Evaluating the effectiveness of a sexual and reproductive health booklet designed for adolescents

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Evaluating the Effectiveness of a Sexual and Reproductive Health Booklet Designed for Adolescents

Submitted by

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In partial fulfillment of the requirements for the degree of Master of Science in Nursing

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Chapter I

Premature sexual activity is a common behavior among adolescents in the United States. According to data released by the Centers for Disease Control (CDC) in 2003, 46% of high school students were sexually active in 2001. Fourteen percent of these high school students had already had four or more sex partners. Almost 50% of this group did not use a condom at last sexual intercourse. Three million cases of sexually transmitted infections (STIs) are diagnosed annually. Individuals under the age of 25 account for two thirds of all STIs in the United States. This risky behavior of the adolescent population puts them at risk for STIs and/or pregnancy, and their behaviors may predispose the female adolescents to the development of human papillomavirus and/or cervical cancer.

Currently, there is no national standard for sexuality education curricula. Most students will encounter some type of sexuality education during their elementary, junior high, and high school years. According to the Committee on Public Education (2001), teens rank school as the number one source of sex education. The media is cited as the second source of sex education. Primary care practitioners, pediatricians, and Advanced Practice Nurses (APNs) need to be instrumental in sexuality education due to the growing health problems associated with early sexual intercourse.

Statement of the problem

Approximately 50% of high school students are sexually active, which is consistent with statistics reported by the CDC in 2003. Research has been conducted about school-sponsored sexuality education programs. There is a scarcity of research about Primary Care Practitioner-sponsored sexuality education programs. The research outcomes are conflicting about the effects
of school-sponsored sexuality education programs on adolescent sexual behavior. According to Beitz (1998) and Kirby (2001), sexuality education does not hasten the onset of sexual activity, increase the frequency of sexual activity, nor increase the number of sexual partners. DiCenso, Guyatt, Gordon, and Griffith (2002) stated that sexuality education was effective when started at age five. The Committee on Public Education (2001) stated that the media has a positive correlation on adolescent sexual behavior. This Committee found that American media is the most sexually suggestive in the Western Hemisphere. According to the Committee on Public Education, an adolescent will view nearly 14,000 sexual references per year. However, the Committee on Public Education found that only 165 of these 14,000 references will deal with contraception, self-control, abstinence, or the risk of pregnancy or STIs. Since 1976, the number of sexual incidents on television has quadrupled (Committee on Public Education, 2001.)

Statement of Purpose

The purpose of this scholarly project is to identify areas of knowledge deficit concerning sexual and reproductive health in the adolescent population and to evaluate the effectiveness of a sexual and reproductive health educational booklet created for adolescents.

Identification of Nursing Conceptual/Theoretical Framework

Orem (1995) identifies self-care “as the activities that maturing and/or mature persons perform that maintain life, healthy functioning, and improves personal development and well being” (Orem, 1995, p.111.) Sexuality education is a nursing intervention that can be administered to increase self-care agency in sexually active and sexually inactive adolescents. Orem states that the function of nursing agency is education. Nursing agency occurs in a nursing situation, which should already be in existence if the APN is educating the adolescent in the primary care setting. The knowledge level of the adolescent is enhanced through education.
Through increased knowledge levels, the self-care agency of the adolescent is enhanced which leads to the prevention of the consequences associated with premature sexual activity. These consequences may often include unintended pregnancy and STIs. Through the prevention of the consequences of premature sexual behavior, self-care agency is increased and self-care deficit is avoided. When self-care deficit is avoided and the prevention of the consequences associated with premature sexual activity is achieved using this educational intervention, self-care agency is enhanced and nursing practice is improved.

Research Questions and Definition of Terms

The research questions evaluated in this project were as follows:

1. What are the sexual and reproductive health knowledge levels of the adolescent participants before the educational intervention?

2. What are the sexual and reproductive health knowledge levels of the adolescent participants after the educational intervention?

This project examined the effectiveness of sexual and reproductive health education provided by a researcher who is currently enrolled in a Master of Science/APN program. The success of previously delivered sexual and reproductive health education sessions was examined in this study. The effectiveness of a sexual and reproductive health booklet, entitled “Maintaining Sexual and Reproductive Health: A Guide for Adolescents” was evaluated in this study.

The researcher evaluated the existing knowledge level of adolescents using a pre-test. The researcher, utilizing a sexual and reproductive health booklet that was designed for the adolescent population, delivered the educational message. The effectiveness of the education provided by the researcher and the booklet was evaluated utilizing a post-test that was identical
to the pre-test. The adolescents enrolled in a parenting course at a high school in a Midwestern state are the participants in the study.

Hypothesis

It was anticipated that the researcher could positively influence the sexual and reproductive knowledge levels of the adolescents in this study, thereby increasing self-care agency. This positive influence was proven by a significant increase in the post-test scores in comparison to the pre-test scores.

Significance

Premature sexual behaviors in adolescents have inherent health and social problems. With approximately 3,000,000 cases of STIs being diagnosed per year and 860,000 adolescent pregnancies per year, health care costs have the potential to rise significantly (CDC, 2003.) Lesser, Anderson, and Koniak-Griffin (1998) stated that adolescent pregnancies predispose this population to high school drop-out, rapid repeat pregnancies, living alone, welfare dependency, and unhealthy pregnancy behaviors due to inability to access prenatal care because of lack of resources such as health insurance or money. The children born to adolescent mothers are also at a higher risk of developing learning disorders (Lesser, et al., 1998.)

Warren (1998) and Lesser, Anderson, and Koniak-Griffin (1998) also found that adolescent mothers are at a greater risk of developing postpartum depression. Postpartum depression can adversely affect the adolescent mother’s recovery from childbirth and the infant’s health and development. APNs need to be instrumental in identifying adolescents at risk for depression and encourage them to seek out psychotherapeutic interventions.

Another potential risk of premature sexual behavior is a self-care deficit of knowledge in sexual and reproductive health. Orem (1995) defines self-care deficit as the relationship that
exists when the demand for therapeutic self-care exceeds the person’s ability to perform self-care. There is a potential for self-care deficit in adolescent pregnancy. The adolescent mother has to function as a self-care agent and a dependent care agent and may not have adequate support systems in existence. Sexually transmitted infections also pose a risk for a self-care deficit. Treatment of the STI is generally expensive. The diagnosis of an STI generally causes embarrassment for the adolescent who relies so greatly on peer acceptance. Finally, the STI may affect the adolescent for the rest of the adolescent’s life. For example, Chlamydia Traachomatis leads to scarring of the fallopian tubes, which may render the female infertile. The diagnosis has the potential to affect any sexual relationship the adolescent may have in the future (Lesser, Anderson, and Koniak-Griffin, 1998.)

Summary

The consequences associated with premature sexual activity are significant issues for today’s sexually active adolescent population and the APNs who care for them. Approximately 3,000,000 cases of STIs are diagnosed each year in the adolescent population. The rate of adolescent pregnancies in the United States is one of the highest rates in the world (CDC, 2003.) The concept of increasing self-care agency in the adolescent population is crucial to limiting the spread of STIs and limiting the number of adolescent pregnancies. Consistent exercise of positive self-care agency in the adolescent population may influence the containment of ever-rising health care costs. Much controversy surrounds the topic of sexuality education. Parents and professionals continually debate the approach and design of sexuality education programs. It is necessary that APNs be educated about the consequences of premature sexual intercourse and be prepared to educate and counsel this population about prevention and the maintenance of sexual and reproductive health. Because of their nonjudgmental approach and therapeutic
communication skills, APNs in primary care settings are in an ideal position to educate the adolescent population.
Chapter II

Review of Literature

In this chapter, the conceptual framework will be discussed. Sexuality attitudes of adolescents, consequences of sexual behavior, sexuality education programs, and the role of the APN in sexuality education will be discussed. The review of literature will emphasize the need for increasing self-care agency in the adolescent population concerning sexual behavior and education.

Conceptual Framework

This scholarly project is conceptualized within The Self-Care Deficit Theory of Nursing (Orem, 1995.) Self-care agent, self-care agency, self-care deficit, nursing agency, nursing situation, and therapeutic self-care demand are described. The underlying intent of this scholarly project is to improve and/or increase self-care agency of adolescents and improve nursing practice using the sexual education booklet, “Maintaining Sexual and Reproductive Health: A Guide for Adolescents,” used by primary care practitioners in a family practice or pediatric outpatient setting. Primary care practitioners include physicians and APNs. More specifically, this project will examine the role of the APN.

In this project, the adolescent population functions as the self-care agent. Orem defines self-care agent as “the term for person providing self-care and the person providing self-care is self (Orem, 1995.) Self–care must be oriented, directed, and produced by self. Orem also states that self-care is an action system. The actions within self-care systems are directed toward the ultimate purpose of maintaining one’s whole being contributing to the sustenance and maintenance of human structural integrity, human functioning, and human development (Orem, 1995, p.103.) Self-care actions are goal directed. The goals of self-care actions are self-care
requisites. Sexuality education helps to fulfill the requisite of self-care by educating the adolescent population to make informed and educated decisions about sexual activity. Using the self-care requisite of education, adolescents can perform self-care. Orem states that self-care is voluntary, right and continuous.

Self-care agency is defined as the set of complex, learned, and acquired abilities that an individual employs when engaging in or performing self-care actions (Orem, 1995.) Sexuality education programs, sponsored by schools, hospitals, or clinics provide the information needed for the adolescents to perform self-care agency. In this project, the researcher has the responsibility of assessing knowledge levels and providing the sexual health education to assist the adolescent in performing improved/enhanced self-care agency.

Orem defines self-care deficit as the deficit relationship that exists when the demand for therapeutic self-care exceeds the person’s ability to perform self-care agency (Orem, 1995.) The consequences of adolescent sexuality can cause self-care deficiency in the maintenance of sexual and reproductive health. Sexually transmitted infections and pregnancy are potential consequences of sexual activity. Sexually transmitted infections and the associated symptomatology and pregnancy have the potential to cause self-care deficit by increasing the need for self-care beyond the adolescent’s ability to perform self-care.

Orem (1995) defines nursing agency as the nurse variable in Orem’s self-care deficit theory of nursing. Orem also defines nursing agency as the set of complex abilities necessary for the design and production of nursing. She states that education is the specialty of nursing. Nursing agency is guided by the use of the sexual education pamphlet. The sexual education booklet can be used by the APN to guide the discussion and open the lines of communication between the APN and the adolescent.
In order for nursing agency to be necessary, a deficit in self-care agency must be present. Orem defines a nursing situation as the situation that occurs when nurses enter into nursing relationships with patients. A nursing situation exists when the APN counsels adolescents about sexual education.

Therapeutic self-care demand is the final facet of Orem’s Theory of Self-Care Deficit used in this project. Orem (1995) defines therapeutic self-care demand as the summation of self-care actions to be performed for some duration of time and in some location to meet self-care requisites particularized for a person (Orem, 1995.) Therapeutic self-care demand addresses the ultimate goal of self-care: to maintain or achieve optimal health and well-being (Dennis, 1997.) Using the sexual and reproductive education booklet, “Maintaining Sexual and Reproductive Health: A Guide for Adolescents,” APNs addressed self-care demand by performing nursing agency. Nursing agency provides the education to prevent the consequences associated with premature sexual activity and thus, self-care agency is improved and enhanced.
Relationship of self-care, self-care agency and self-care demand

Advanced Practice Nurse’s Role

Adolescent is seen in a primary care/pediatric setting

Adolescents (self-care demand)

Education and counseling about maintaining sexual and reproductive health is provided.

Self-Care is enhanced

Sexual and reproductive health is maintained

↑Self-Care Agency

↓Self-Care Demand

↓unintended pregnancy, ↓ incidence of cervical CA, and ↓STIs

↓Self-Care Deficit

Using the booklet, nursing practice is improved

Review of Literature

This review of literature will emphasize the importance of increasing self-care agency in the adolescent population. This review of literature will also emphasize the need for the APNs to develop and provide sexuality education programs. This review of literature includes current research from multiple disciplines.

A literature search was performed using Cumulative Index to Nursing and Allied Health Literature (CINAHL) and MEDLINE. The keywords used for this search included adolescent, adolescence, sexuality, sexual health, and sexuality education programs. Articles for this literature review were selected using a manual review. The majority of the information retrieved
was from disciplines outside of nursing. The disciplines of psychology, social work, and education have performed the most research in the area of adolescent sexuality, adolescent sexual health, and sexuality education. Nursing research appears to be limited in the field of adolescent sexuality education. Nursing research does examine adult sexuality education. However, more nursing research is needed in the areas of adolescent sexual health, sexuality education program development, and adolescent sexuality.

*Sexuality Attitudes of Adolescents*

Beitz (1998) stated that many young individuals, ages unspecified, have an inability to think abstractly and visualize the consequences of their decisions. Beitz, White and DeBlassie (1992), and Roche and Ramsbey (1993) stated that there were several influences that contributed to the decision-making abilities of the adolescent. Role models, interpersonal relationships, age, gender, religion, coming from a “broken” versus “intact” home, parental communication, parental discipline, sibling constellation, peer relationships, and learning processes all contribute to how an adolescent makes decisions about sexual activity.

In a study of attitudes toward marriage and premarital sexual activity, Salts, Sizemore, Lindholm, & Smith (1994) discovered a correlation between marriage and premarital sexual activity. In this study, it was discovered that virgins have more favorable attitudes toward marriage than non-virgins do with multiple sex partners. Salts, et al. (1994) used the Favorableness of Attitudes toward Marriage Scale. Because of the data collected in this study, Salts, et al. were able to offer suggestions to parents on discussing sexuality. From the data collected, the researchers suggested that parents teach teenagers that marriage is enjoyable, does not result in the sacrifice of personal freedom and happiness, and it does not create extra
responsibility. The authors also suggested that parents provide a positive example for their children (Salts, Sizemore, Lindholm, Smith, 1994.)

Roche and Ramsbey (1993) examined the sexuality attitudes of undergraduate college students. It was found that males and females have significant differences of belief regarding sexual activity in the early and latter stages of dating. The stages of dating were numbered one through five but were not defined in this study. The researchers found no significant differences of attitudes between males and females in the latter stages of dating but did find significant differences in the earlier stages of dating. According to these findings, males expected considerably more sexual involvement earlier in the dating stages. Females tended to be more conservative than males throughout the dating stages.

From the study findings, Roche and Ramsbey (1993) came to several conclusions about influences on adolescent sexuality attitudes. Roche and Ramsbey found variables such as religiosity, residence, age, parents’ education, nationality, and religious affiliation were weakly correlated to the sexuality attitudes of adolescents. Like Beitz (1998) and White and DeBlassie (1992), Roche and Ramsbey stated that role models, interpersonal relationships, age, gender, religion, coming from a “broken” versus “intact” home, parental communication, parental discipline, sibling constellation, peer relationships, and learning processes all influenced adolescent sexuality attitudes.

Werner-Wilson (1998) examined gender differences in sexual attitudes and examined individual and family influences on adolescent sexuality. Werner-Wilson discovered that there are several factors within the individual that are associated with sexuality. These factors included age at first intercourse, self-esteem, gender, and attitudes about sexuality. Peers and family members were also cited as influencing factors, including the role modeling that occurred.
for siblings. Earlier sexual activity tended to occur with younger siblings who had an older sexually active sibling (Werner-Wilson, 1998.)

Like Roche and Ramsbey (1993), Werner-Wilson (1998) found that males have higher expectations for sexual behavior when dating. Werner-Wilson also found that males are much more likely to report that they have engaged in sexual behavior. However, it is stated that personal values and attitudes positively correlated with sexual expression for both groups. Regular participation in religious activities seemed to be the most important predictor of sexuality attitudes (Werner-Wilson, 1998.)

Consequences of Sexual Behavior

Nguyen and Weir (2000) defined urinary tract infections (UTIs) as a potential consequence of sexual activity. A study was performed to examine the relationship of adolescent UTIs and sexual activity. Nguyen and Weir reviewed data from a sample of 96 adolescent females, aged 10 to 18, diagnosed with urinary tract infections. A positive correlation between adolescents with UTIs and sexual activity was discovered (Nguyen & Weir, 2002.)

Pregnancy is one of the most common consequences of sexual activity. Warren (1998) examined the perceived self-care capabilities of abused/neglected and nonabused/non-neglected pregnant, low-socioeconomic adolescents. Warren used the Denyes Self-Care Agency Instrument to record responses about the value of and attention to the health of these groups. The sample for this study was obtained from an alternative school for pregnant adolescents. Warren found that significant differences occurred between the two groups. The abused adolescents had a higher level of relative value of health, but had a lower attention to health. The results of this study indicated that both groups of pregnant adolescents are capable of performing self-care and should be encouraged to do so (Warren, 1998.)
In encouraging pregnant adolescents to perform self-care, nurses also need to provide information about poignant self-care issues in pregnancy. Abstaining from alcohol, tobacco, and recreational drugs is very important for the health of the mother and the baby. Albrecht, Reynolds, Cornelius, Heidinger, & Armfield (2002) examined the connectedness of pregnant adolescents who smoke. It was found that positive self-esteem helped adolescents to abstain from alcohol use and that school and family connectedness did not have an affect on delinquent or early sexual behavior. Because of these findings, it is imperative that nurses and other primary health care providers provide knowledge about appropriate self-care in order for the adolescents to have a safe and healthy pregnancy.

Lesser, Anderson, and Koniak-Griffin (1998) performed an ethnographic study to examine pregnant adolescents’ responses to a motherhood preparation course. It was found that some adolescents viewed pregnancy as a way to heal childhood wounds. Adolescents thought they would be able to be better mothers than their own mothers had been to them. The pregnant adolescents wanted their children to have better childhoods. In this study, the pregnant adolescents said they would bestow upon their children better guidance and attention, and thus, improve their mothering abilities. However, Lesser, et al. and Warren (1998) however, stated that psychotherapeutic interventions, such as depression counseling, should be provided for these pregnant adolescents. Lesser, et al. and Warren indicated that nurses are instrumental in identifying adolescents with a need for psychotherapeutic intervention. The APN needs to encourage adolescents to perform self-care agency and seek out therapy so they can provide the best possible care to their child. If these adolescents with psychological problems are not identified and encouraged to seek assistance, they are at a greater risk of postpartum depression.
Postpartum depression can adversely affect the mother’s recovery from childbirth and the infant’s health and development.

Lesser, Anderson, and Koniak-Griffin (1998) and Warren (1998) did find that self-care agency was generally increased in the pregnant adolescent population. Lesser, et al. (1998) found that most of the pregnant adolescents in their study had stopped drinking alcohol, using street drugs and smoking cigarettes. The majority of the pregnant adolescents in the study had improved their nutritional habits by increasing their consumption of milk and by eating breakfast. Most of the pregnant adolescents were active participants in their self-care/prenatal care.

Lesser, Anderson, and Koniak-Griffin (1998) also identified a number of negative sequelae associated with adolescent pregnancy and motherhood. The negative effects include high school dropout, rapid repeat pregnancies, potential for unhealthy pregnancy behaviors due to a possible inability to access prenatal care, living alone, and higher potential for child abuse/neglect and welfare dependency. The children of adolescent mothers are also at a higher risk of developing learning disorders.

Adolescent pregnancy creates an increased amount of responsibility for the adolescent. The pregnant adolescent is now responsible for another individual’s well-being. Baker (1996) examined the initiation of prenatal care by pregnant adolescents. This researcher found that the initiation of prenatal care by primiparous adolescents (first time mothers) was predicted by the availability and adequacy of health care resources. If an insurance/medical care card could easily be obtained by the adolescent, prenatal care was initiated at a much faster rate (Baker, 1996.)
Sexuality Education Programs

Adolescents are frequently required to take part in sexuality education programs. Sexuality education is crucial to this age group due to their emotional instability, peer pressure, and desire to be individuals. Beitz (1998) stated that in order for sexuality education programs to be effective, the programs need to be primary prevention based and designed for the target audience.

DiCenso, Guyatt, Willan, and Griffith (2002) and Bay-Cheng (2001) both noted the need for changes in the conventional sex education. According to DiCenso, et al. and Bay-Cheng, conventional sexual education programs includes scare tactics and focus too much on anatomy, thus decreasing the effectiveness of the education. DiCenso, et al. and Bay-Cheng stated that few sex education programs are designed with input from adolescents. Bay-Cheng found that there is a need for program design that considers race, ethnicity, gender, and socioeconomic status. Bay-Cheng also found that sex education programs need to incorporate the lived experience of sexually active adolescents.

Timing is crucial to the effectiveness of the programs. According to Beitz (1998) and DiCenso, Guyatt, Willan, and Griffith (2002), the majority of sexual education still occurs in the junior and senior years of high school. By this point, a great number of students are already sexually active, thus diminishing the effectiveness of abstinence-based programs. In a study performed by DiCenso, et al. (2002) it was found that primary prevention programs are more effective when started around the age of five. Long-term follow up from this study did show that there were lower pregnancy rates of adolescents. DiCenso, et al. also found that routine sexual education seminars were helpful in reducing the adolescent pregnancy rate.
Beitz (1998) and Bay-Cheng (2001) found that in order for sexual education programs to have an impact on adolescent behavior, the programs need to be balanced in content and easily accessible. DiCenso, Guyatt, Willan, and Griffith (2002) and Bay-Cheng stated that healthy sexual behaviors are increased when details of sexual health clinics are advertised in areas where adolescents frequent. Bay-Cheng researched internet-based programs, found that these programs were easily accessible, and often included broader information than its school-based counterparts include. Beitz (1998), DiCenso, et al. and Bay-Cheng all stated that sex education programs need to incorporate a balance of abstinence theory, contraceptive use, information about sexually transmitted infections, and therapeutic communication techniques. The programs need to emphasize that there is no entirely safe sex. DiCenso, et al. stated that there is also a need for sex education to emphasize communication skills and negotiation in sexual relationships.

A great deal of controversy continues to surround sexuality education. Proponents of sexuality education believe that knowledge about the consequences of sexuality education empowers adolescents to make educated decisions about sexual activity. Opponents of sexuality education believe that sexuality education hastens the onset of sexual activity of adolescents. Kirby (2001) and Beitz discovered overwhelming evidence that “sexuality education that discusses contraception does not hasten the onset of sexual activity, increase the frequency of sexual activity, or increase the number sexual partners.” However, Wight, Raab, Gillian, Henderson, Abraham, Biston, Hart, and Scott (2002) found that there have been few randomized trials large enough to prove the findings of Kirby and Beitz. Wight, et al. (2002) did note that several quasi-experimental studies have concluded that sex education is effective.
Role of Advanced Practice Nurses in Sexuality Education

The APN who sees adolescents in the clinical setting has an inherent responsibility to provide sexual and reproductive education. There are many ways that an APN can educate the adolescent population. Through the advanced education that an APN receives, the APN is able to assess the educational needs (therapeutic self-care demand) of the individual and devise an educational program that will increase self-care agency and meet the self-care demand. Beitz (1998) and Kirby (2001) encouraged APNs to create sexuality education programs that utilize audiovisual media to create programs that are unforgettable. APNs who practice in clinical settings can provide high-quality educational materials, discuss contraceptive options, and openly counsel about sexual behavior.

APNs who work with patients afflicted with STIs need to be knowledgeable about the treatment of these infections. Schubert (1998) encouraged nurses to provide information about the diagnosis, explain the transmission of the disease, inform the patient that the partner needs to be treated, and inform the patient of pertinent self-care details. Maintaining open communication and a nonjudgmental attitude is crucial to the development of a trusting relationship between the APN and the adolescent (Schubert, 1998.)

The APN can provide an open, nonjudgmental, non-threatening point of view that can help to facilitate informed decision-making and open communication in the adolescent. APNs are able to provide the confidentiality that many adolescents need when discussing sexual activity. The APN should be able to provide a balanced sexuality education curriculum that includes information about abstinence, contraception, and the consequences of sexual activity. In order for this educational intervention to be successful, the APN needs to recognize that parents are instrumental in role modeling and providing a safe environment for the adolescent.
The APN must also be able to educate the adolescent about how to perform self-care agency. Encouragement of self-care agency needs to be maintained if a consequence of unprotected sexual behavior is to be avoided (Warren, 1998.)

Summary

This literature review examined research performed by nursing and other disciplines in the field of sexuality of adolescents. This literature review discussed research pertaining to sexuality attitudes of adolescents, consequences of sexual behavior, sexuality education programs, and the role of the APN in the sexual and reproductive health education of adolescent population. The consequences of protected and unprotected sexual activity are clearly identified in the literature review. Sexual and reproductive health education programs have traditionally not been designed with adolescent input, therefore potentially decreasing the effectiveness of the programs. In order for APNs to be successful in providing sexual and reproductive health education, they need to first evaluate the learning needs (therapeutic self-care demand) of the adolescent and then provide unbiased, educational information, utilizing clear communication techniques when working with this population to increase self-care agency.
Chapter III

Method

The purpose of this scholarly project was to evaluate the effectiveness of a sexual and reproductive health education booklet using a quasi-experimental design that utilized a pre-test/post-test format. The sexual and reproductive health booklet was created for use by primary care practitioners, particularly the APN. Initially, a pretest was administered to the adolescent group. After taking the pre-test, the adolescents were asked to read the booklet about sexual and reproductive health. A post-test was administered to determine the effectiveness of the booklet. The underlying intent of this scholarly project was to increase self-care agency in the adolescent population by educating this population about the consequences of sexual activity. An overview of the booklet, pre-test, and post-test was discussed. Subjects, materials, data collection, limitations, and data analysis were discussed as part of the evaluation of the effectiveness of the booklet, “Maintaining Sexual and Reproductive Health: A Guide for Adolescents.”

Sexual education for the American adolescent population is needed because premature sexual activity poses a major health problem for the United States. Unprotected sexual behavior and multiple sex partners place young people at risk for HIV infection, other STIs, and pregnancy (CDC, 2003.) According to data provided by the CDC in 2003, 860,000 adolescents become pregnant each year and approximately 3,000,000 STI are diagnosed annually. For this research, a booklet was designed to help educate the adolescent population about risks and help them to make informed, responsible decisions.

Design

A quasi-experimental, one group pre-test – post-test design was chosen. The data were collected from a convenience sample of adolescents. The data collection took eight hours to
complete. Data were collected only once from the participants, as this is all that is required for this particular study.

Materials

The purpose of this scholarly project was to test the effectiveness a sexual education booklet designed to be used by the primary health care provider, particularly the APN in the primary care setting, such as family practice offices, pediatric offices, or health care clinics. The purpose of the booklet was to increase self-care agency of the adolescent population by providing comprehensive, understandable sexual and reproductive health education. It was intended to be a guide for the primary care practitioner when discussing sexual activity. The booklet was given to each adolescent at the end of the educational presentation to keep for use as a resource for making informed decisions about sexual activity and improving self-care agency.

The booklet contained information regarding sexually transmitted diseases, contraception, making informed sexual decisions, directions for performing breast and testicular self-exams, and available community resources that specialize in sexual and reproductive health. The booklet concludes with a message encouraging the adolescent to make an informed decision about sexual activity.

The booklet used in this manner is consistent with Orem’s Self-Care Deficit Theory of Nursing. Increasing knowledge in a supportive manner will promote increased learning, thereby increasing self-care agency. With the guidance of the APN, the knowledge provided by the booklet was utilized to provide knowledge of self-care activities concerning sexual behavior for the adolescent population.

The booklet was created after performing an extensive literature review of the disciplines of nursing, social work, psychology, and school health and after examining literature-containing
recommendations for writing patient educational materials. Printed educational materials are supported in the literature as one of the most economical and effective ways of providing education. According to Bernier (1993), utilizing printed educational materials and face-to-face education creates an environment conducive to learning, especially for adolescents. With the appropriate environment for learning, knowledge deficits are decreased.

Prior to designing the booklet, a panel of experts including family practice physicians, family nurse practitioners, teachers, and adolescents, and parents of adolescents were interviewed to determine what topics should be included in this booklet. The health care practitioners articulated the specific healthcare-related, educative needs of this population. The adolescents and parents of adolescents identified areas of sexual and reproductive education that were lacking in previous education attempts.

The booklet was designed to be easy to read and understand. Information that was included in the booklet was chosen because of its relevance to the adolescent population. The booklet was written in the active voice, utilizing “you” in efforts to engage and stimulate the adolescent reader (Bernier, 1993.) The information included in the booklet was directed at the male and female population and the booklet was intended to serve as a resource tool for the adolescent population.

The readability of the booklet was tested using the Readability Statistics function in the Microsoft Word® program. This function evaluated the readability, averages, and word counts for the booklet. The Flesch-Kincaid grade level score was 8.0. An eighth-grade reading level was found to be acceptable for an adolescent in junior high and high school.

The booklet was implemented in a parenting class at a Midwestern public high school during five class periods. A pre-test was used to determine the sexual and reproductive health
knowledge level of the adolescent participants. The same test (as a post-test) was administered to the adolescents after they read the educational booklet. The pre-test and post-test administered was selected from a health textbook that is used for the health and wellness education of adolescents. The reliability and validity of the tests was not available from the publishing company of the textbook. The post-test was used to evaluate the effectiveness of the booklet.

Data Collection

Sample.

A convenience sample of male and female adolescents, aged 16-18, enrolled in a parenting class at a public high school in a Midwestern state, were asked to participate in the study. No consent form was required for this study since this was an educational intervention. The adolescents were given a cover letter to give to their parents that explained the study. This explanation included information about the potential risks and benefits of participation, participants’ rights as research subjects, and whom the participants should call if they had questions about the research process. The inclusion criteria were as follows: enrolled in a parenting class in a public high school in a Midwestern state; literate; able to speak, visualize, and read English; and able to hear. Interpreters were not provided for this study.

Protection of Human Rights.

This high school did not require a consent form this study and since this was an educational intervention, the Institutional Review Board of the Medical University of Ohio did not require a consent form. The Institutional Review Board of the Medical University of Ohio recommended sending a cover letter to the parents and adolescents who would be involved in the study that explained the study and the Institutional Review Board approval. A cover letter
explaining the study was given to the adolescents and explained five days prior to the actual data collection. If the parents or legal guardians of the adolescents in the parenting class did not want their adolescents to participate in the study, they were to send a letter to the teacher indicating this refusal.

Collection of Data.

A pilot test was performed with the first group of students who met the inclusion criteria. By performing a pilot test, the researcher made assumptions as to the results of the study. The researcher gave each participant in the study a large white envelope containing the cover letter explaining the study and IRB approval, a pre-test, the educational booklet, and a post-test. The pre-test was given to each participant. Upon completion of the pre-test, the participant placed the pre-test in the blank white envelope. The adolescents were asked to read the booklet after they completed the pre-test. After the adolescents read the booklet, they were asked to complete the post-test. After the post-test was completed, the participants placed the post-test in the same blank white envelope and gave the envelope to the researcher. A question and answer session followed after everyone had completed the test. After the envelopes were collected, the researcher recorded the pre-test and post-test scores separately.

Controls for Threats to Internal and External Validity.

According to Burns and Grove (2001), uncontrolled threats to internal and external validity for a quasi-experimental study include history, statistical regression, maturation, testing and instrumentation. The researcher was unable to control for history because the majority of adolescents have received some type of sexual education from school. Beitz (1998) and DiCenso, Guyatt, Willan, and Griffith (2002) state that the majority of sexual education occurs in the junior and senior years of high school. History may add to the success of the education
provided by the researcher because the adolescents will have a point of reference to consider when contemplating sexual and reproductive health.

The convenience sampling controlled statistical regression. Burns and Grove (2001) state that statistical regression occurs when there is movement or regression of extreme scores toward the mean in studies using a pre-test – post-test design. Convenience sampling controlled for this threat because selection was not based on the pre-test scores.

Maturation is another potential threat to the validity of this study. Maturation did not affect this particular study because the pre-test and post-test were administered in the same timeframe. Therefore, there was no opportunity for maturation.

Testing and instrumentation was controlled by using the same pre and post-test. Only one researcher administered the tests. The reliability and validity of the test was not available from the textbook publisher.

Assumptions.

There are four assumptions of this study. The primary basis for the assumptions was that sexual education, provided by parents or health care providers will help adolescents to make informed decisions about maintaining sexual and reproductive health. The assumptions of this study were as follows: despite school-based sexual education, adolescents still have knowledge deficits regarding sexual and reproductive health; higher post-test scores will be achieved after the adolescents have read the sexual and reproductive health booklet; the methods of sexual education used by primary care providers (APNs) will be enhanced by use of the sexual and reproductive health booklet; and the methods that parents are using to discuss sexual and reproductive health with their adolescent provide a basic knowledge basis that primary care providers (APNs) can expound upon to provide more in-depth education.
Limitations.

There were three limitations of this study identified by the researcher. Convenience sampling was a limitation. This was controlled by utilizing already established parenting classes of adolescent students. Knowledge level, educational level, socioeconomic status, family structure, prior sexual activity is irrelevant to selection of the sample. The convenience sampling does have inclusion criteria that may exclude individuals in need of sexual education. The education occurs in only one encounter, so the thoroughness of the education may be impaired. Since the reliability and validity data were not available for the test questions from the textbook publisher, this is a limitation. Nevertheless, the questions have content validity and it was anticipated that questions from a textbook have been pilot-tested prior to publication.

Data Analysis

The data were collected from the pre-test and post-test scores. The pre-test and post-test scores were analyzed using the McNemar Test for Significance of Changes. The McNemar Test for Significance of Changes analyzes changes that occur in dichotomous variables by using a 2 X 2 table. This nonparametric test is commonly used in studies with a pre-test/post-test design (Burns and Grove, 2001.) The level of significance will be denoted as less than or equal to 0.05. According to this test, the post-test scores should be greater than the pre-test scores.

Summary

This chapter discussed the purpose of this scholarly project. The method, design, materials, data collection, limitations, and data analysis were discussed. The design selected for this project was a quasi-experimental design with a pre-test/post-test format. A sexual and reproductive health education booklet designed by the researcher was used to facilitate the educational session between the researcher and the adolescent. A pre-test was administered prior
to the educational session. The post-test scores evaluated the effectiveness of the sexual and reproductive health booklet, “Maintaining Sexual and Reproductive Health: A Guide for Adolescents.” Convenience sampling was employed in this study. Data collection for this study were discussed in detail regarding sample, protection of human rights, data collection, controls for threats to internal and external validity, assumptions, and limitations. Data were analyzed using McNemar’s Test for Significance of Changes.
Chapter IV

Results

A 10-item scale (pre-test and post-test) assessed the knowledge level of male and female adolescents before and after reading the educational booklet. A pre-test and a post-test was used to determine if using the booklet, “Maintaining Sexual and Reproductive Health: A Guide for Adolescents” was effective in increasing knowledge concerning the maintenance of sexual and reproductive health. This chapter discusses the sample and findings of the effectiveness of the educational booklet.

Sample

Adolescent participants for this study were selected because of their enrollment in a parenting course at a public high school in a Midwestern state. The parenting class at this high school is a mandatory course for all students. Most students complete this course as juniors or seniors. The ages of the subjects in this study ranged from 16 to 18 years old. The sample was evenly distributed between males and females. Twenty-six of the participants were female and 25 of the participants were male.

Fifty-one students participated in this study. Due to the ages of the participants, no additional demographics were obtained. The participants were presented with a cover letter explaining the study five days prior to the data collection. After the cover letter was explained to the participants, they were asked to take the cover letter home to their parents or legal guardians. The parents or legal guardians were asked to write a letter to the teacher asking her to excuse the student from the class period that day if they did not want their adolescent students to participate in the study.
The participants were given a large white envelope that contained the pre-test, the post-test, and the educational booklet. The pre-test was given to assess their knowledge level about sexual and reproductive health. The participants were then asked to read the educational booklet after they completed the pre-test. The post-test was given to evaluate the effectiveness of the booklet. It was assumed that an increase in the post-test scores means that their knowledge was enhanced and the booklet was an effective tool.

Findings

There were no reliability or validity data available for the instruments used to measure knowledge of sexual and reproductive health maintenance. However, the instruments were developed by a textbook company and should have content validity. It was also assumed that the questions have been pilot-tested prior to the publication of the textbook. A panel of experts consisting of educators, nurses, and advanced practice nurses established face validity. Due to the limited sample size (n=51), statistical factor analysis was not possible.

As illustrated in Table 1, there was an increase between the pre-test and post-test scores. The mean (5.45), median (6.00), and standard deviation (2.02) were demonstrated in the pre-test. In contrast, the mean (7.78), median (8.00), and standard deviation (1.75) in the post-test were higher.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SE</th>
<th>Mdn</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>51</td>
<td>5.45</td>
<td>.28</td>
<td>6.00</td>
<td>2.02</td>
</tr>
<tr>
<td>Post-Test</td>
<td>51</td>
<td>7.78</td>
<td>.24</td>
<td>8.00</td>
<td>1.75</td>
</tr>
</tbody>
</table>
When comparing data between pre-test and post-test scores, a probability of $\leq .05$ was used to establish the level of statistical significance for the variables in the study. The total scores in this study were determined by using the McNemar Test of Significance of Changes, which compares data in a “pre-test and post-test” design. As illustrated in Table 2, on six of the 10 questions, adolescents showed a significant increase in knowledge about sexual and reproductive health after reading the educational booklet. The highest increase in knowledge occurred in a question concerning the definition of ovulation. Twenty-nine percent of the participants answered this question correctly on the pre-test compared to 76% who answered the question correctly on the post-test. The definition of infertility showed a 41% improvement from the pre-test to the post-test. The least significant change was noted in the definitions of sexually transmitted infections and sperm cell. Each measurement of knowledge of these questions showed a two percent increase in scores from the pre-test to the post-test.

Summary

This chapter described the sample and findings of this researcher using an educational booklet, which examined the effectiveness of increasing knowledge, thereby promoting self-care agency in the adolescent population by helping them to make informed choices about sexual and reproductive health. Data suggested that an educational booklet could increase adolescents’ knowledge concerning the definition of infertility, ovulation, puberty, and fertilization. The booklet also served to educate them on the stages of growth and development during puberty, pregnancy, contraception, and the consequences that result from STIs.
Table 2

Differences between the Pre-Test and Post-Test Total Scores

<table>
<thead>
<tr>
<th></th>
<th>Incorrect</th>
<th>Correct</th>
<th>McNemar Test of Significance</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The period of time when males and females become physically able to reproduce is puberty.</td>
<td>n=22 (43%)</td>
<td>n=29 (57%)</td>
<td>.00*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=2 (4%)</td>
<td>n=49 (96%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The process of releasing one mature ovum each month is ovulation.</td>
<td>n=36 (71%)</td>
<td>n=15 (29%)</td>
<td>.00*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=12 (24%)</td>
<td>n=39 (76%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The stage between childhood and adulthood is adolescence.</td>
<td>n=13 (25%)</td>
<td>n=38 (75%)</td>
<td>.021*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=5 (10%)</td>
<td>n=46 (90%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. An infectious disease that is spread from person to person through sexual contact is a sexually transmitted infection.</td>
<td>n=8 (16%)</td>
<td>n=43 (84%)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=7 (14%)</td>
<td>n=44 (86%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The conscious decision to avoid harmful behaviors including sexual activity, the use of tobacco, alcohol, and other drugs is abstinence.</td>
<td>n=18 (35%)</td>
<td>n=33 (65%)</td>
<td>.146</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=12 (24%)</td>
<td>n=39 (76%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. A male reproductive cell is a sperm cell.</td>
<td>n=3 (6%)</td>
<td>n=48 (94%)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=2 (4%)</td>
<td>n=49 (96%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. A condition in which one is unable to reproduce is infertility.</td>
<td>n=30 (59%)</td>
<td>n=21 (41%)</td>
<td>.00*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test</td>
<td>n=9 (18%)</td>
<td>n=42 (82%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 (continued)

Differences between the Pre-Test and Post-Test Total Scores

<table>
<thead>
<tr>
<th></th>
<th>Incorrect</th>
<th>Correct</th>
<th>McNemar Test of Significance p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. The time from the beginning of one menstrual period to the onset of the next menstrual period is the <strong>menstrual cycle</strong>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>n=44 (86%)</td>
<td>n=7 (14%)</td>
<td>.75</td>
</tr>
<tr>
<td>Post-Test</td>
<td>n=46 (90%)</td>
<td>n=5 (10%)</td>
<td></td>
</tr>
<tr>
<td>9. The union of a reproductive cell from a male and one from a female is <strong>fertilization</strong>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>n=31 (61%)</td>
<td>n=20 (39%)</td>
<td>.00*</td>
</tr>
<tr>
<td>Post-Test</td>
<td>n=15 (29%)</td>
<td>n=36 (71%)</td>
<td></td>
</tr>
<tr>
<td>10. The female reproductive cell is an <strong>ovum</strong>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test</td>
<td>n=24 (47%)</td>
<td>n=27 (53%)</td>
<td>.00*</td>
</tr>
<tr>
<td>Post-Test</td>
<td>n=6 (12%)</td>
<td>n=45 (88%)</td>
<td></td>
</tr>
</tbody>
</table>

*Note: p value of equal to or less than .05 is considered statistically significant*
Chapter V

Discussion

Premature sexual activity is a common behavior among adolescents in the United States. According to data released by the Centers for Disease Control (CDC) in 2003, 46% of high school students were sexually active in 2001. Fourteen percent of these high school students had already had four or more sex partners. Almost 50% of this group did not use a condom at last sexual intercourse. Three million cases of STIs are diagnosed annually. Individuals under the age of 25 account for two thirds of all STIs in the United States. This risky behavior of the adolescent population puts them at risk for STIs and/or unintended pregnancy. Their behaviors may predispose female adolescents to the development of STIs that may lead to cervical cancer or infertility.

This chapter discusses the results of this study indicating that providing sexual and reproductive health education using an educational booklet can increase knowledge. As the findings, conclusions, and implications demonstrated, adolescents who possess more accurate knowledge of sexual and reproductive health will be able to make informed decisions about maintaining healthy behaviors.

Findings

The significant increase of post-test scores on the majority of the questions indicates that the researcher was effective in increasing the knowledge levels of the participants. This finding coincides with Beitz (1998), White and DeBlassie (1992), and Roche and Rambey (1993) who indicated that the decision-making abilities of adolescents can be influenced by many factors including role models, communication with authority figures, and learning processes. The significant increases of the post-test scores also indicated that the booklet was easily understood.
Beitz (1998) and Bay-Cheng (2001) stated that education must be easily understood for it to be effective.

The low pre-test scores indicate that previous sexual and reproductive health sessions may not have been effective. This study did not assess when the adolescents started receiving sexual and reproductive health education. However, the adolescents were enrolled in a parenting course that encompassed some sexual and reproductive health education. Beitz (1998), DiCenso, et al. (2002), and Griffith (2002) found that the majority of sexual education occurs during the junior and senior years in high school. This statement is reflected in this study. The majority of the students in this parenting course were juniors or seniors. Although the pre-test scores were poor, there was a significant increase in the post-test scores that indicated that this booster session of education was helpful. DiCenso, et al. (2002) also found that repeated sexual education sessions were helpful in reducing the adolescent pregnancy rate.

The booklet was effective in increasing the sexual and reproductive knowledge levels of the adolescents in this study. Six out of the 10 post-test questions showed a significant increase in knowledge, thus indicating that the subjects learned from the booklet. The booklet included information about performing breast and testicular self-exams, contraception and barrier devices, growth and development facts, general information about sexually transmitted infections, and resources that can be accessed for additional information. The selection of information included in the booklet was supported by Beitz (1998); DiCenso, et al. (2002); and Bay-Cheng (2001) who stated that all sexual education programs needed to incorporate a balance of abstinence theory, contraceptive use, information about sexually transmitted infections, and therapeutic communication techniques. Using a booklet as an educational tool has been proven effective by
Bernier (1993) who found that utilizing printed educational materials and face-to-face education creates an environment conducive to learning.

A nursing situation existed during the data collection. Although the researcher did not provide any counseling during the pre-test or post-test sessions, the participants were given the opportunity to ask questions after the tests had been completed by all participants. The significant increase in the majority of the post-test scores indicated that self-care could be enhanced because the adolescents can make informed decisions about maintaining sexual and reproductive health. Self-care deficit was decreased because the booklet taught them how to maintain sexual and reproductive health by either abstaining from sexual activity or using contraceptive methods with each episode of intercourse. It encouraged them to perform monthly breast self-exams and testicular self-exams and it gave them recommendations on maintaining good hygiene. Self-care agency was enhanced by providing the adolescents with a tool that can help them to make informed decisions about maintaining sexual and reproductive health.

Conclusions

Premature sexual activity is a common behavior among adolescents in the United States and individuals under 25 account for two thirds of all sexually transmitted infections in the United States (CDC, 2003.) The findings of this study indicated that more education is needed in the areas of sexual and reproductive health. The post-test scores indicated that this educational intervention was effective in increasing their knowledge levels about sexual and reproductive health. This finding coincided with DiCenso, et al. (2002) who found that sexual education was helpful in reducing adolescent pregnancy rates.

Schools and primary care practitioners could provide sexual and reproductive health education on a routine basis. Schools could start providing yearly sexual and reproductive health
maintenance at the age of five. According to the Committee on Public Education (2001), adolescents rank school as the number one source of sexual education. Currently, there is no national standard for sexuality education curricula.

Primary care practitioners should provide sexual and reproductive health education at every office or clinic visit. The non-judgmental approach of an APN can help the adolescent to make informed decisions about maintaining sexual and reproductive health. The APN should be able to provide a balanced sexuality education curriculum that includes information about abstinence, contraception, and the consequences of sexual activity because of their extensive education and training.

Limitations

The limitations of this study included convenience sampling, inclusion criteria, and the use of pre-test/post-test questions that have not been proven statistically to be reliable or valid. The convenience sampling created a small sample size that may not be reflective of the entire adolescent population. The inclusion criteria may have excluded adolescents who needed to be educated about sexual and reproductive health maintenance. The reliability and validity information about pre-test and post-test questions was not available from the textbook publisher. The questions should have content validity because it is anticipated that the questions were pilot-tested before the textbook was published. Face validity was established using a panel of experts including family practice physicians, advanced practice nurses, and parents of adolescents.

Implications

Nursing Administration.

The findings of this study have important implications for the sexual and reproductive health maintenance of people of all ages. Nurse administrators can assist APNs in subsidizing
funding for educational interventions. As nursing administrators, APNs can participate in STI Risk Reduction Programs and Unintended/Adolescent Pregnancy Reduction Programs. Nursing administrators need to support community-based education strategies that will increase public awareness of the importance of maintaining sexual and reproductive health.

Nursing Education.

The findings of this study have implications for nurse educators. Nurse educators could provide additional education to the public and their students about sexual and reproductive health maintenance. Nurse educators need to teach APN students about effective and therapeutic communication techniques, trust, and development issues related to adolescents. Nurse educators could also work with schools and other educators to develop sexual and reproductive health educational interventions that would be balanced in content and easily understood by the adolescent population.

Nursing Practice.

The findings of this study have definite implications for nursing practice. APNs need to provide frequent health promotion and educational opportunities to children and adolescents if they are going to positively influence the knowledge levels of the individuals. According to DiCenso, et al. (2002), sexual and reproductive health maintenance education should be started at a young age and the information should be repeated in educational interventions on a routine basis because the information may not be retained.

If primary care practitioners, parents, and schools are ineffective in teaching children about maintaining sexual and reproductive health, we will continue to see an increase in unprotected sexual behavior. This unprotected sexual behavior predisposes the adolescents to sexually transmitted infections and unplanned pregnancies. According to the Centers for Disease
Control, the United States has one of the highest rates of adolescent pregnancy in the world and the adolescent population has the highest rate of STIs.

Parents, schools, and primary care practitioners need to work together to create a curriculum that effectively teaches the adolescent population how to maintain sexual and reproductive health. Parents need to create and maintain open communication with their adolescents in an effort to stimulate a relationship based on honesty and trust. This open communication can help the parents to convey messages more clearly. Schools need to teach and reinforce sexual and reproductive health starting at a young age. Schools are rated as the number one source for sexual education, so they are positioned to have one of the greatest influences on adolescent sexual behavior. Primary care practitioners, including APNs, need to educate adolescents about the consequences of premature, unprotected sexual activity. They need to reinforce this information at every office and clinic visit, but they need to maintain a non-judgmental approach for their efforts to be successful. Primary care practitioners, including APNs need to be educated about current information pertaining to sexual and reproductive health and they need to know how to teach adolescents about this information. APNs need to know how to assess the learning needs of the adolescent and then implement the education in a way that is conducive to learning. Primary care practitioners and APNs should also work to increase public awareness of the consequences of premature, unprotected sexual activity.

Recommendations for Further Research

Further research needs to be conducted on determining the most effective way to educate adolescents about maintaining sexual and reproductive health. Researchers need to continue to determine what age is most appropriate for the initiation of sexual and reproductive health. Further research could be conducted to determine how influential the popular media is in
providing sexual education since more sexual activity is being seen through movies and television. Research could be conducted to determine which setting of the following environments is most influential for sexual and reproductive education: school, church, home, or medical settings.

Summary

Premature sexual activity among American adolescents poses a major health problem for the United States. The United States has one of the highest rates of adolescent pregnancy in the world. Individuals under 25 account for two thirds of the diagnosed sexually transmitted infections (CDC, 2003.) Early sexual intercourse and multiple sex partners place adolescent females at a higher risk of developing STIs that may predispose them to infertility, unintended pregnancy and/or cervical cancer.

APNs can affect the previously stated statistics by providing sexual and reproductive health education to adolescents in the clinical as well as the school setting. The APN can reinforce education taught in other arenas. Repeated educational interventions have been proven effective in reducing adolescent pregnancy rates. Providing consistent, thorough education that is tailored to the needs of the adolescent population helps them make informed decisions about sexual and reproductive health.
References


Abstract

Premature sexual activity among American adolescents poses a major health problem for the United States. Adolescents have the highest rate of sexually transmitted infections. According to data provided by the CDC, approximately 3,000,000 cases of STI are diagnosed annually (CDC, 2003.)

The purpose of this scholarly project was to evaluate the effectiveness of a sexual and reproductive health education booklet designed to be used by primary care practitioners, primarily Advanced Practice Nurses, in clinical settings. The purpose of the booklet was to enhance self-care agency of the adolescent population by providing comprehensive, understandable sexual and reproductive health education, thus decreasing self-care demand.

The effectiveness of the booklet was evaluated through the use of a quasi-experimental design utilizing a 10-question, pre-test/post-test format. The booklet was effective in enhancing knowledge levels of the adolescent population, as evidenced by an increase in the majority of the post-test scores.
Maintaining Sexual and Reproductive Health

A Guide for Adolescents
Growth and Development Facts

1. The period of time when males and females become physically able to reproduce is puberty.

2. Puberty often occurs during adolescence.

3. Adolescence is the stage between childhood and adulthood.

4. Puberty occurs because of a release of hormones.

5. The male sex hormone is testosterone.

6. The female sex hormones are estrogen and progesterone.

7. A male reproductive cell is a sperm cell.

8. A female reproductive cell is an ovum.

9. The process of releasing one mature ovum per month is termed ovulation.
10. When a sperm cell and an ovum unite, fertilization occurs.

11. Fertilization results in pregnancy.

12. A condition in which a person is unable to reproduce is infertility. This can occur in men or women and can be a result of some sexually transmitted infections.
Health Promotion and Disease Prevention for Male Adolescents

It is important for you to take an active role in maintaining your health. Here are some suggestions for maintaining a healthy lifestyle.

1. Shower daily. Always cleanse the penis and scrotum. If you are not circumcised, always pull back your foreskin and cleanse thoroughly.
2. Avoid tight clothing.
3. Wear a protector or supporter during strenuous physical activity to protect your groin and reproductive organs.
4. Once physically mature, you should perform a monthly testicular exam. Testicular cancer most commonly affects men between the ages of 20 and 35.
5. If you are sexually active, always wear a condom with every episode of sexual activity.
6. Always keep the lines of communication open with your partner, parents, and your health care provider.
Directions for Testicular Self-Exam

1. Examine the testicles after a warm bath or shower. This should be performed lying down.
2. Cup the scrotum in the palms of both hands. Examine for changes since the last exam.
3. With the thumb and fingers, gently roll each testicle around.
4. Squeeze the testicles gently to note the firm consistency.
5. Examine the epididymis. This feels softer than the testicles and it may be spongy and slightly tender to the touch.
6. Report any hard, pea-sized nodules or swelling to your physician or nurse practitioner.
Health Promotion and Disease Prevention for Female Adolescents

It is important for you to take an active role in maintaining your health. Here are some suggestions for maintaining a healthy lifestyle.

1. Maintain cleanliness by showering daily. The vagina is a self-cleansing organ, therefore douching is not necessary.
2. During your menstrual period, change your sanitary napkins every 2-3 hours to minimize odor.
3. Avoid toxic shock syndrome by using the lowest absorbency tampons possible. Change your tampon frequently. Always wash your hands before and after inserting a tampon.
4. Perform monthly breast self-exams (BSE.)
   It is a good idea to perform BSE 7 days after the start of your period.
5. Have a pelvic exam and pap smear performed by the time you are 18 or when you become sexually active.
6. Keep the lines of communication open between you, your partner, parents and health care provider.

**How to Perform a Breast Self-Exam (BSE)**

1. Stand in front of a mirror with your hands clasped behind your head.
2. Examine each breast for puckering of the nipple, dimpling, or scaling of the skin of the nipple.
3. Bend slightly forward in front of the mirror and examine the shape of each breast.
4. Raise your left arm. Use the first three fingers of your right hand to examine your left breast. Beginning at the outer edge of the left breast, place the flat part of your 3 fingers on the surface of your breast and slowly start making circles. Continue making circles in a circular pattern on the
surface of the breast until you reach the nipple.
5. Gently squeeze the nipple and examine for any discharge.
6. Repeat this process for the right breast. Use your left hand for the examination.
7. Remember to examine your armpit and the area between your breast and your armpit.
8. Report any fixed, pea-sized nodules to your health care provider. These nodules may feel similar to pearls.

**What is contraception?**
Contraception is defined as the avoidance of pregnancy or sexually transmitted infections.

**What methods of contraception are available to you?**

The male condom is worn over the penis.
Oral contraceptives, or birth control pills, are taken on a daily basis, and prescribed by a health care provider.

“The Pill”
“The Pill” is the slang term for birth control pills or oral contraceptives.

Effectiveness
97.3%-99.9% effective if used correctly

How do they work?
The pill works in one of three ways, depending on the hormonal make-up of the pill.
1. An ovum is prevented from being released.
2. The cervical mucus is thickened to keep sperm from joining with the egg.
3. Fertilization occurs, but the fertilized egg is prevented from implanting in the uterus.
4. These do not prevent sexually transmitted infections (STI).
Cost
Oral contraceptives generally cost $20-35 per month at drug stores. The pills may be cheaper at some clinics. Some physicians or nurse practitioners may require a Pap test/pelvic exam prior to prescribing these.

Points to Ponder
1. You must take the pill everyday.
2. Avoid smoking while on the pill. Smoking, while taking the pill, has been shown to lead to heart attacks, strokes and blood clots.

The Birth Control Patch

Effectiveness
Up to 99.9% if used correctly

How does this work?
A patch is placed on the skin of your stomach, upper arm, buttocks, or upper torso once per week. A patch is placed on the same day of the week for three weeks. A patch is not placed on the fourth week of the month. During this week, you will have a menstrual period. The patch works to prevent pregnancy
in the same ways as the birth control pill. The does not protect against STI.

**Cost**
$30-35 per month. Like the pill, an exam may be required by your health care provider.

**Points to Ponder**
1. Change the patch on the same day of the week. For example, change every Sunday.
2. Do not smoke while using the patch.

**The Birth Control Ring**

**Effectiveness**
Up to 99.7% if used correctly

**How does it work?**
A small flexible ring is inserted into the vagina once per month. This ring stays in the vagina for three weeks. It is removed from the vagina on the fourth week of the month and you will then have a menstrual period. This works to prevent pregnancy in the same ways as the pill. It does not prevent STI.
**Cost**
$30-35 per month. Again, your health care provider may require an exam prior to prescribing.

**Points to Ponder**
1. Do not smoke while using this device.
2. Do not use with other vaginal contraceptives, like spermicidal foams or jellies.

**The Condom**

**Effectiveness**
Female Condom  79-95% effective  
Male Condom  85-98% effective

**How do these work?**
The male condom works by covering the penis, prior to intercourse, with a thin latex or plastic sheath. This prevents sperm from joining the egg.

The female condom is inserted into the vagina prior to intercourse. One end of the female condom is open and one end is closed. The closed end of the condom is inserted into the
vagina to cover the cervix. The open end of
the condom remains outside of the vagina and
covers part of the labia. Since the cervix is
covered, the sperm cannot reach the egg.

Both the female and the male condoms can
prevent STI, if used correctly.

**Cost**

<table>
<thead>
<tr>
<th>Condom</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>$2.50 per condom</td>
</tr>
<tr>
<td>Male</td>
<td>$0.50+ per condom</td>
</tr>
</tbody>
</table>

**Points to Ponder**

1. Use a new condom each time you have
   sexual activity.
2. Use of oil based lubricants, like petroleum
   jelly, will breakdown the condom and make
   it ineffective.
3. Using spermicides with the condoms will
decrease the chances of pregnancy.
4. There is always a risk of condom breakage
   when using these devices.
The Birth Control Shot

Effectiveness
97-99.7% effective

How does this work?
A nurse, nurse practitioner, or physician will give you a shot in your arm or buttock once every 12 weeks. This shot works to prevent pregnancy in the same fashion as the birth control pill.

Cost
$50 per injection. Your health care provider may require yearly pap tests and pelvic exams.

Points to Ponder
1. Does not prevent STI.
2. Does not need to be taken daily, weekly, or monthly.

3. Menstrual periods may stop occurring after prolonged use. Always contact your health care provider if your menstrual periods stop. Pregnancy always needs to be ruled out as a cause of your missed periods. Contraceptive medications can cause harm to a fetus.

**The IUD (intrauterine device)**

**Effectiveness**

99.2-99.9%

**How does this work?**

This is a small plastic device, containing copper or hormones, that is inserted into the uterus, that prevents sperm from joining the egg and then prevents the fertilized egg from implanting in the uterus.

**Cost**

Contact your health care provider for an exact cost.
Points to Ponder
1. This only prevents pregnancy. It does not prevent STI.
2. This is only appropriate for women who have already had a child because otherwise, the uterus cannot hold the device.

Abstinence

Effectiveness
100%

How does this work?
You say “NO” to sexual activity

Cost
Absolutely FREE
Points to Ponder

1. Your body and your virginity belong to YOU.
2. Fifteen minutes of pleasure can lead to a lifetime of illness or premature responsibility.
3. Take time to be young because it passes so quickly. You have most of your life to be an adult.
4. Always maintain open lines of communication with your partner, your parents and health care providers.
General Information on Sexually Transmitted Infections (STI)

1. Unprotected sexual intercourse and multiple sex partners place young people at risk for STI and pregnancy.
2. An infectious disease that is spread from one person to another through sexual contact is a sexually transmitted infection.
3. Three million cases of STI occur among teenagers each year.
4. Some common STI include Chlamydia, gonorrhea, genital herpes, genital warts (Human papilloma virus (HPV)), syphilis, and HIV.
5. Abstinence is the only 100% sure way to avoid STI.

Symptoms of Sexually Transmitted Infections (STI)

1. A feeling of burning during urination may indicate an STI.
2. Strange or unusual discharge from vagina or penis may indicate an STI.
3. Any unusual pain in the lower part of the belly may indicate an STI, if you are female.
4. Bleeding between menstrual periods may indicate an STI.
5. Multiple painful sores on the penis or labia may indicate an STI.
6. Low-grade fever (less than 101) in combination with the following symptoms may indicate an STI: headache, sore throat, and rash on the palms of hands or on the soles of the feet.

What to do if you are sexually active and experiencing any of these symptoms:
1. **STOP HAVING SEX IMMEDIATELY!**
2. Contact your physician or nurse practitioner immediately and tell them about your symptoms.
For more information on health promotion, disease prevention, contraception, sexually transmitted infections, and adolescent health, please refer to the following sources:

1. [http://www.cdc.gov](http://www.cdc.gov)
2. [http://www.plannedparenthood.org](http://www.plannedparenthood.org)
3. Call your local health department.
4. Call your nurse practitioner or physician.
5. Talk to your school nurse.
6. Talk to your parents.

Remember, always maintain open communication with your partner, your parents and your health care providers.