

A STUDY OF THE RELATIONSHIP BETWEEN KNOWLEDGE OF  
HUMAN SEXUALITY AND TEENAGE PREGNANCY

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## CHAPTER 1

### INTRODUCTION

Teenage pregnancy has reached epidemic proportions in the United States. Each year, more than one million teenagers become pregnant and one in five babies delivered in the United States is parented by a teenager (Teenage Pregnancy, 1977). Most teenage pregnancies are unwanted. The huge number of teenagers and their mostly unwanted babies whose lives are ruined is tragic (Gordon, Scales, & Everly, 1979).

Teenage pregnancy is of epidemic proportions in every segment of American society. Its discovery as a middle class phenomenon corresponds with its recent status as a political issue. One of the major reasons blamed for the problem is inadequate sex education (Tannenbaum, 1980).

It has been noted that basic sex education should begin in the home. However, schools, community agencies, and religious groups can become partners with parents as primary educational forces in the lives of today's youths (Gordon et al., 1979).

### Statement of Problem

Because teenage pregnancy is of epidemic proportions in the United States, more research is needed to determine the factors associated with this trend. The purpose of this study was to answer the following question: What is the relationship between teenagers' level of knowledge of human sexuality and teenage pregnancy?

### Justification of Problem

Tannenbaum (1980) reported a national survey conducted by Circus Magazine (a rock magazine). This survey indicated that despite their openness toward sex, an alarming number of teenagers in today's world lack basic information about human sexuality.

Kantner and Zelnick (1973) found that, regardless of the prevalence of sex education in recent years, much misinformation and ignorance still exists among teenagers. An example of this is the relationship between menstrual cycle and the risk of pregnancy. Kantner and Zelnick (1973) found that less than half of the teenagers surveyed had a generally correct idea of the period of greatest risk for pregnancy. They further stated that although such knowledge was positively associated with socioeconomic status, the extent of misinformation was substantial among all groups of teenagers examined.



Rosenstock (1981), a physician, gave advice and recommendations to counselors and professionals who deal with adolescents. He emphasized that they must ascertain the extent of sexual knowledge of both the adolescent male and female.

Grace (1981) cautioned:

Do not be deceived by the foxy young lady of 16 sitting in your office casually requesting birth control pills. Her pseudo sophistication is a thin veneer matched by her partner's outward appearance of strutting bravado. (p. 81)

When these typical adolescents, Grace continued, are counseled on sexuality, it becomes obvious that they lack accurate information. They have been influenced by folklore and old wives' tales which have been passed onto them from generation to generation remarkably unchanged (Grace, 1981).

According to Tannenbaum (1980), a registered nurse consultant, the nurse as a professional plays a very important role in providing health care to adolescents in different settings, such as schools, hospitals, clinics, or public health clinics. She is usually the first health professional who comes in contact with the adolescent. Tannenbaum further stated that during the nurse's contacts with young people, if her attitude is of friendliness, openness, and caring, the adolescent will be more apt to seek her assistance whenever the adolescent has health problems especially related to sex.

### Conceptual Framework

Readiness to learn depends on maturation, and since a great deal of maturation occurs in childhood, readiness to learn in childhood changes considerably. Adolescents can be motivated to learn if the topics are of interest to them. They will accept information if they can use it to their own advantage (Gordon, Scales, & Everly, 1979).

According to Piaget (cited by Helmore, 1969, p. 11), an adolescent experiences different stages of learning behavior. The stage Piaget called "formal operations" begins at age 12 and is consolidated during adolescence. During the stage of formal operations, adolescents are able to form theories about everything (Piaget, cited by Joyce & Weil, 1980, p. 110). Bigge (1982) stated the ability to formulate hypotheses occurs during the stage of formal operations, when youths become able to think about their thoughts, are able to construct ideals, and start reasoning realistically about the future. Thus if teenagers have obtained a basic knowledge of human sexuality, they can realistically use the knowledge in preventing unwanted pregnancy. They are able to go beyond their present reality to consider what might happen in the future if they do not have the correct sex knowledge.

### Assumptions

The following assumptions were made in conducting this study:

1. Adolescents possess some knowledge of human sexuality.
2. Adolescents are capable of understanding the implications of their behavior.

### Hypothesis

The hypothesis tested in this study was as follows:

Female teenagers who are pregnant will have less knowledge of human sexuality than those female teenagers who have never been pregnant.

### Definition of Terms

The following terms are defined for this study:

1. Human sexuality: the integration of biological, emotional, intellectual, social and ethical dimensions of an individual (Lief, 1981); "behavior in which sexual functioning is an integral part of everyday life" (Teran, 1980, p. 5).
2. Knowledge of human sexuality: the condition of understanding concepts, information, and principles concerning sexual functioning in humans, as measured in this study by the Human Sexuality Test (Teran, 1980) (Appendix A).

3. Teenager: an individual between the ages of 13 and 19 years of age.

#### Limitations

The following limitations applied to this study:

1. A convenience sample of pregnant and nonpregnant teenage females from a city health center was included in the study, therefore, results of this survey can only be generalized to the participants of the study.
2. Due to the nonexperimental nature of this study, no causative inferences can be made.

#### Summary

The rate of teenage pregnancy has reached epidemic proportions in the United States. This study investigated the relationship between knowledge of human sexuality and teenage pregnancy. A group of nonpregnant teenage females was selected to compare their knowledge of human sexuality with a group of pregnant teenagers. The conceptual framework for this study was based on Piaget's "formal operations" stage which begins at age 12 and is consolidated during adolescence.

## CHAPTER 2

### REVIEW OF LITERATURE

According to a report prepared by the Alan Guttmacher Institute (Teenage Pregnancy, 1981), the rate of teenage pregnancy increased steadily through the 1970s. The steepest rise in teen pregnancy was among the 18-19 year olds. This review of literature presents a short historical perspective and then discusses the problems of teenage pregnancy today: its effects and prevention.

#### Historical Perspectives

Several decades before national attention was focused on the problems of teenage pregnancy out of wedlock, there were several community based, private agencies which were providing counseling, shelter and other services to pregnant teenagers. The concern was not the age of the woman but her unmarried status. Attitudes toward out of wedlock pregnancy have shifted dramatically in the last two decades.

According to Furstenberg (1976), parenthood before the age of 18 years has never been common in this country nor accepted by the society. Data collected in the 19th century revealed that teenage marriage occurred only infrequently and women did not have their first child until they reached

their 20s. Today one in five babies are born to teenagers; two-fifths of these births are out of wedlock and account for half the total out of wedlock births in the country (Teenage Pregnancy, 1977).

### The Problem Today

#### The Rates of Teenage Pregnancy

As reported by a House of Representatives Committee on population in the United States, the rate of adolescent child bearing is among the highest of any industrialized nation in the world (Ross, 1982). Although the number and rate of births declined during the 1970s for all teenagers, the pregnancy rate has continued to increase. One in 10 teenagers gets pregnant each year and the proportion is rising. The reason for decline in the birth rate is attributed to pregnancies which end in abortions. In 1978, 434,000 abortions were reported in the country.

The rise in the out of wedlock birth rate has continued among almost all groups of teenagers. The rise has been steeper among 15-17 year old whites. The number of pre-maritally conceived births legitimized by marriage has been declining. A total of 554,000 babies were born to teenagers in 1978. In 1978, 3% of 15-17 year olds and 8% of 18-19 year olds gave birth (Teenage Pregnancy, 1981).

Zelnik and Kantner (1980) reported the results of a 1979 national survey carried out under contract by the Institute of Survey Research, Temple University, where the proportion of all teenage women who have ever been premaritally pregnant rose from 9% in 1971 to 13% in 1976 and to 16% in 1979. The sample of this study included 15-19 year old women living in households in Standard Metropolitan Statistical Areas (SMSAs).

#### Effects and Risks of Teenage Pregnancy

All the causes of teenage pregnancies, according to Wilson (1964), are not known, but it is made clear from the studies that pregnant girls do not belong to any one group. The pregnant teenager may come from a rich, middle class or poor family. She may be educated and intelligent or uneducated or dull. Faulty child-parent relationships may be a contributing factor, since the families where children find love and understanding are less likely to be faced with the problem (Wilson, 1964).

According to the Population Commission's report, pregnant teenagers, especially those in their early teens, are more at risk to experience serious health, social and psychological difficulties (Cvetkovich, Grote, Djorseth, & Sarkissian, 1975). Additionally, the Commission noted that teenage mothers have a suicide rate 10 times that of the

general population. Pregnant teenagers may be denied further public education or have their education seriously disrupted.

It is well documented that most of the social and economic disadvantages faced by adolescent parents were the results of failure to complete schooling. In 1972, a federal law made it illegal to expel students who are pregnant ("New Insights," 1982).

Menken (1972) talked about permanent disruption of schooling. In 1968 the Educational Research Service found that one third of 154 school systems with 12,000 or more students required girls to leave school as soon as it was known that they were pregnant. In Buffalo, 123 girls were excluded from school in 1963-1964 because of pregnancy. Demographic analyses indicate that, at any given time, the number of children a woman has borne is inversely related to her education and to other socioeconomic variables.

Teenagers who have children do tend to have lower educational aspirations and less academic aptitude than those who avoid child bearing during adolescence. The negative impact of early child bearing on teenagers' education remains (Zellman, 1982).

In 1982, a survey was conducted by Finkelstein, Finkelstein, Christie, Roden, and Shelton to determine some



of the common problems and outcomes associated with teenage pregnancy. Data were collected by retrospective chart review. All 14, 15, and 16 year olds who delivered at the University of Texas Medical Branch, where 70% of the teenagers were unmarried, were included in a sample. Pregnancy was found to be the most common cause of school dropout for women. In their survey, 47% of the 14 year olds had dropped out of school.

Research conducted by Card and Wise (1978) about the negative social, economic, and health impacts of teenage parenthood has led to an understanding of the nature and extent of these consequences. A nationwide random sample of 375,000 students from 1,225 senior and junior high schools participated in the study. The students were from ages 9, 10, 11, and 12 in Spring 1960. The initial testing took two full days. Three follow-up studies were conducted, 1, 5, and 11 years later. The findings showed that both adolescent mothers and fathers had substantially less education than their classmates.<sup>1</sup> The younger the parent at child birth, the greater the educational setback. As for occupations, one and five years after high school, one third of the adolescent mothers were working as compared to about two thirds of their classmates.<sup>4</sup> Thus women tended to drop out of school and/or the labor force at whatever age they

became mothers. Findings also showed that teenage marriages were less stable than those of their counterparts who postponed child bearing.

Teenage child bearing is thought to be associated with a wide spectrum of psychological, economic, and social problems. Furstenberg (1976) explored when, how, and why child bearing before the age of 18 years jeopardizes the life prospects of the young mother and her child and threatens both their immediate and long range interests. The study was conducted at the Adolescent Family Planning Clinic (AFC) of Sinai Hospital. The sample consisted of all primiparous adolescents under the age of 18 years shortly after they registered for prenatal care. Interviews were conducted six months after delivery and again a year later. Follow-up was carried out three years and five years later.

Results of Furstenberg's (1976) study revealed that half of the young mothers in the sample were able to complete high school. A lower proportion of young mothers was employed and a much higher percentage was receiving public assistance. Couples who married after pregnancy experienced a high rate of marital instability. Three out of five couples separated within five years of their wedding date (Furstenberg, 1976).

The author concluded that these mothers were also severely restricted in their employment prospects. Additionally, they had limited qualifications as well as lack of experience (Furstenberg, 1976).

Menken (1972) reported a long term study of a sample of white couples in Detroit in 1961 where one fifth of the sample was composed of premaritally pregnant teenagers. The study showed that divorce rates for teenage marriages were very high (9.4%) as compared to other couples (3.3%).

From the above findings it could be well concluded that effects of teenage child bearing are long lasting. Teenage child bearing is the reason most often cited for teenage parents discontinuing their education, dropping out from the labor force, severely restricting employment prospects, and having less stable marriages. In short, adolescent child bearing is costly to the society, both in terms of money spent on health and social services and the loss of the economic contribution that teenage parents might have made if they continued their education and vocational choice (Teenage Pregnancy, 1981).

#### Primary and Secondary Prevention of Adolescent Pregnancies

Primary prevention means finding ways to keep teenage girls from becoming pregnant, while secondary prevention

refers to finding ways to comfort them and help prevent getting into the same situation again. Prevention is the most obvious solution to teenage pregnancy but the immediate concern is for those adolescents who are already pregnant (Ross, 1982). According to Jekel (1977), primary prevention may be done in one of two ways: (1) health promotion through skills and knowledge, and (2) contraceptives as a means of prevention.

#### Health Promotion Through Skills and Knowledge

Klerman (1975) has emphasized the critical need to provide, early, a meaningful role for young people which would include some form of socially useful work and skills integrated with their educational experiences. Sex education and counseling have been suggested as one means of helping to prevent unwanted pregnancies among teenagers (Wilson, 1964).

According to the study conducted by Bennett and Dickinson (1980), discussion of sex between parent and child was found to be a rarity, despite the support given by the parents for more effective sex education. On questioning the teenagers, it was learned that young people favored parental responsibility for sex education. The authors also evaluated the impact of rapport and discussion on the

students' practical knowledge of sex and birth control. The results indicated that sex education at the college level may have contributed more to actual knowledge for both males and females than sex education in high school.

According to a 1976 national survey of never married United States women aged 15 to 19, it was reported that 7 in 10 have had sex education courses in school (Zelnik, 1978). The courses included some teaching about modern contraceptive methods, VD, and detailed instruction about the monthly menstrual cycle. The survey reported the following findings as regards the knowledge of pregnancy among 15 to 19 year olds. Six in 10 who have had a sex education course claimed to know the period of greatest pregnancy risk, but only one third of those who had such a course could in fact correctly identify the time when the risk of pregnancy is highest. Young white women were nearly two times more likely than blacks to identify the period of risk correctly. Proportionately more blacks than whites had received instruction about modern contraceptives. Differences were also found by socioeconomic status in the proportion who had a sex education course. The higher the socioeconomic status, the more likely they were to have had such courses. The sex education course remains the most common source of information for both white and black teenagers.

Home was a distant second and friends were the poorest source of sex information.

James, James, and Walker (1977) conducted a nine-year longitudinal study regarding the problems of sexual growth of adolescent, underprivileged, unwed black females. The information obtained from the study which is pertinent to the content of a sex education program was that a large number of these adolescent girls complained about the lack of education programs regarding contraception, sexuality, personal hygiene, and human reproduction. These were areas that the authors postulated should be included in a sex education program.

In 1969, Furstenberg, Gordis, and Markowitz attempted to relate birth control knowledge and attitude about birth control among unmarried pregnant adolescents. The sample consisted of 169 unmarried adolescents who registered for prenatal services at Mount Sinai Hospital. Over 85% of the girls in the study were in their middle teens. Structured interview was administered to each girl by a trained interviewer at the time of registration.

Furstenberg et al. (1969) concluded that most girls had some knowledge of birth control. The authors reported only 7% of their sample were unable to define birth control or identify some type of contraception. Knowledge of birth

control was apparently acquired by some of the girls after pregnancy occurred. Less than half were able to identify at least three methods of birth control. The pill was mentioned more frequently than the condom. Almost two fifths of the sample mentioned the IUD. The reason for the high level of awareness of the pill and IUD was the publicity these methods received in the mass media; 24% of the sample reported hearing it from the mass media. However, a small proportion had obtained knowledge about contraception from professional or other authoritative sources. The authors pointed out that knowledge that these forms of birth control exist is not equivalent to knowledge of how and where to get them and concluded that most girls did not have access to these methods of birth control. Girls tended to be most aware of forms of birth control to which they had least access (pills, IUD). Regarding the attitudes of teenagers toward birth control, the findings indicated that a number of girls were uncertain about the safety, reliability and desirability of certain methods of contraception and fears were expressed about the safety of the pill and IUD.

Reichett and Werley (1975) conducted an experimental study in collaboration with the Planned Parenthood League Inc. of Detroit in search of content-oriented data in the area of evaluating sex education programs for teenagers.

Unwanted teen pregnancy is viewed as a serious problem and, according to Reichett and Werley, sex knowledge is a necessary tool for teenagers to use to help avoid this problem.

The sample for the Reichett and Werley (1975) study consisted of 367 women under 18 years of age who attended the teen center for birth control pills. Each subject was given a questionnaire to complete before the start of the educational session. A posttest was given 10 weeks later. For the sample as a whole there was a significant increase in mean score on the scales following participation in the sex education rap session. The authors concluded that sex education helps increase knowledge to a level which exceeds the pre session score of the most knowledgeable subgroups.

School health programs have several functions with respect to prevention of unwanted pregnancies (Committee on School Health, 1972). The Committee stated that schools should offer health instructions about reproduction and content should be realistic enough to be relevant to the problem of unwanted pregnancy.

Ooms' (1981) book, Teenage Pregnancy in a Family Context, focused on the range of policies concerned with teenage pregnancy, those aimed at prevention, such as sex education, family planning programs, health care, economic



support, and social services to the pregnant adolescent. According to Ooms teenage pregnancy is viewed as a serious problem for the individual, family, and the society at large.

Poole (1976) stated that teenagers need to be taught facts about pregnancy and its effects on teenagers' lives early enough so they can decide between fact and fiction and be able to apply the knowledge to their own decision making. He further pointed out that teenagers must learn that a lack of sexual knowledge does not lead to innocence, but ignorance and, according to Poole, if teenagers come to terms with their sexuality, most will accept the responsibility of preventing an unwanted pregnancy.

Responding to the problem of teenage pregnancy in 1978, the Carter Administration issued an initiative:

On the last day of the Ninety-fifth Congress, October 15, 1978, Congress passed the Health Services and Centers Amendments Act. Titles VI, VII, VIII of the legislation established the first federal grants program to focus specifically on the problems of teenage pregnancy. (Ooms, 1981, p. 30)

Secretary Califano asked each major division of Health, Education, and Welfare (HEW) to make every effort to deal with the problems of adolescent pregnancy. The Office of Adolescent Pregnancy Programs (OAPP) was established to report directly to the Assistant Secretary for Health, Education, and Welfare. One of its major goals is related to the prevention of teenage pregnancy (Ooms, 1981).

### Contraceptive Use as a Means of Prevention

The Alan Guttmacher Institute (Teenage Pregnancy, 1981) reported that there would have been 689,000 teenage births in addition to the 4.8 million that actually occurred between 1970 and 1978 had the Family Planning Clinics not existed. It was also noted that although the United States government is currently investing about \$12 million a year in contraceptive development, at least \$60 million is needed annually to take advantage of current knowledge to get major new methods such as monthly pill and a male pill to the market to prevent teenage pregnancy.

Keeping birth control services and information from teenagers is a singularly cruel as well as ineffective punishment to inflict on young people for responding to messages that many adults may deplore, but appear unable to change. (Teenage Pregnancy, 1981, p. 42)

In describing the impact of Family Planning Clinic programs on adolescent pregnancies, Forrest, Herndin, and Henshaw (1981) stated that during the 1970s, there was a decline in adolescent child bearing as well as pregnancy rates. An estimated 2.6 million unintended pregnancies were averted among teenagers as a result of their enrollment in Family Planning Clinics. In 1979 alone, 417,000 teen pregnancies were averted due to Family Planning programs. A chief goal of the organized family planning programs has been to reduce the rate of unintended pregnancies among adolescents.

In 1969, there were fewer than a quarter of a million teenagers using family planning. By 1976, the number of teens attending family planning clinics had increased to 1.2 million (Ooms, 1981).

Kantner and Zelnik (1973) conducted a national survey of 412 black and 630 white never married sexually active females aged 15 to 19 to determine the means of pregnancy prevention used. Their findings showed that 47% of the young women used contraception at some time. By age 19, only about 11% of blacks and 12% of whites had failed to use some method of contraception. Of the sexually active 15 to 19 year olds, 53% failed to use any kind of contraception the last time they had intercourse, and among the youngest group--those aged 15--the figure reached 71%. The picture for consistent use was even worse. Less than 20% of sexually experienced 15 to 19 year olds reported that they "always" use some method. According to Kantner and Zelnik, 40% premarital pregnancies could be reduced by the proper and consistent use of contraceptives.

A study conducted by Furstenberg et al. (1969) about birth control use among unmarried pregnant adolescents showed that 41% of the girls reported that they had used some form of birth control. Birth control use was generally confined to condoms. Only 22% had ever used a female birth

control method, most by nonprescription form of birth control (douche, suppositories, jellies) which could be purchased easily at the drug store. Only 30% of the girls used birth control regularly. According to the researchers' findings, most teenagers did not attempt to prevent pregnancy from occurring. Researchers further stated that even irregular use of birth control had some effect in temporarily preventing pregnancy, thus they expected greater effectiveness in primary prevention with more regular use of contraceptives.

According to Cvetkovich et al. (1975), the U.S. Commission on Population stated that while the presentation of accurate contraceptive information is important, it is not in itself sufficient to deal with the prevention of teenage pregnancy problems. Many adolescents who have the benefit of the best sex education and have contraceptives available do not use contraception. New directions which can offer suggestions for improving existing programs are required.

Cahn (1977) stated that for the prevention of adolescent pregnancies, comprehensive family planning services require much more than birth control methods. In his study he concentrated on determining needs of adolescent women. The sample consisted of all women 18 years old and

under who were attending Planned Parenthood clinics in New York City for the first time. Data were collected from 476 adolescents during a period of six weeks through interviews. The needs discovered were as follows: teenage groups must be reached by the age of 15 years if they are to have meaningful information in time to use it when needed; family planning agencies can improve teenagers' ability to prevent pregnancy by encouraging parents to be more accepting of their children's sexual activity; teenagers will use contraceptives more effectively if they have parental support rather than opposition; males need to play a more active and supportive role in birth control; and clinic personnel can and should help the teenagers in deciding about family planning and also to find what form of support system they have to turn to if and when they have questions and uncertainties. Taking all the needs into consideration, the author concluded, could substantially reduce the incidence of unwanted pregnancies among adolescents (Cahn, 1977).

As stated earlier, secondary prevention is meeting pregnant teenagers' needs and helping them find ways to avoid getting into the same situation again. Over 750 special and comprehensive school-age parent programs which have been developed around the country are considered secondary prevention. These special programs are aimed at

limiting medical, social, and educational disability from school age pregnancy (Jekel, 1977).

In 1977 the Center for Population Options (CPO) expanded its sexuality education program in cooperation with the Youth-Serving Agencies Project (YSAP) (Cregg, 1982). The program was developed to assist national youth organizations in providing the necessary information and guidance for encouraging responsible sexual and reproductive behavior on the part of young people. As a result of the Youth Serving Agencies Project, those communities which want to include sex education in their public school curricula can today call upon their local YSA for encouragement and support. These agencies are also assuming a leadership role in many communities as they assist young people in understanding their sexual development and reproductive behavior (Cregg, 1982).

For those nationwide Youth Serving Agencies (YSAs) which have not yet achieved an optimal level of programming in providing sexuality education, a new program initiative entitled "Life Planning" is under development (Cregg, 1982). Its concept encompasses two most challenging and progressing tasks confronting adolescents, one realizing a vocational or career goal, and secondly managing one's sexual development and reproductive behavior.

The program will focus on goal setting, decision making, and life priorities and will clarify for youth workers, adolescents, and parents the negative educational and vocational implications of unintended teenage pregnancy. (Cregg, 1982, p. 3)

According to the author the life planning concept has been accepted very favorably and has enabled the project staff to initiate discussion with agencies previously uninvolved in the Youth Servicing Agencies project. For example, Boy Scouts of America has shown interest in life planning materials and training as a possible means of increasing their existing youth employment program. In summary, the Center for Population Options' (CPO) work with national and local Youth Serving Agencies appears to have strengthened the field of sexuality education. According to Cregg (1982), primary and secondary prevention of unwanted teenage pregnancy can be achieved by appropriate sex education given at the right time combined with proper and regular use of contraceptives and looking after the needs of teenagers as a whole.

#### Summary

Teenage child bearing has become a serious social, economic and health problem in the United States. In spite of the decline in adolescent birth rates, pregnancy rates and sexual activity among teenagers have continued to climb. The problem has been generally acknowledged but there have

been sharp disagreements among experts, politicians and the general public about how to deal with it. In the past there have been efforts to discredit sex education and family planning programs, but studies have shown that sex education in the schools does not result in increased sexual activity among teenagers, but helps teenagers avoid pregnancy. Family planning programs combined with other health services have done the most to promote the use of contraceptives.

Sex education and use of contraceptives are health services provided by the family planning clinics, however, not one method alone can solve the problem of teenage pregnancy. Combined continuous sincere effort in the right direction will help solve the problem and create a better and must more meaningful life for hundreds of thousands of teenagers.



## CHAPTER 3

### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

A nonexperimental, explanatory study was conducted to assess the difference in the knowledge of human sexuality between two groups of teenagers. A group of nonpregnant females who have never been pregnant was selected to compare their knowledge of human sexuality with a group of pregnant teenagers. A structured, pre-coded questionnaire was administered to both groups.

#### Setting

This study was conducted in a North Side health center. This center administers family planning and maternity services to teenagers on a routine basis.

The center area where data were collected had the following facilities:

1. A large waiting area with regular chairs placed in a straight row which had a capacity of holding about 40-50 patients at a time
2. A station where initial registration is done
3. Eleven different sections for different services and activities such as:
  - a. Maternity
  - b. Family Planning

- c. Dental
  - d. Women, Infants and Children (WIC)
  - e. Well Child Clinic
  - f. Chest Clinic
  - g. Speech and Hearing
  - h. Health Education
  - i. Occupational Therapy
  - j. Field Services
  - k. Immunization
4. A laboratory for blood and urine testing
  5. A classroom which had seating arrangements for 30 students.

There were no desks available in the classroom, but clip boards were provided to the participants for answering the questionnaire. The lighting in the classroom was good.

#### Population and Sample

The health center where the study was conducted had the largest population of teenagers of limited income in the area. Criteria for the selection of the participants in this study included the following: registered pregnant and nonpregnant females who had never been pregnant between the ages of 13 to 19 years and who volunteered to participate. Twenty registered pregnant teenagers in the Maternity Clinic (Group A) and 20 nonpregnant teenagers who had never been

pregnant in the Family Planning Clinic (Group B) and who met the criteria were asked to participate in the study.

#### Protection of Human Subjects

No names were used. There were no risks or hazards to the patients. A survey questionnaire with no identification of participants other than the letter A denoting pregnant teenagers and the letter B denoting nonpregnant teenagers who had never been pregnant was administered. This was done after approval of the Human Research Review Committee of Texas Woman's University and the Human Experimentation Committee at the study agency (Appendix B).

To assure protection of all research participants, 18 and 19 year old teenagers were asked to sign the consent form. In the case of minors (under 18 years), the parent was not asked to sign the consent before the administration of the questionnaire to the participants. At the present time the Health Department does not require parental consent for services, thus at the Health Department's request the consent form for minors was deleted from the study.

#### Instrument

The instrument used in this study consisted of a demographic data sheet and the Human Sexuality Test (HST), which was designed by Maurilla Teran (1980). Permission to

use the instrument was obtained (Appendix C). The demographic data sheet collected data regarding extraneous variables, i.e., age, race, marital status, educational status, prior knowledge of human sexuality, and previous pregnancies. These sheets were marked "A" for the group of pregnant teenagers from the Maternity Clinic and "B" for the group of nonpregnant teenagers who had never been pregnant from the Family Planning Clinic. The Human Sexuality Test (HST) is a test of knowledge consisting of 20 multiple choice questions related to the topic of human sexuality. The questionnaire, which requires approximately 25 minutes to complete, tests for knowledge in the following areas: (a) human reproduction, (b) contraceptives, (c) venereal diseases, and (d) myths and fallacies about human sexuality (Appendix A).

Certain words of the questionnaire were further explained by words in brackets. This was done because the educational level of the participants might have been below high school level.

Face and content validity of the Human Sexuality Test were done using the Delphi technique (Teran, 1980). Assumption of the validity of the HST was determined by using the expertise of the following panel: (a) a clinical psychologist experienced in treating adolescents, (b) an

associate school psychologist, (c) three intermediate school counselors, and (d) a planned parenthood health educator. Based on the statement of the problem, the selected age group, and knowledge of the instructional procedure, the panel of experts was asked to evaluate the questionnaire to determine if the content was within the students' comprehension, if the length of the instrument was appropriate for the age group, and if the topics selected were of high interest to the participants. The panel's suggestions were considered in the revision of the questionnaire. Agreement from four of the six experts was necessary for inclusion of an item in the study. The instrument was submitted to each panel member three times for changes in order to establish agreement regarding items relating to venereal disease and contraceptives (Teran, 1980).

In a previous study (Teran, 1980), reliability of the instrument was measured by the split-half method. Ten students within the same age group were selected from the intermediate public schools and were requested to respond to the questions of the instrument. The Pearson product-moment correlation coefficient was utilized to obtain reliability. The reliability coefficient obtained was  $r = .72$  (Teran, 1980).

For scoring the questionnaire, one point per correct answer was given with a possible total of 20 points. Thus, the highest possible score was 20 and a range of possible scores was from 0 to 20. No points were deducted for wrong answers.

#### Collection of Data

The charge nurse of the Maternity and the Family Planning Clinics assisted the investigator by assembling the clinic patients for the study by directing clinic patients to the classroom. Since there were two groups, the demographic data sheet for pregnant teenagers was marked A and the demographic data sheet for teenagers who had never been pregnant was marked B.

Once the subjects were seated in the classroom, an oral description of the study was read aloud by the investigator (Appendix B). Once teenagers aged 13 to 19 years old agreed to sign, the consent form was given to them to sign and return. Then the questionnaire packet including a demographic data sheet and the HST questionnaire was given to them by the investigator. Pencils and clip boards were provided for use by the participants.

Participants were instructed to do the following:

1. Give only one answer per question.
2. Answer the questions without discussion.

3. Answer the questions truthfully.
4. Leave the completed questionnaires on the teacher's table in the classroom.

After all the questionnaires were collected, the investigator took 10 to 15 minutes to go through the right answers with the participants and clarify their doubts and questions.

The data were collected from Group A just prior to a Maternity Clinic held on Monday and Thursday between 8:00 am and 12 noon. The data were collected from Group B just prior to the family planning clinic held on Monday and Thursday between 1:00 and 5:00 pm.

#### Treatment of Data

Descriptive statistics including means, ranges, and percentages were used to report demographic data, e.g., age, race, marital status, and educational status. Knowledge scores of both the pregnant and nonpregnant who had never been pregnant groups responding to the Human Sexuality Test were compared using inferential statistics. Although the level of measurement of the HST is interval, the Mann-Whitney U statistic was used because of the nonrandom sample selection.

CHAPTER 4  
ANALYSIS OF DATA

This nonexperimental explanatory study was conducted to assess the difference in knowledge of human sexuality between a group of nonpregnant teenagers (who had never been pregnant) and a group of pregnant teenagers. This chapter contains the analysis and interpretations of the data obtained from 40 returned questionnaires pertaining to human sexuality.

Description of Sample

The sample for this study consisted of 40 teenagers between the ages of 13 and 19. Twenty pregnant and 20 nonpregnant teenagers answered the questionnaire. All 40 questionnaires were used for analysis.

The 40 respondents were divided into four age groups: 13 to 14, 15 to 16, 17 to 18, and 19 years. The demographic characteristics of the respondents have been summarized in Table 1.

Races for the 40 respondents were: 9 (22.5%) white, 26 (65%) black, and 5 (12.5%) Mexican-Americans. There were 10 (25%) married and 30 (75%) single subjects. Educational status included: 9 (22.5%) had completed high school, 10



Table 1

Frequency and Percentage of Demographic Characteristics of  
40 Teenagers (20 Pregnant Group A and 20 Nonpregnant Group  
B) Responding to the Human Sexuality Test

Variables	<u>Group A</u>		<u>Group B</u>		<u>Total</u>	
	#	%	#	%	#	%
<u>Age in Years</u>						
13-14	0	0.0	2	10.0	2	50.0
15-16	5	25.0	10	50.0	15	37.5
17-18	13	65.0	7	35.0	20	50.0
19	<u>2</u>	10.0	<u>1</u>	5.0	<u>3</u>	7.5
Total	20	50.0	20	50.0	40	100.0
<u>Race</u>						
White	6	30.0	3	15.0	9	22.5
Black	10	50.0	16	80.0	26	65.0
Mexican-American	<u>4</u>	20.0	<u>1</u>	50.0	<u>5</u>	12.5
Total	20	50.0	20	50.0	40	100.0
<u>Marital Status</u>						
Single	11	55.0	19	95.0	30	75.0
Married	<u>9</u>	45.0	<u>1</u>	5.0	<u>10</u>	25.0
Total	20	50.0	20	50.0	40	100.0
<u>Educational Status</u>						
Completed High School	5	25.0	4	20.0	9	22.5
Not Completed	9	45.0	1	5.0	10	25.0
Enrolled High School	<u>6</u>	30.0	<u>15</u>	75.0	<u>21</u>	52.5
Total	20	50.0	20	50.0	40	100.0
<u>Sex Class</u>						
Yes	8	40.0	11	55.0	19	47.5
No	<u>12</u>	60.0	<u>9</u>	45.0	<u>21</u>	52.5
Total	20	50.0	20	50.0	40	100.0
<u>Have You Been Pregnant Before</u>						
Yes	4	20.0	0	0.0	4	10.0
No	<u>16</u>	80.0	<u>20</u>	100.0	<u>36</u>	90.0
Total	20	50.0	20	50.0	40	100.0

Table 1 (Continued)

Variables	<u>Group A</u>		<u>Group B</u>		<u>Total</u>	
	#	%	#	%	#	%
<u>Times Pregnant</u>						
One Time	3	75.0	0	0.0	3	75.0
Two Times	<u>1</u>	25.0	<u>0</u>	0.0	<u>1</u>	25.0
	4	100.0	0	0.0	4	100.0

(25%) had not completed high school, and 21 (52.2%) were enrolled in high school. Nineteen respondents (47.5%) had attended sex education classes, while 21 (25.5%) did not have any classes. Four respondents (10%) had had prior pregnancies while 36 (90%) had not experienced any pregnancy. Of the four girls who had been pregnant before in Group A, three girls were pregnant one time and one girl was pregnant two times.

The mean age of the 40 respondents was 16.6 years. The mode was 18 years and the median was 16.8 years. The age standard deviation was 1.630, while the range was 6, the minimum age was 13, and the maximum age was 19.

### Findings

To determine the degree of human sexuality knowledge possessed by the 40 respondents, the 20-item Human Sexuality Test (HST) (Teran, 1980) was hand scored to calculate a raw score. The mean score was 10.150 and the mode was 13. The

standard deviation was 4.073, while the range was 16 with a minimum score of 3 and a maximum score of 19.

Table 2 shows a comparison of knowledge scores between groups A (pregnant) and B (never been pregnant) responding to the Human Sexuality Test. The mean of Group A ( $n=20$ ) was 9.9 as compared to Group B ( $n=20$ ) with a mean of 10.4. The group of pregnant teenagers who were under study had a slightly lower mean on the knowledge scores than the group of teenagers who had never been pregnant.

Table 2

Knowledge Scores Comparison of Groups A and B Responding to the Human Sexuality Test (HST)

	Group A (Pregnant)	Group B (Nonpregnant)
Number	20	20
Mean Score	9.9	10.4
Standard Deviation	4.4592	3.7473
Range	15	13
Variance	19.8842	14.0421

Comparison of knowledge scores between groups A and B in the four categories of the Human Sexuality Test are shown in Table 3. Group A's knowledge scores of human reproduction showed a mean score of 1.7 as compared to Group B with

a mean score of 2.25. The knowledge of human reproduction appears to be slightly higher in Group B (never pregnant teenagers) than Group A (pregnant teenagers).

Table 3

Knowledge Scores Comparison of Groups A and B Responding to the Four Categories of Human Sexuality Test (HST)

Categories	Group A (Pregnant)	Group B (Nonpregnant)
<u>Human Reproduction</u>		
Number	20	20
Mean Score	1.7	2.25
Standard Deviation	1.6575	1.5174
Range	5	5
Variance	2.7474	2.3026
<u>Contraceptives</u>		
Number	20	20
Mean Score	2.10	2.4
Standard Deviation	1.653	1.2312
Range	4	4
Variance	1.3579	1.2312
<u>Venereal Disease</u>		
Number	20	20
Mean Score	3.4	3.2
Standard Deviation	1.4654	1.5424
Range	5	5
Variance	2.1474	2.3789
<u>Myths and Fallacies</u>		
Number	20	20
Mean Score	2.7	2.55
Standard Deviation	1.4179	1.7006
Range	5	5
Variance	2.1474	2.3789

The Human Sexuality Test (HST) was used to determine the knowledge on contraceptives of 40 teenagers in groups A and B. Group A's results of the contraceptives scores had a mean of 2.10 as compared to Group B with a mean of 2.4. The knowledge of contraceptives appears to be slightly lower in Group A (pregnant teenagers) than Group B (never pregnant group).

The results of the knowledge scores on venereal diseases of the Human Sexuality Test were compared between groups A and B. Group A (pregnant teenagers) showed a slightly higher mean of 3.4 as compared to Group B (never pregnant teenagers) who had a mean of 3.2.

The results of knowledge scores on Myths and Fallacies of the Human Sexuality Test were also compared. Group A (pregnant teenagers) had a mean of 2.7 as compared to Group B who had a mean of 2.55.

The hypothesis tested in this study was: Female teenagers who are pregnant will have less knowledge of human sexuality than those female teenagers who have never been pregnant. A Mann-Whitney U test was used to compare total knowledge scores of both the pregnant and never been pregnant groups responding to the Human Sexuality Test. The calculated U value of .6443 was not significant at  $p \leq .05$ . Thus, the hypothesis was not supported.

The Mann-Whitney U was also used to test the difference in knowledge among the four subtests of the Human Sexuality Test. No significant differences between the subtests were found (Table 4).

Table 4

Mann-Whitney U Test Showing the Calculated Values for Four Categories of Human Sexuality Test (HST)

Categories	<u>U</u>
Human Reproduction	.2247
Contraceptives	.4023
Venereal Disease	.6870
Myths and Fallacies	.8564

#### Summary of Findings

Chapter 4 has presented an analysis and interpretation of the findings of this study. The analysis of data showed that the pregnant teenagers under study had slightly lower mean knowledge scores as compared to the teenagers who had never been pregnant, though statistical analysis did not show these differences to be statistically significant. When the difference in knowledge among the four subtests-- human reproduction, contraceptives, venereal disease, and

myths and fallacies--of the Human Sexuality Test (HST) was compared, there was no significant difference found in mean knowledge scores between the two groups. The hypothesis that female teenagers who are pregnant will have less knowledge of human sexuality than those female teenagers who had never been pregnant was not supported.

## CHAPTER 5

### SUMMARY OF THE STUDY

The purpose of this study was to determine the relationship between knowledge of human sexuality and teenage pregnancy. A group of 20 pregnant teenagers was selected to compare their knowledge of human sexuality with 20 teenagers who had never been pregnant. The following chapter presents a summary of the study as well as discussion of the findings. Conclusions, implications, and recommendations for further study conclude the chapter.

#### Summary

Teenage pregnancy has reached epidemic proportions in the United States and most of the pregnancies are unwanted. The effects are long lasting and are being continuously felt by society. In every respect adolescent child bearing has proved to be costly to society. One of the major reasons for the problem is inadequate sex education (Teenage Pregnancy, 1977). This study was carried out to investigate whether female teenagers who were pregnant have less knowledge of human sexuality than those female teenagers who had never been pregnant.



To determine the relationship between knowledge of human sexuality and teenage pregnancy, a nonexperimental explanatory study was conducted in a North Side health center using convenience sampling. Twenty pregnant teenagers registered in the Maternity Clinic (Group A) and 20 nonpregnant teenagers who had never been pregnant attending the Family Planning Clinic (Group B) were selected to participate in the study. To assure protection of human subjects, the purpose of the study was explained to all 40 research participants who were then asked to sign the consent form before the administration of the questionnaire. The data were collected using the Human Sexuality Test (HST) developed by Teran (1980). The questionnaire consisted of a demographic data sheet which collected information on extraneous variables, such as age, race, marital status, educational status, prior knowledge of human sexuality and previous pregnancies. The Human Sexuality Test consisted of 20 multiple choice questions covering four different areas: (a) human reproduction, (b) contraceptives, (c) venereal diseases, and (d) myths and fallacies about human sexuality. Data were then analyzed using descriptive and inferential statistics.

From the analysis of data no significant difference was found in the knowledge of human sexuality between the groups

of pregnant teenagers and the nonpregnant teenagers (never been pregnant). Thus the hypothesis of this study was not supported.

#### Discussion of Findings

A review of the literature revealed divergent findings. According to Zelnik (1978) the sex education course remains the most common source of information for teenagers. The study conducted by James, James, and Walker (1977) revealed that large numbers of teenage girls complained about the lack of education programs regarding contraception, sexuality, personal hygiene, and human reproduction. Furstenberg, Gordis, and Markowitz (1969) concluded that most unmarried pregnant girls have some knowledge of birth control, but knowledge that these forms of birth control exist was not equivalent to knowledge of how and where to get them.

A comparison of knowledge scores between Group A (pregnant teenagers) and Group B (never been pregnant teenagers) in the four categories of the Human Sexuality Test revealed a slightly higher knowledge of human reproduction in Group B. The knowledge of contraceptives appears to be higher in Group B as compared to Group A. The knowledge of venereal disease seems to be higher in Group A as compared to Group B. There was no difference found in the knowledge of myths and fallacies between the two groups. However,

knowledge scores on venereal diseases were high in both groups and knowledge scores on human reproduction were low in both groups. In the present study knowledge about venereal disease was higher and knowledge about human reproduction was lower among teenagers as compared to knowledge about contraceptives, myths and fallacies. These findings are supported by Zelnik's (1978) national survey, where a sex education course in school included instructions about venereal disease but no information on human reproduction. James et al.'s (1977) study reported that large numbers of adolescent girls complained about the lack of education programs regarding sexuality and human reproduction. This could be the reason for venereal disease knowledge being high among teenagers and their lack of enough knowledge about human reproduction.

The findings of the present study possibly suggest that teenagers need to learn more about human reproduction to understand how pregnancy occurs and how and when it can be avoided. As also postulated by James et al. (1977), Zelnik (1978), and the Committee on School Health (1972), schools should offer health instructions about human reproduction to avoid teenage pregnancy.

### Conclusions and Implications

The following conclusions seem justified based on the results of this study, but they are limited to the sample studied.

1. Nonpregnant teenagers (never been pregnant) have as much knowledge about human sexuality as pregnant teenagers.
2. Knowledge about human reproduction was low in both pregnant and nonpregnant groups.
3. There was no relationship between knowledge of human sexuality and teenage pregnancy.
4. More teenagers had attended sex education classes in Group B (never pregnant teenagers) than Group A (pregnant teenagers).

The following implications seem justified based on the results of this study:

1. Sex education courses need to be designed to meet the needs of teenagers for the prevention of unwanted pregnancies.
2. More emphasis needs to be put on human reproduction for better understanding of conception and its prevention by the teenagers.

### Recommendations

Based upon the findings of this study, the following recommendations for research are presented:

1. A similar study with a random sample should be conducted in other health care clinics and other geographic areas to determine whether there is any relationship between knowledge of human sexuality and teenage pregnancy.
2. A study should be conducted to find out what areas of human sexuality teenagers feel they need assistance in preventing unwanted pregnancies.

APPENDIX A  
HUMAN SEXUALITY TEST

## DEMOGRAPHIC INFORMATION SHEET

Please answer the following question:

Age \_\_\_\_\_

Please circle only one answer per question.

Race

- a. White
- b. Black
- c. Mexican-American
- d. Oriental
- e. Other (please state which) \_\_\_\_\_

Marital Status

- a. Single
- b. Married
- c. Divorced

Educational Status

- a. Completed high school
- b. Not completed and not attending school
- c. Enrolled in high school
- d. Am in \_\_\_\_\_ grade

Did you have any classes to learn about sexuality, before you came to this clinic?

- a. Yes
- b. No

Have you been pregnant before?

- a. Yes
- b. No

If yes to above question, how many times?

\_\_\_\_\_

## HUMAN SEXUALITY

DIRECTIONS: CIRCLE THE LETTER OF THE WORD OR GROUP OF WORDS THAT BEST COMPLETES EACH OF THE STATEMENTS.

## I. HUMAN REPRODUCTION

1. Sperm cells are produced in the
  - a. penis
  - b. testes
  - c. urethra (pee hole)
  - d. epididymis
2. Both semen and urine leave the male body although never at the same time through the
  - a. urethra
  - b. bladder
  - c. seminal vesicle
  - d. testes
3. The sac-like structure that contains the testes is the
  - a. penis
  - b. seminal vesicle
  - c. scrotum
  - d. prostate gland
4. The thin tissue or membrane that partially covers the opening to the vagina in most women is the
  - a. fallopian tube
  - b. urethra
  - c. cervix
  - d. hymen
5. The organ that sheds its lining at menstruation is the
  - a. fallopian tube
  - b. uterus
  - c. vagina
  - d. abdomen



## II. CONTRACEPTIVES

1. The pill
  - a. is the most effective method of birth control
  - b. has a 50/50 chance of preventing pregnancy
  - c. can be taken by anyone to prevent pregnancy
  - d. can be bought anyplace
2. A condom (rubber)
  - a. should be tested before use
  - b. is a popular method of contraception
  - c. is 100% reliable
  - d. comes in different sizes
3. Spermicides (foams, creams, jellies)
  - a. can be bought without a prescription in any drugstore
  - b. can be bought only with a prescription
  - c. are the most effective contraceptives
  - d. can be taken orally (by mouth)
4. Withdrawal (pulling out) is
  - a. an effective birth control method
  - b. effective (good) 50% of the time
  - c. usually not effective
  - d. usually not done
5. Douching is
  - a. an effective birth control method
  - b. effective (good) if done before intercourse
  - c. effective if done 12 hours later
  - d. not an effective birth control method

## IV. MYTHS AND FALLACIES

1. The size of a man's penis
  - a. is determined by the size of a man's hands and feet
  - b. is important for a woman's sexual gratification (pleasure)
  - c. is not important
  - d. is determined by the number of times one has sex
2. If there is no hymen, it means the girl
  - a. is a cheerleader
  - b. might be a virgin
  - c. has had intercourse
  - d. is not a virgin
3. Masturbation
  - a. can cause pimples
  - b. is a normal sexual act
  - c. is practiced exclusively (only) by men
  - d. is an abnormal sexual act
4. Pregnancy will be prevented if
  - a. douching is done
  - b. one urinates after intercourse
  - c. one uses proper contraceptives
  - d. intercourse occurs during menstruation (period)
5. Sex education
  - a. will lead to an increase in premarital pregnancy
  - b. will cause sexual experimentation
  - c. will destroy family values
  - d. is part of growing up

APPENDIX B  
AGENCIES' APPROVALS AND  
CONSENT FORMS

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING  
DENTON, TEXAS 76204

DALLAS CENTER  
1810 INWOOD ROAD  
DALLAS, TEXAS 75235

HOUSTON CENTER  
1130 M. D. ANDERSON BLVD.  
HOUSTON, TEXAS 77030

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE City of Houston Health Department

GRANTS TO Cinderella David  
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem:

A Study of the Relationship Between the Knowledge of  
Human Sexuality and Teenage Pregnancy

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other \_\_\_\_\_

Date: \_\_\_\_\_  
[Signature]  
Signature of Student

[Signature]  
Signature of Agency Personnel  
[Signature]  
Signature of Faculty Advisor

\* Fill out and sign three copies to be distributed as follows: Original-Student; First copy - agency; Second copy - TWU College of Nursing.

## ORAL DESCRIPTION OF STUDY

I am Cinderella David and I am a nurse working on my master's degree at Texas Woman's University. I am doing a study to find out how much teenagers know about human sexuality. I would like you to volunteer your help with my study by answering this questionnaire. The results of my study may aid nurses and doctors in helping teenagers to better plan their lives.

The questionnaire has been written so it is easy for you to answer. Your names will not be put on the questionnaires and there are no risks or hazards to you from answering the questionnaire.

Remember, please give only one answer per question. Answer the questions without discussion. Answer the questions truthfully. When you have finished, please leave the answered questionnaires and the clipboards on the teacher's table. Thank you, your participation is greatly appreciated.

APPENDIX C  
PERMISSION TO USE TEST

November 16, 1981

Cinderella David  
11900 Barryknoll Lane #3502  
Houston, Texas

Ms. David,

This is in answer to your request to use my 20-multiple choice instrument developed to test 13-14 year-olds' knowledge about human sexuality. You certainly may use it. I am enclosing information on validity and reliability of this instrument.

I wish you success. If I can be of further service, please let me know.

Sincerely,

  
Maurilia (Molly) Teran

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