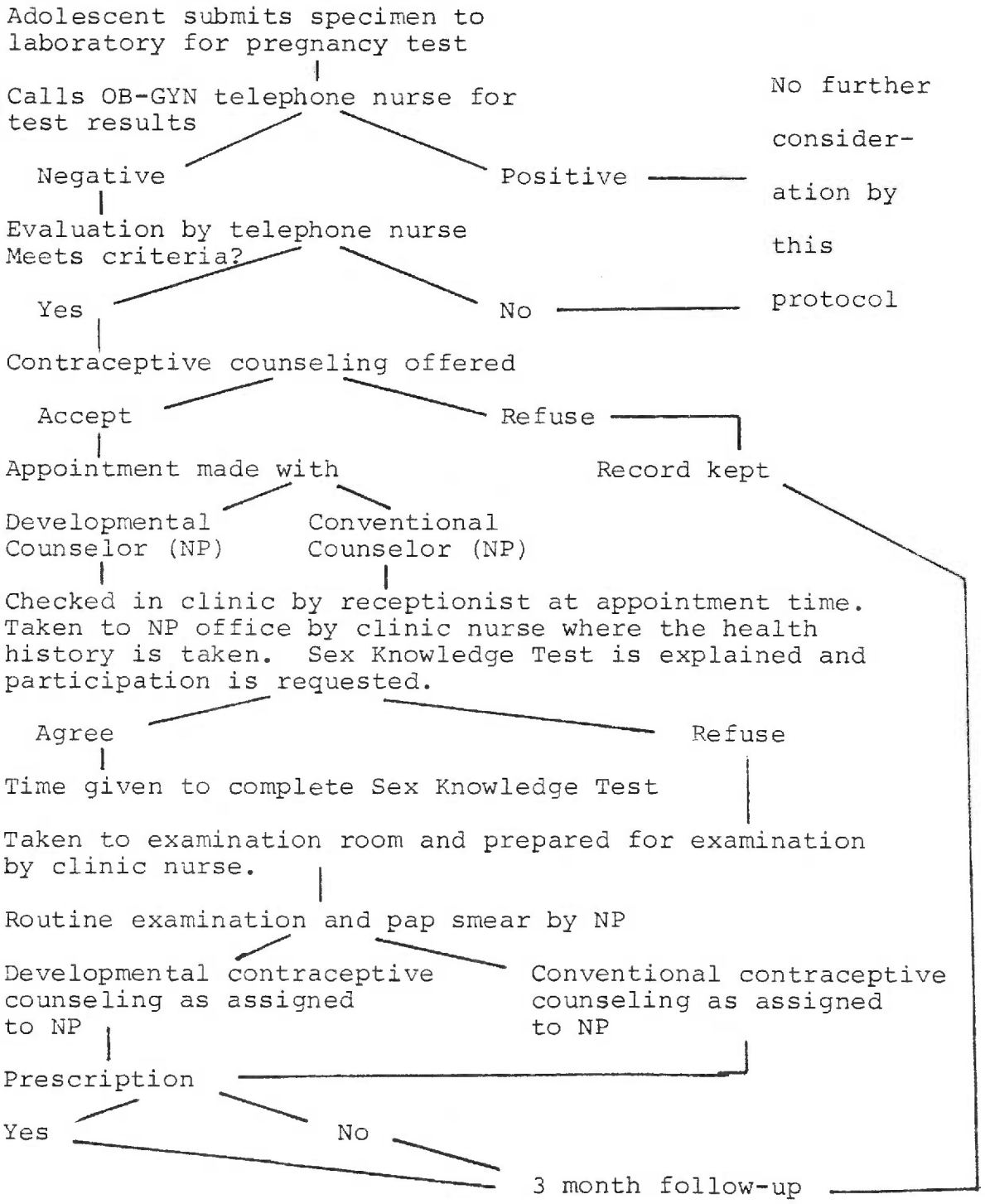
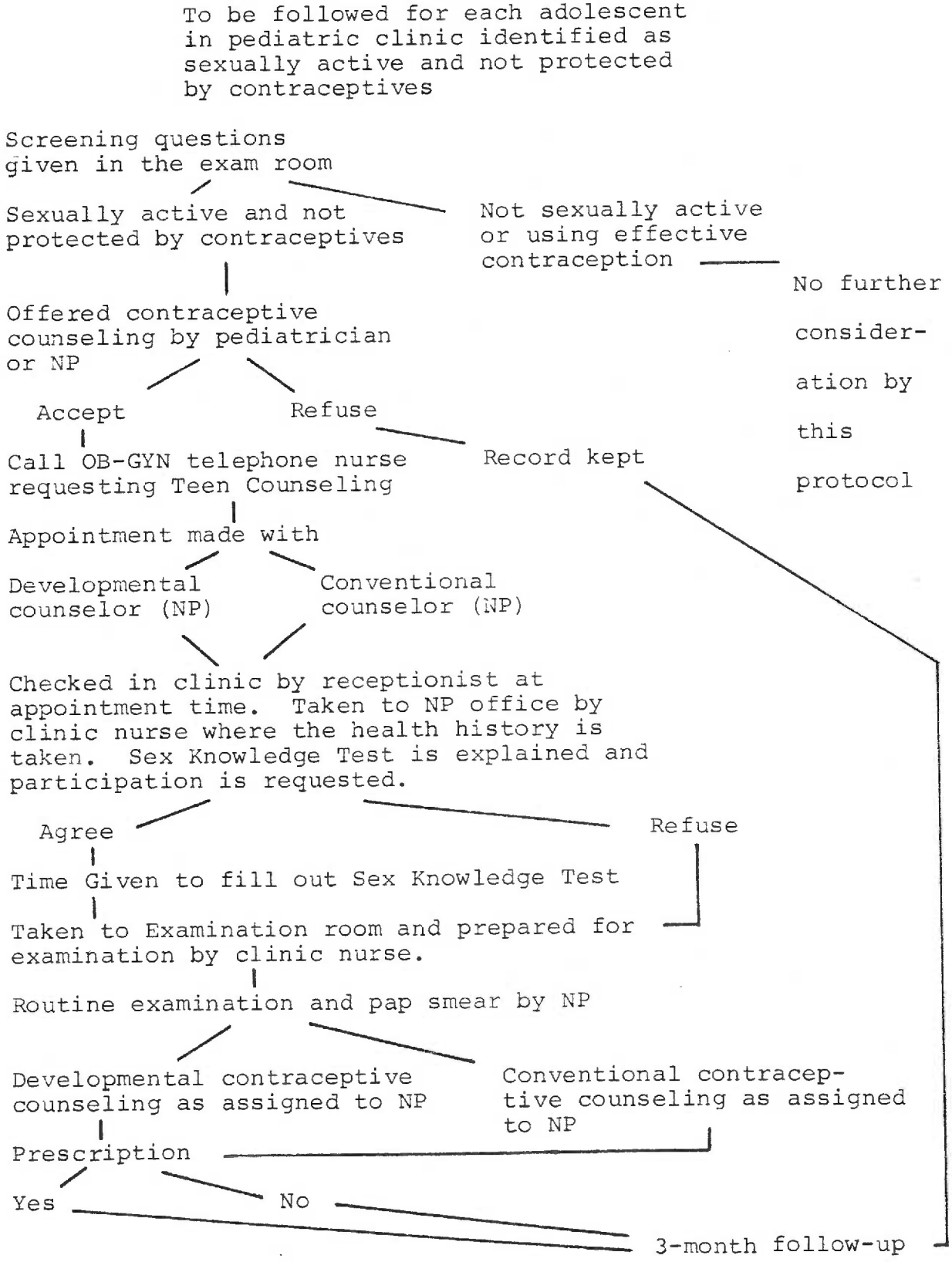


DIAGRAM OF THE PROCEDURE 2



APPENDIX F

PEDIATRICIAN FORMS

1 - Letter regarding administration of screening questionnaire

2 - List for adolescents offered teen counseling

TO PEDIATRICIAN:

Please give the screening questionnaire to females who are over age 13 years in the privacy of the exam room. If they say that they are sexually active and not using effective contraception, explain that contraceptive counseling is available by calling the number on the card and asking for "TEEN COUNSELING." Then tear up the questionnaire and throw it away. Jot down the name and chart number of adolescents identified as sexually active and unprotected, whether you do or do not offer counseling, so they can be included in the follow-up. Use your own good judgment as to appropriateness of referral. I will collect the list of names every week until we have enough for a credible evaluation.

If you have questions, please call me at 653-4507.

Thank you

Shirley Marcy

LIST TO BE KEPT BY PEDIATRICIAN

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

NAME_____CHART NO_____

Offered counseling? Yes No

APPENDIX G

DATA COLLECTION FORMS

1 - Telephone Nurse Appointment List

2 - SKT Score Record

LIST FOR USE IN RANDOMIZING COUNSELING APPOINTMENTS

TO BE COMPLETED BY PHONE NURSE AND RETURNED TO S. MARCY WHCNP AT SS.

1) (name and chart number)_____

Appointment accepted? Yes No

Appointment with_____Date_____

2)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

3)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

4)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

5)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

6)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

7)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

8)Name_____Chart no_____

Appointment accepted? Yes No

Appointment with_____Date_____

LIST TO BE KEPT BY NURSE PRACTITIONER

NAME_____CHT. NO_____

SKT SCORE_____WRONG_____DK UCG PEDS OTHER DATE_____

NAME_____CHT. NO_____

SKT SCORE_____WRONG_____DK UCG PEDS OTHER DATE_____

NAME_____CHT. NO_____

SKT SCORE_____WRONG_____DK UCG PEDS OTHER DATE_____

NAME_____CHT. NO_____

SKT SCORE_____WRONG_____DK UCG PEDS OTHER DATE_____

NAME_____CHT. NO_____

SKT SCORE_____WRONG_____DK UCG PEDS OTHER DATE_____

AN ABSTRACT OF THE THESIS OF

SHIRLEY MARCY

For the MASTER OF NURSING

Date of Receiving this Degree: June 12, 1981

Title: THE METHOD AND TIMING OF CONTRACEPTIVE COUNSELING RELATED TO EFFECTIVENESS OF CONTRACEPTIVE USE AMONG ADOLESCENT FEMALES

Approved: [redacted]
Julia S. Brown, M.D., Professor, Thesis Advisor

The purpose of this research was to explore the effect of timing of an offer of contraceptive counseling, method of counseling used, and knowledge of contraception on the effectiveness of the practice of contraception of sexually active adolescents. Subjects for this study were 122 females, 13 through 18 years of age, using the Kaiser Permanente Medical Care Plan clinics during the period, November, 1980 through January, 1981. None of these girls was married and none desired to become pregnant. Of the 122, 60 were contacted during a regular medical visit and 62 were contacted following receipt of a negative pregnancy test. All were offered contraceptive counseling.

The following hypotheses were tested. First, sexually active adolescents are more likely to accept an offer of

contraceptive counseling at the time of a negative pregnancy test than at the time of a routine medical visit. Second, adolescents who are counseled at the time of a negative pregnancy test will become more effective users of contraceptives than adolescents counseled at other times. Contraceptive use was considered effective if the girl reported consistent use of an approved method of contraception, 3 months after counseling. Third, amount of knowledge about sex and contraception does not necessarily distinguish between adolescents who are and those who are not effective users of contraception. This hypothesis was tested by comparing the mean scores of the two groups of adolescents on the Reichelt Sex and Contraceptive Knowledge Test. The fourth hypothesis stated that adolescents counseled by a "developmental" method are more effective users of contraceptives than are adolescents counseled by a conventional method. To test this hypothesis, a true experimental design was used, with random assignment of adolescents to the two counseling methods.

The first two hypotheses were not supported, the last two were confirmed by the data. With respect to the first hypothesis, it was found that 36 (58%) of the 62 girls receiving a negative pregnancy test and 44 (73%) of the 60 girls offered counseling at the routine medical visit accepted the counseling offer. The difference was not statistically significant. The second hypothesis was likewise not supported.

Of the 80 adolescents counseled, about the same percentage in the routine medical visit group (77%) as in the negative pregnancy test group (79%) reported the correct use of contraceptives at followup.

The third hypothesis was upheld. The mean scores on the knowledge test for effective and ineffective users of contraceptives were almost identical (30.9 and 30.5, respectively). Finally, with regard to the fourth hypothesis, 64% of those conventionally counseled and 89% of those counseled developmentally were practicing contraception effectively at the 3 month follow-up. The hypothesis was clearly confirmed, and it may be concluded that developmental counseling is a somewhat superior method. The major conclusions of this research were as follows. First, although many adolescents accept contraceptive counseling at the time of a negative pregnancy test, it is not a more "teachable" moment than are other times. Second, adolescents counseled at the time of a negative pregnancy test can become effective users of contraceptives, but they are no more likely to do so than are adolescents counseled at other times. Third, although knowledge may be an important factor in adolescent use of contraceptives, it apparently does not hold the key to effective contraceptive use. Finally, conventional methods of counseling may help adolescents to practice contraception effectively; however, a method of counseling specifically tailored to the developmental stage of the adolescent appears to hold promise of even greater success.