SOURCES OF HEALTH INFORMATION REGARDING CONTRACEPTION AND
STDS AMONG FAMILY PLANNING CLINIC CLIENTS

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

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TEXAS WOMAN'S UNIVERSITY

COLLEGE OF HEALTH SCIENCES

BY

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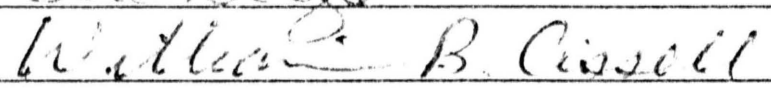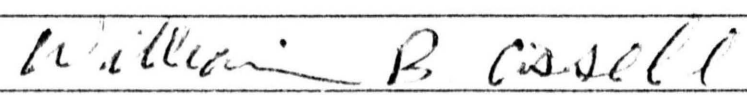AUGUST 1994

TEXAS WOMAN'S UNIVERSITY

May 12, 1994

To the Associate Vice President for Research and Dean of the Graduate School:

I am submitting herewith a dissertation written by Satya P. Krishnan entitled "Sources of Health Information Regarding Contraception and STDs among Family Planning Clinic Clients." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Health Education.

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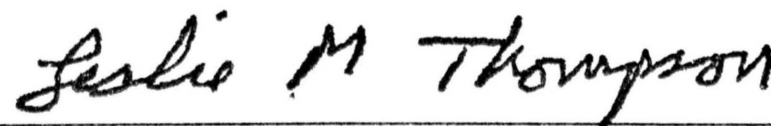
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DEDICATION

To my husband and to my parents, who have always encouraged
me to do better and explore new dimensions.

ABSTRACT

COMPLETED RESEARCH IN HEALTH SCIENCES
Texas Woman's University, Denton, Texas

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contraception and STDs among family planning clinic clients.
Ph.D. in Health Education, 1994, 143 pp. (J. Baker)

A total of 215 female clients from three family planning

clinics in Dallas, Texas were administered questionnaires to

determine their sources of health information, amounts

learned, and knowledge and attitudes regarding contraception

and sexually transmitted diseases (STDs). Subjects were

divided into two groups according to their reading skills

determined by the Wide Range Achievement Test (WRAT3). The

first group of 151 female clinic clients had a reading level

of 7th grade or lower and the second group of 64 had a

reading level of 8th grade or higher. African Americans

comprised the majority (59.5%) of the subjects. The average

age of the subjects was 25.0 years. Doctor, nurse, clinic,

and pamphlets/brochures were the most frequently used

sources of health information by both groups for

contraception. Television was the most frequently used

source of health information regarding STDs by the group

with higher reading skills. Clinic and pamphlets/brochures

were the most frequently used health information sources

regarding STDs by the group with lower reading skills. Some correlations were noted between the knowledge scales and number of sources of health information and amount learned from these sources. However, no correlations were observed between the attitudes scales and number of sources of health information and amount learned from these sources.

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INTRODUCTION

Health information can often be complex, highly
technical, and potentially fear arousing. Yet, it is
essential to inform, educate, and promote changes in health
behaviors (Freimuth & Marron, 1978). Several research
studies suggest that Americans receive information about
health issues from a variety of sources (Harris, Harris, &
Davis, 1991). These information sources include healthcare
professionals such as physicians, electronic sources such as
television, and social sources such as family and friends
(Gombeski et al., 1982). Several factors affect the type
and use of health information sources (Harris et al., 1991).
Factors such as ethnicity (Gombeski et al., 1981 & 1982;
Hazuda, Stern, Gaskill, Haffner, & Gardner, 1983; Clausen,
1985), gender, and age of individuals (Howard, Blick, &
Quarles, 1987) can often influence where people get
information regarding health issues. Another important
factor is the socioeconomic status of the individual.
Studies indicate that people with lower levels of education
and income rely more on information sources such as
television and less on newspapers and magazines when
compared to individuals from a higher socioeconomic strata
(Gombeski et al., 1982; Harris et al., 1991). Low income

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and low literacy are major barriers to healthcare and adversely affect most aspects of people's lives. These individuals, compared to those of higher socioeconomic status, are more prone to hospitalization, more needy of treatment for potentially preventable illnesses, and more apt to die prematurely (Weiss, Hart, & Pust, 1991). Few studies specifically address the health information needs and the difficulties faced by low income and low literate women.

Two health issues, contraception and sexually transmitted diseases (STDs), including HIV-AIDS are of great significance to all women particularly to low income and low literate women. Since the 1970s, the incidence of unplanned pregnancies and STDs, including HIV-AIDS have dramatically risen in America (Grimley, Riley, Bellis, & Prochaska, 1993). Approximately 1 million adolescent females become pregnant each year while STD infections such as gonorrhea, chlamydia, vaginal warts, herpes, and pelvic inflammatory diseases (PID) are occurring at alarming rates (Grimley et al., 1993). Furthermore, sexually active individuals have to deal with the real threat of HIV-AIDS today. The current rates of STDs, including HIV-AIDS and use of contraceptives clearly suggest the need for a synergistic approach to

prevent unintended pregnancies and the transmission of STDs including HIV-AIDS. The behavioral causes and therefore the behavioral prevention strategies for the above mentioned health issues are very similar (Grimley et al., 1993). Despite these serious health problems, little has been done to understand the health information needs of low income and low literate women regarding contraception and all STDs to develop relevant and appropriate prevention strategies.

Statement of the Problem

The investigator identified sources of health information used by female clients of three of the family planning clinics in Dallas and examined the relationship between amount learned from sources of health information and knowledge and attitudes about contraception and STDs (including HIV-AIDS).

Purpose of the Study

The purpose of this descriptive study was to determine the sources of health information regarding contraception and STDs (including HIV-AIDS) among female family planning clinic clients and to explore the relationship that existed between amounts learned from the sources of health

information and knowledge and attitudes about contraception
and STDs (including HIV-AIDS).

Research Questions

The following research questions were addressed by this
study:

1. Do family planning clinic clients use multiple
sources of health information regarding contraception?

2. Do family planning clinic clients use multiple
sources of health information regarding STDs and HIV-AIDS?

Hypotheses

The following null hypotheses were tested at the 0.05
level of significance:

1. There is no relationship between the amount learned
from sources of health information and knowledge regarding
contraception among family planning clinic clients.

2. There is no relationship between the amount learned
from sources of health information and knowledge regarding
STDs and HIV-AIDS among family planning clinic clients.

3. There is no relationship between the amount learned
from sources of health information and attitudes regarding
contraception among family planning clinic clients.

4. There is no relationship between the amount learned from sources of health information and attitudes regarding STDs and HIV-AIDS among family planning clinic clients.

Definition of Terms

The following terms were defined for the purpose of this study:

1. Amount learned from sources of health information. Determined by the sources of health information survey and can assume a value between 0 and 3 (0, 1, 2, and 3). A value of "3" indicates a lot learned and "0" indicates nothing learned from sources of health information under consideration. It is the perceived amount learned by the study subjects and not necessarily their actual knowledge.

2. Contraception. "Means of preventing pregnancy in spite of sexual intercourse" (Greenberg, Bruess, & Mullen, 1992, p. 623).

3. Multiple sources of health information. More than one source of health information, such as the use of both television and magazines for health information.

4. Sexually transmitted diseases (STDs). "Diseases that are primarily contracted through sexual contact" (Greenberg, Bruess, & Mullen, 1992, p. 630).

5. <u>Sources of health information</u>. People, printed materials, electronic media, and other sources that serve to provide information on health-related topics.

Limitations and Delimitations

The following limitations were identified for this study:

1. The sources of health information, amount learned from sources of health information, knowledge, and attitudes were determined by self-reported surveys whose accuracy depended on the honesty of the study subjects.

2. The sample was one of convenience, thereby limiting the generalizability of the results.

The following delimitations were imposed on the study:

1. The study was limited to three family planning clinics in Dallas, Texas.

2. The study subjects were clinic clients who signed the consent forms and were willing to take part in the study.

3. Only female clinic clients between the ages of 14-45 years were included in the study.

4. Initially, only female clinic clients with a seventh-grade or lower reading level would have been

included in the study. However, the suggestions made by the Human Subjects Review Committee (HSRC) were incorporated into the study design modifying this delimitation. All female clinic clients willing to participate in the study and who signed the consent forms were included in the study and divided into two groups, one with seventh grade and lower reading level and the other with a reading level of eighth grade and above. All data collected for each group were analyzed separately to comply with the HSRC's suggestion.

Assumptions

The following assumptions were made for the purpose of the study:

1. The subjects responded truthfully to the survey questions and in the focus groups.

2. Contraception and STDs (including HIV-AIDS) were relevant issues in the lives of the subjects.

Background and Significance

Research studies suggest that Americans receive information about health issues from a variety of sources. These information sources can be varied and include

electronic sources such as television, healthcare professionals such as physicians, and social sources such as family and friends (Gombeski et al., 1982). Use of multiple sources of health information can be advantageous to the general public because those who use several sources tend to be more knowledgeable and well-informed than those who do not (Gombeski et al., 1981).

Several factors affect the type and use of health information sources (Harris et al., 1991). One important factor is the socioeconomic status of the individual. Studies indicate that people with lower levels of education and income rely more on television and less on sources such as newspapers and magazines when compared to those in a higher socioeconomic strata (Gombeski et al., 1982; Harris et al., 1991). Gombeski and associates (1982) also found that better educated respondents may receive relatively more information from doctors and nurses while a study conducted by Ross (1981) indicated that poorer families depend more on family and friends for health and medical knowledge and less on healthcare professionals. Ethnicity is another factor that affects people's choice and use of health information sources. Studies conducted by Gombeski et al., (1981, 1982), Hazuda and associates (1983), and Clausen (1985)

indicate that ethnicity plays a role in the use of health information sources. Other factors such as gender and age of individuals may influence where people get information regarding health issues (Howard et al., 1987).

Studies have demonstrated a strong link between literacy and health. Often those who need to understand written and printed health-related messages are the least likely to be able to read them (Morgan, 1993). Illiteracy affects health when patients cannot read health-related instructions correctly (Kanonowicz, 1993). For example, research indicates that people with limited literacy are often more likely to smoke and less likely to engage in regular physical activity. And, women with literacy limitations were found less likely to undergo papanicolaou tests (Kanonowicz, 1993).

Like low literacy, poverty is a major barrier to health care and adversely affects most aspects of people's lives. The relationship between poverty and health is complex and cannot be reduced to a simple relationship between dollars and level of health (U. S. Department of Health and Human Services [USDHHS], 1990). However low income limits access to health services and availability of quality health care.

This, in turn, creates inequities in the health care delivery system (USDHHS, 1990).

Two contemporary health issues that affect women, particularly those disproportionately affected by low income and low literacy are contraception and STDs including HIV-AIDS. Few studies have explored the health information needs and sources of health information of low income and low literate women concerning the two health issues of contraception and STDs including HIV-AIDS. Such studies are important and an essential first step in understanding the health information needs of this segment of our population. Such research could provide valuable data needed to understand the use of certain health information sources by low income and low literate women and how these sources affect their knowledge and attitudes. Such information is also valuable to health educators and other healthcare professionals in understanding the needs of this group of women and in designing, planning, and implementing relevant and culturally appropriate health education and prevention programs for those who need them the most, low income and low literate women.

CHAPTER II

REVIEW OF LITERATURE

This chapter will review literature concerning the issues of contraception and sexually transmitted diseases (STDs)(including HIV-AIDS), poverty and illiteracy as factors that affect health and health related behaviors, and sources of health information.

Contraception and Sexually Transmitted Diseases

This section will review and discuss literature regarding contraception, sexually transmitted diseases, and HIV-AIDS.

Contraception

The largest increases in births and the highest percentages of unintended pregnancies in the United States are among adolescents and women over 35 years of age (Neinstein, 1994). The high rates of unintended pregnancies have resulted in high rates of abortions in these two age groups, with almost one abortion for every live birth among younger adolescents and one abortion for every two live births in women over the age of 40 (Neinstein, 1994).

Adolescents report high rates of sexual activity

(Neinstein, 1994). By the age of 16 years, 29% of male adolescents and 17% of female adolescents have had sexual intercourse (Gans, Blyth, Elster, & Gaveras, 1990). By age 18, these percentages rise to 65% and 54%, respectively, for boys and girls (Gans et al., 1990). The National Survey of Family Growth (National Center for Health Statistics [NCHS], 1988) and Sonenstein's (1989) data report high rates of sexual activity for both adolescent males and females. The National Survey of Family Growth (NCHS, 1988) also reported sexual activity among adolescents by race and age.

There is a greater proportion of reproductive women over the age of 35 today than in the past (Grimes, 1993). In fact in 1980, the largest group of reproductive women were 20 to 24 years of age. In 1990 this group was between 30 to 36 years of age and in the year 2,000 the largest group of reproductive women is predicted to be between 40-44 years of age (Grimes, 1993).

These statistics suggest that women need to use contraceptives for increasing time periods to avoid unwanted pregnancies. What is significant here, however, is that about 50% of American adolescents do not use contraception the first time they have intercourse (Hofferth & Hayes, 1987). In fact, many teenagers do not visit a family planning clinic until one year after they become sexually

active, when they show up at the clinics suspecting they are already pregnant (Moore & Erickson, 1985). There are many reasons given by adolescents for the lack of contraceptive use including perceptions of low risk of pregnancy, lack of access to contraception due to lack of information, concerns about confidentiality, costs and/or transportation, lack of knowledge of correct contraceptive techniques, fear of side effects, refusal by partner to use contraception, ambivalence about being sexually active, and a desire to have a baby to become independent, prove fertility and/or rebel against family (Neinstein, 1991). The use of contraception among older women is noticeably higher than among adolescents. In fact contraceptive services rank high on the list of services requested by women in later reproductive years (Neinstein, 1994).

Sexually Transmitted Diseases (STDs)

Today Gonorrhea, Syphilis, and AIDS are the most well known of the sexually transmitted diseases although, there are more than 20 other lesser known STDs (The Johns Hopkins School of Hygiene and Public Health, 1993). An average of 685,000 people are infected every day, worldwide, with an STD (Khanna, VanLook, & Griffin, 1992). In fact, every year there are about 250 million new cases worldwide of STDs, nearly as many as of malaria (Khanna, VanLook, & Griffin,

1992). STDs such as Chlamydia, Gonorrhea, Herpes, Pelvic Inflammatory Diseases (PIDs), and Vaginal Warts are also occurring at an alarming rate in the United States, particularly among young adults (Grimley, Riley, Bellis, and Prochaska, 1993). In fact, 86% of all the STDs occur among people between the ages of 15 and 29 years (Grimley et al., 1993).

The link between other STDs and the Human Immunodeficiency Virus (HIV) is better understood today. Other sexually transmitted diseases make it easier for HIV to pass from person to person. Chlamydia, Chancroid, Gonorrhea, Syphilis, and Trichomoniasis may increase the risk of HIV transmission by two to nine times (The Johns Hopkins School of Hygiene and Public Health, 1993). This link between other STDs and HIV may partly explain why HIV is more prevalent in heterosexual populations in countries like Africa than in countries in Europe and in the United States, where STDs are often treated and cured (The Johns Hopkins School of Hygiene and Public Health, 1993). Six studies indicate that STDs such as Chlamydia, Gonorrhea and Trichomoniasis that do not cause ulcers, increase the risk of HIV transmission in women by three to five times (Wasserheit, 1992). Several other studies have failed to find a link between HIV infection and other STDs (The Johns

Hopkins School of Hygiene and Public Health, 1993).
However, this may be due to methodological problems that
could have obscured the relationship between the two.

HIV-AIDS

Through September 1993 more than 339,250 people in the
United States have been diagnosed with AIDS (U. S.
Department of Health and Human Services [USDHHS], 1993).
While AIDS cases among gay and bisexual men have declined,
women have become the fastest growing group likely to
contract AIDS (Nyamathi, Bennett, Leake, Lewis, & Flaskerud,
1993). For women in the United States between the ages of
15 to 44 years, AIDS has become the fifth leading cause of
death (Nyamathi et al., 1993).

HIV-AIDS occurs disproportionately among African
American and Hispanic populations when compared to their
percentages in the general population (Nyamathi et al.,
1993). As of October 1993, the CDC reported that over
40,702 women in the United States have been diagnosed with
AIDS, with African American and Hispanic women accounting
for over 75% of these cases (USDHHS, 1993). The increased
rate of HIV transmission in these groups compared to White
women is due largely because of intravenous (IV) drug use

and/or heterosexual activity with an IV drug user (Nyamathi et al., 1993).

Women from certain ethnic/racial groups are disproportionately affected by HIV-AIDS ((Nyamathi et al., 1993) These women are also poorly educated and from low income groups. Low income women may be more likely to practice high-risk behaviors associated with AIDS as a result of high rates of depression, stress, and scarce personal and social resources (Nyamathi et al., 1993). Furthermore, many of these women may be lacking in medical knowledge and more likely to have higher rates of physical and mental illness, physical abuse, and lower self esteem compared to the general population (Nelson & Mondanaro, 1987; Wofsy, 1987). Thus low income and low literate women constitute a group whose behaviors are particularly difficult to change as they deal on a day-to-day basis with problems of poverty and increased risk for drug use, prostitution, and psychological dysfunction (Cochran, 1989; Gillian, Scott, & Troup, 1989; Mays, 1989). Intervention programs aimed at HIV-AIDS prevention in these groups need to take into account the various problems and barriers faced by these women.

Poverty and Health

Being poor, like being old, is a socially defining characteristic that affects one's relationship to the health care system in the United States (Muller, 1988). Knowledge about an association between social class and health has a long history (Najman, 1993). Much of the work done prior to 1970 on this topic was reviewed by Antonovsky (1967). The present review of literature examines some of the more recent studies conducted to illuminate this association. In 1973, Kitagawa and Hauser published their classic work in which they discussed the results from two studies based on two distinct data sets: the 1960 Matched Record Study and the Chicago Area Study. The 1960 Matched Record Study linked death certificates with census information based on educational attainment and household income for some 340,000 individuals who had died during May-August 1960 in the United States. Kitagawa and Hauser's analysis illustrated the inverse relationship between education and mortality for various population subgroups in terms of age, sex, and race. Their analysis also illustrated an inverse relationship between income and mortality for both members of family and unattached individuals. Kitagawa and Hauser's (1973) work provided extensive and very compelling evidence of the existence of differential mortality based on socioeconomic

status in the United States, during 1930-60. However, their work suffered from several limitations including the absence of data on a variety of central variables such as access to medical care, reimbursement coverage, lifestyle related issues such as smoking and diet, and family upbringing (Feinstein, 1993). Another study conducted during this time by Morris Silver drew upon the insights of Victor Fuchs, Michael Grossman, and other economists who became greatly interested in health care issues in the 1960s (Feinstein, 1993).

Among the recent U.S. studies that examine the relationship between socioeconomic status and health is the one conducted by Menchik in which he used data from the National Longitudinal Survey (1966-83) to study the relationship between household wealth and mortality (cited in Feinstein, 1993). This study is significant because of the innovative methods used by Menchik to measure the relationship. Menchik used carefully constructed direct measures of household wealth instead of depending upon present day income data. He also controlled for parental status by incorporating two variables such as a measure for parental education and the number of parents alive as of the time of the study (1966). Menchik's study established the

clearest link between wealth and mortality to date (Feinstein, 1993).

Palmer (1989) in his study using the Cox proportional hazards models of mortality risks found that income and wealth exert an inverse effect on mortality whereas the effect of education was inverse but insignificant (Palmer, 1989). Studies by Wing and his colleagues (1987, 1988), by Logue and Jorjoura (1990), and by Hadley (1982, 1988) examined specific diseases and/or small geographic areas and again came up with similar conclusions: the inverse and often significant relationship between income and education on mortality.

Various explanations have been suggested to illuminate this inverse or negative effect of socioeconomic factors such as education and income or family wealth. One explanation by Feinstein (1993) is organized along two dimensions. One dimension refers to the underlying characteristics of individuals (or households) that could cause differences in health status. These characteristics can be further divided into two distinct categories namely materialist or resource dependent characteristics like wealth and home ownership and non-resource-dependent behavioral characteristics such as genetic and cultural factors. The second dimension is often referred to as the

stage of life experience in which inequalities are generated due to different life span experiences such as dietary variations and those arising from differences in access and utilization of formal health services (Feinstein, 1993).

McElmurry and colleagues (1987) examined the specific and special concerns of low income women in terms of their health care. The correlation between income level and health status among women is clearer because so many more women than men are poor in the United States (McElmurry, 1987).

The term "feminization of poverty" introduced by Pearce and McAdoo in 1981 (cited in McBarnette, 1988), aptly describes this connection between women and poverty as it affects the various social and economic conditions surrounding them as a group. Women and children are the primary beneficiaries of the various social/welfare programs for the poor. This dependency forces poor women to rely on government funded programs to receive any and all their health care. As far as specialized reproductive care is concerned, this has meant limited and compromised access to maternal and prenatal care to low income women (McBarnette, 1988). Lack of employer based health insurance, dependency on publicly funded health care like Medicaid, and limited access particularly to maternal and prenatal care affect the

outcomes of low income women's reproductive behaviors.
This, in turn, adversely affects maternal health and the
health of the children and families involved (McBarnette,
1988). Reis, Sherman, and Macon (1989) discussed one way of
teaching inner city African American mothers about family
planning and prenatal and pediatric services: the use of
videotape education programs. These programs designed by
community health nurses to increase the self-care practices
of low income minority women with respect to their prenatal,
pediatric, and family planning health needs represent an
useful and cost-effective communication tool. This can be
particularly helpful as a first step in patient education
for medically and socioeconomically high-risk pregnant women
who tend to underuse preventive and primary health care
(Reis et al., 1989).

Several articles published since 1989 describe specific
programs that address the need for prenatal care and better
pregnancy outcomes for low income women (Norbeck & Anderson,
1989; Hoagberg et al., 1990; Aved, Irwin, & Cummings, 1993).
Clearly the authors of these articles recognize the
connection between poverty, poor preventive care, and poor
birth outcomes among low income women. Norbeck and Anderson
(1989) examined the psychosocial predictors of pregnancy
outcomes among low income African American, Hispanic, and

White women. The incidence of infant mortality and low birth weights are much higher among non-White ethnic groups. Further, regardless of ethnicity, low birth weight rates increase as family income decreases (Norbeck & Anderson, 1989). Although low income women and non-White women in the United States are at the greatest risk for poor birth outcomes, they continue to receive the poorest prenatal care (Hoagberg et al., 1990). Studies by Hoagberg and colleagues (1990) and Aved, Irwin, and Cummings (1993) examined the barriers and motivators to prenatal care among low income women. Factors compounded by low income or poverty, such as transportation difficulties and inability to find a physician willing to care for low income women were among the barriers cited (Aved, Irwin, & Cummings, 1993).

Recent studies have focused attention on the issue of AIDS and how it disproportionately affects poor minority women (Shayne & Kaplan, 1991; Nyamathi et al., 1993). In fact, women constitute the fastest growing group of people with AIDS and a disproportionate number of them are poor and minority women (Nyamathi et al., 1993). Few educational and prevention strategies have been directed at this population. Combating AIDS among women offers a challenging task to the social service and public health officials because it forces confrontation of politically and socially sensitive issues

such as intravenous drug use, high rates of unwanted and teenage pregnancies, discrimination, inadequate education, and most of all poverty (Shayne & Kaplan, 1991).

Another segment of the population affected by poverty, in growing numbers, are children. Poverty among American children persists and grows at an alarming rate bringing with it tragic costs to our society (Malloy, 1992). Many causes have been listed for child poverty, including family breakdown and inadequate governmental antipoverty policy. Poverty effects child health in many ways. A growing number of children are falling through the safety net. About twelve million children are uninsured in the United States with little or no access to health care (Malloy, 1992).

The relationship between poor health and delayed childhood development can be noticed in the incidence of learning problems and poorer academic achievement among other things. Lack of access to affordable health services among children leads to more unresolved health problems and long term consequences (Malloy, 1992). Infant mortality rates, are important indicators of a nation's healthcare adequacy. The U.S ranked 20th in the world in infant mortality in 1989 (Malloy, 1992). Segal (1991) analyzed the various factors that contribute to the economic deterioration of American children in the 1980s. Harmful

effects of poverty include unequal access to maternal and child health services and significantly poorer health status among many young people (Sidel, 1991).

Another factor that compounds the relationship between health and poverty is race and/or ethnicity. African Americans for example, experience greater social and health problems than their White counterparts. Further, African Americans also experience higher rates of unemployment, illiteracy, unwed and teen births, low birth weights, homicide, and infant mortality (Laveist, 1993). These patterns of health related inequities based on race and ethnic differences have been observed among most minority groups including the Hispanic community. In fact, racial and ethnic minorities constitute a relatively stable proportion of those living in poverty. This implies that various welfare and educational initiatives need to be developed to reduce the number of health care inequities among minorities (Najman, 1993).

Illiteracy and Health

Like poverty, illiteracy can become a major barrier to health care and adversely affect most aspects of peoples lives. One of the most peculiar aspects of illiteracy in America is the public's widespread ignorance about the

endemic nature of illiteracy (Sollod, 1987). For example,

the 1987 Information Please Almanac indicated a 99% literacy

rate in the United States. The extremely high literacy rate

indicated above clearly demonstrates the invisibility of the

illiterate in our society (Sollod, 1987).

Although not often discussed or ackowledged, illiteracy

can have profound effects on the individuals health and the

health of the society at large. The magnitude of the

problem of illiteracy was discussed in great detail by Doak,

Doak, and Root (1985). Doak and Doak (1980) examined the

impact of illiteracy on health in the Norfolk study at the

United States Public Health Service Hospital in Norfolk,

Virginia. They assessed the match between literacy

abilities of patients and the literacy requirements of

health instructions. One hundred educational materials

ranging from the Patient's Bill of Rights to the most

explicit diet instructions were evaluated. The mean reading

ability of the study patients was about the seventh grade

level while the mean reading level required to understand

the above mentioned materials was tenth grade level.

Another study by the Diabetes Control Project, South

Carolina Department of Health and Environmental Control,

1980-1981 reported results consistent with the findings of

the Norfolk Study (Doak, Doak, & Root, 1985). These early

studies not only illuminate the extent of the problem of illiteracy in America but indicate the difficulties faced by low literacy/illiterate American adults in accessing and receiving preventive and other medical services.

Weiss, Hart, and Pust (1991) examined the issue of illiteracy and the relationship between health and literacy levels in both industrialized and non-industrialized countries (Weiss, Hart, & Pust, 1991). In contrast to non-industrialized nations, it is generally believed that the United States has a relatively high literacy rate (Weiss et al., 1991). In fact, according to UNESCO, only about 0.5% of the adult American population is unable to read and write (UNESCO, 1988). However, more recent data clearly indicates that a larger proportion of American adults lack literacy skills that are essential for their full participation and integration into the American life. In fact, it is more evident now that illiteracy is more prevalent among people from the lower socioeconomic strata, such as low income single mothers (Weiss et al., 1991).

Furthermore adult illiteracy is more common in the metropolitan areas of America. For example, 18 percent of New York City's population (about 1.5 million residents) are functionally illiterate (Berger, 1988). Illiteracy is also a problem in the rural areas where high school dropout rates

are higher (Weiss et al., 1991). Minorities, like African Americans and Hispanics, non-English speaking recent immigrants, and surprisingly White, native-born Americans, are all victims of low literacy or illiteracy (Weiss et al., 1991).

The most recent and comprehensive study of literacy in America conducted by the U.S. Department of Education offers an appalling picture of the U.S. populations proficiency with words and numbers (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993). The study found that about half of the country's 191 million adults cannot perform basic tasks such as filling out a bank deposit slip, or compute cost of carpeting a room, and/or translate information from a table to a graph. The study also reported other startling findings:

1) Literacy among 21-25 year olds has been dropping compared to results from a similar study done in 1985. One of the reasons for this could be the dramatic increase in young Hispanics who are born in other countries and do not speak English as their first language.

2) Literacy level differences based on ethnicity were observed. White Americans outscored other ethnic groups with the exception of Asians/Pacific Islanders. African Americans scored poorly because the schools they attend are

poorer. Among the worst performers were immigrants, the elderly, and inmates.

3) Men and women performed equally well on the reading text while men were better at math and interpreting documents.

4) People with higher literacy skills were employed more often and earned higher wages ("Dumber Than," 1993).

In the U.S., illiteracy is most prevalent among low income, unemployed, and poorly educated individuals. These individuals compared to those of higher socioeconomic status, are more prone to hospitalization, more needy of treatment for potentially preventable illness, and more apt to die prematurely (Weiss, Hart, & Pust, 1991). However, illiteracy can and does affect health status and health services utilization. People with lower literacy skills often lack critical information regarding health care and thereby fail to receive appropriate and timely treatments. This in turn could lead to complications that are preventable and increased health care costs. Further, illiteracy or low literacy may lead patients to misinterpret and/or not understand all instructions for medical regimen, therapies, and treatments (Rosoff, 1988).

A recent study by Weiss, Hart, McGee, and D'Estelle (1992) examined whether a relationship existed between literacy and health status among a group of American adults

with poor literacy skills. The results from this study suggest that there exists a relationship between poor literacy skills and poor physical health in the United States, similar to the one in non-industrialized countries. This research and previous studies also indicate that persons from lower socioeconomic stata are at a higher risk of poor psychosocial health problems such as depression.

Barnes (1992) examined the effects of illiteracy on families and their health. Low literacy implies limited abilities such as poor problem-solving skills, inability to organize and analyze the vast amount of available information, and poor communications skills. This further relates to limited abilities in the management of children's health and problems such as proper feeding of children, infant resuscitation, and emergency procedures such as ventilator care or tracheostomy care (Barnes, 1992).

Morgan (1993) examined illiteracy in Canada and its relationship to the health and health care needs of people. Two national surveys uncovered a surprisingly high level of illiteracy and poor reading skills among Canadians. Overall 38% of the population have either limited or no ability to read and write English or French in Canada (Morgan, 1993). Kanonowicz (1993) elaborated on the link between literacy and health also. Illiteracy affects health when medicines

are used incorrectly because the patient cannot read or follow correctly the instruction. Surveys and studies have indicated that people with limited literacy skills are more likely to smoke, less likely to engage in regular physical activity, or have their blood pressure checked. Women with limited literacy skills are less likely to undergo tests such as Papanicolaou tests (Kanonowicz, 1993).

Several studies have examined the reading abilities of patients and the readability levels of patient education literature. Many of the studies address the mismatch between the two, the consequences of this mismatch, and the recent efforts to rectify this situation.

Davis and colleagues (1993) studied the reading ability of patients in substance abuse treatment centers. Little effort has been vested in identifying patients in substance abuse treatment programs with low literacy skills, who have difficulty reading and understanding instructions or treatment objectives. The lack of effort in recognizing patients with limited reading abilities in such settings may compromise their treatment and recovery (Davis et al., 1993).

The readability levels of patient education literature have been determined for various types of educational materials. Ledbetter and colleagues (1990) examined the

readability of commercial versus generic health instructions for condoms. The studies indicated that the required comprehension levels for the patient package inserts (PPIs) were higher (mean of 10.32) than those for the generic instructions (GIs) (mean of 8.69) for three of the four contraceptive methods studied (diaphragms, pills, and condoms) (Ledbetter et al., 1990).

Meade and Byrd (1989) conducted a study to determine if primary care clinic patients read at a level congruent with the readability or reading grade level of available smoking literature. The study indicated a serious disparity between the two based on its results. This disparity constitutes an important barrier to the campaign to create positive nonsmoking health messages (Meade & Byrd, 1989).

Estey, Musseau, and Keehn (1991) examined the comprehension levels of patients' reading health information. Various print materials were evaluated as well as patients' comprehension levels. The results demonstrated that more patients understood health information written at a grade five level than a grade nine level (Estey, Musseau, & Keehn, 1991).

Patient education literature from the American Cancer Society, play an important role in cancer education and in improving awareness about the various types of cancers and

treatment modalities (Meade, Diekmann, & Thornhill, 1992).
However, much of the cancer materials, sampled for analysis,
were written for individuals with grade 12 level or higher
reading skills. Such literature may prove inappropriate to
help those who have low literacy skills and probably those
who need this information.

Clearly, effective communication is the backbone of
disease prevention and health promotion. People need to be
able to read and understand written health information to
apply it to their behaviors (Plimpton & Root, 1994). This
becomes particularly important for poorly educated adults,
those with the lower literacy skills who suffer from the
highest rates of morbidity and mortality from chronic
disease conditions and from those diseases that are often
preventable (Plimpton & Root, 1994).

Sources of Health information

Health information can be complex, highly technical,
and potentially fear arousing. Yet it is often essential to
promote changes in health behavior (Freimuth & Marron,
1978). Much of the information the public receives is
conflicting, incomplete, difficult to find, misleading, and
hard to understand. If individuals are to accept their
roles as decision makers in their health, they must have

easier access to a variety of sources of health information on a number of topics (Lunin, 1987).

Research studies suggest that Americans receive information about health issues from a variety of sources (Harris, Harris, & Davis, 1991). In a study published as early as 1978, Freimuth and Marron describe the need to focus on three objectives:

1. The amount of information obtained. In their study the three sources examined were public service announcements (PSAs) on television, medical personnel such as doctors and nurses, and family and friends.

2. The degree of reliability attributed to each of these sources of health information.

3. The degree to which the public actively seeks health information (Freimuth & Marron, 1978).

Freimuth and Marron (1978) reported several results from their study. More individuals reported receiving greater amount of information from medical personnel than from PSAs on television or from family and friends. Study respondents also attributed a greater amount of reliability to medical personnel as compared to PSAs on television or to family and friends. These results were consistent with those reported by Harris (1973) across demographic categories. More females than males in the sample reported

receiving information from all three sources of health information. However, no significant differences were reported in the perceptions of reliability between males and females. Age was an important factor in how sources of health information were used by the respondents. Educational level had little impact on the amount of information obtained from all three sources of health information (Freimuth & Marron, 1978).

Gombeski and colleagues (1981) studied the sources of health information among the poorly informed. They surveyed 2,230 residents from Houston, Texas, to determine cardiovascular knowledge, practices, and sources of health information. This study suggested that the poorly informed in this urban area were distinctly different from the rest of the sample population in terms of the sources of health information used and what they perceived as the most accurate sources of health information. This study and others (Weaver, Herrick, & Ramirez, 1978) reported that those who were poorly informed about one disease were usually poorly informed about others (Gombeski et al., 1981; Weaver et al., 1978).

Gombeski and colleagues (1981) also examined a variety of health information sources by categorizing them into four distinct groups. These groups were medical (doctor, clinic,

and hospital), print media (magazines and newspapers), electronic media (television and radio), and community (friends, relatives, and school). The use of multiple sources of health information can be advantageous because people using several sources of health information can be more knowledgeable and well informed when compared to those who do not (Gombeski et al., 1981).

Gombeski and associates (1982) surveyed the sources of health information among urban Mexican Americans. This study and others such as the one conducted by Roslow and Roslow (1980) shed some light on how Mexican Americans receive their health information and use it. Gombeski et al (1982) collected data from a six-week hypertension campaign aimed at Mexican Americans households in Houston, Texas. Nine information sources were examined including doctors, pharmacists, television, and magazines. The study results indicated that the sample population received as much information from several mass media sources as they did from doctors. Several demographic characteristics such as family income and education level as well as the language used in the information sources played an important role in the types and number of sources of health information used by this sample population (Gombeski et al., 1982).

Several factors affect the type and the number of health information sources used by people (Harris, Harris, & Davis, 1991). One important factor is the socioeconomic status of the individual. Studies demonstrate that people with lower levels of education and income rely more on television and less on sources such as newspapers and magazines when compared to those in a higher socioeconomic strata (Gombeski et al., 1982; Harris et al., 1991). In their 1982 study, Gombeski and associates found that better educated respondents received relatively more information from doctors and nurses while Ross (1981) found that poorer families depended more on family and friends for health and medical knowledge and less on healthcare professionals.

Ethnicity is another factor that affects people's choice and use of health information sources as indicated by studies conducted by Gombeski et al (1981 & 1982), Hazuda et al (1983), Clausen (1985), and others. Other factors such as gender and age of individuals may also influence where people receive their health information as reported by the study done by Howard, Blick, and Quarles (1987). This study indicated that males relied more on national newspapers and cable television, while females depended more on local television, radio, and magazines for their health information (Howard, Blick, & Quarles, 1987).

Age can be a factor in the choice and use of health information sources. Studies conducted on the health information needs and sources of adolescents indicate how different they were from those of adults. One study explored the health information needs of pregnant adolescents (Giblin, Poland, & Sachs, 1986) and concluded that these adolescents had well-defined and interpretable set of interests. This suggests a need for the involvement of a variety of health professionals (nurses, nutritionists, psychologists, and social workers) as sources of health information and in the planning and providing of health education and medical care to these adolescents (Giblin et al., 1986).

Levenson, Morrow, Morgan, and Pfefferbaum (1986) compared the health information sources and preferences of adolescents, pediatricians, school nurses, and teachers. The study reported differences among the viewpoints of students and adult professionals for every item included in the study. Professionals across groups were concordant in their perceptions of all items except the one pertaining to whom adolescents perceived and used as their most frequent source of health information (Levenson et al., 1986).

Svenson and Campbell (1992) examined the perceived health status and desired health information needs of

university students in Canada. The study revealed the health topics on which students desired more information. Both age and gender based differences were noted with respect to information concerning sexually transmitted diseases (STDs). Younger students wanted more information than mature students. Further, females wanted more information about STDs than males. Information concerning smoking and alcohol were the least desired areas, while mental health was mentioned by all respondents. The study also solicited students' perceptions of their health status and the barriers that existed in the improvement of their health status (Svenson & Campbell, 1992).

Tanaka, Yeung, and Anderson (1989) conducted a study to determine sources of infant nutrition information among metropolitan Toronto mothers. Tanaka and associates (1989) found that health professionals were valuable sources of infant nutrition information for both pregnant women and new mothers although, this information was not always delivered in the most acceptable manner nor was it always comprehensive. Of all the health professionals, nurses appeared to be the most important sources of nutrition information because of their contact with women/mothers while they make fundamental decisions about feeding their infants. The pre-eminence of nurses as sources of infant

nutrition information was in contrast to the opinions of the study respondents. The study respondents viewed nurses as the least reliable information source among health professionals. Nurses also faired poorly in terms of respondents' perceptions of their availability. Other health professionals considered as health information sources in this study included dietitians and nutritionists, pediatricians, and family physicians (Tanaka et al., 1989).

Few studies have examined the reliability (perceived and actual) of various sources of health information. One such study was conducted by Worsley (1989) in Australia. Residents of metropolitan Adelaide (south Australia) were randomly selected from the state electoral roll and sent a 12-page questionnaire by mail, followed by three fortnightly reminders. The respondents were asked to rate the perceived reliability of health information for each of the 18 sources and to indicate whether they were referred to these sources in the previous year. The study results indicated that the family physician and the pharmacist were generally the most reliable sources while television advertisements, newspapers, and magazines articles were among the least reliable. The sources of information could be differentiated into three categories namely informal sources such as friends, formal sources such as family physician,

and commercial and media sources. The study also pointed to several sociodemographic differences in the respondents' perceptions of the three sources of information categories. For example, the young rated the reliability of commercial and media and unorthodox formal sources more highly than the other study respondents (Worsley, 1989).

McCarn (1986) described various sources of health information used by both consumers and health practitioners. Newer sources such as clearinghouses and information centers, electronic bulletin boards, and on-line databases as well as traditional sources of health information such as libraries were described in the article.

Anderson, Meissner, and Portnoy (1989) analyzed inquiries received by the cancer information service (CIS), a health information hotline to understand the effects of various types of media in stimulating calls to CIS. The study results demonstrated that televised messages, followed to a lesser extent by printed materials and other media were capable of either stimulating a search for information concerning cancer, or at least increasing awareness of the CIS as a source of cancer information. Various demographic factors such as age, educational level, ethnicity, and gender influenced the acquisition of cancer-related

information and the types of sources of information used (Anderson et al., 1989).

Manfredi, Czaja, Buis, and Derk (1993) explored patient information seeking behaviors and how such behaviors affect patient-physician interactions and health care decisions. Study results indicated that people sought information from the cancer information service (CIS) just after diagnosis or during treatment. Many of these people (42%) discussed the CIS information with their physicians, while 19% of these physicians sought more information or consulted with the CIS referral. The study found that those people who contacted the CIS referral were more educated, had higher information needs, and were less satisfied with the physicians' answers to their questions than those who did not contact the CIS. The most important reasons given for calling the CIS were to explore all treatment options and become more knowledgeable when discussing treatment plans with physicians (Manfredi et al., 1992).

Meissner, Potosky, and Convissor (1992) examined how sources of health information related to knowledge and the use of cancer screening examinations. Study results corroborated previous findings that physicians were perceived as important sources of health information on how to prevent illness and improve health. The study also

confirmed research that indicated that health information was acquired differently along demographic characteristics. The study found a strong and consistent association between physician as the most useful source of health information and actually having received the screening procedure. Finally, the study suggested that knowledge may not be a prerequisite to screenings. More important in the use of screenings was the reliance on physicians to recommend them to their patients (Meissner et al., 1992).

Aruffo, Coverdale, and Vallbona (1991) examined the sources of health information regarding AIDS. The study indicated that television was the most frequently used source of information on AIDS for all ethnic groups. Newspapers ranked second for African Americans and Whites whereas both newspapers and radio ranked second among the Hispanics. The study sample listed relatives, physicians, and nurses as the least used sources of health information on AIDS (Aruffo et al., 1991). Aguilar and Hardy (1993) analyzed data from the National Health Interview Survey and reported that 86% of surveyed adults had received some information about AIDS within the past one month of the study. Of all the listed categories, the primary sources of information used by the study respondents were television programs (73%), newspaper articles (47%), magazine articles

(40%), and radio program (35%). The study also indicated that from the third to fourth quarter of 1991, there was a notable increase in the number of adults receiving AIDS-related information (Aguilar & Hardy, 1993).

This review of literature on the sources of health information establishes the need to determine and make available appropriate sources of health information to all people. Few studies have been conducted to explore the sources of health information among low literate and low income people. Still fewer studies have been designed to investigate sources of health information regarding contemporary and relevant health issues such as sexually transmitted diseases including HIV-AIDS and contraception.

CHAPTER III

METHODOLOGY

This descriptive and correlational study was conducted at three of the family planning clinics in Dallas, Texas. Each of the clinics operates under the auspices of the University of Texas Southwestern Medical Center (UTSWMC). UTSWMC started its first family planning clinic in Dallas in 1969 to make contraceptives easily accessible. Since then, the number of clinics have increased, and so have the health-related issues that the clinics address. The study used a demographic information sheet, two separate questionnaires, and focus group discussions for data collection. Literacy levels of the study participants were determined by using the word-recognition test called the Wide Range Achievement test (WRAT3). Descriptive and inferential statistical techniques were used to treat the data. The investigator answered two research questions and tested four null hypotheses.

Initially when the study was proposed, one delimitation imposed on the study was, to include only those female clinic clients with a seventh-grade or lower reading level. However, one important change was made taking into consideration the concerns raised by the Texas Woman's

of administering the word-recognition test (WRAT3) to consenting female clinic clients and allowing only those with seventh-grade or lower reading level to participate in the study, all female clinic clients willing to participate in the study and those who signed the consent forms were allowed to take part in the study, irrespective of their reading test scores. The Human Subjects Review Committee made this recommendation on the belief that this change in the procedures would reduce embarrassment and labeling of the clinic clients who read at a very poor level. This change in the procedures provided valuable data and insights into the types of sources of health information used by low literate women (1-7 grade reading level) and high literate women (8-Post high school reading level). The new protocol also provided additional data about the relationship between knowledge and attitudes and amount learned from sources of information and the number of sources. See Appendix A for permission letters to conduct the study.

Population and Sample

This sample of convenience was comprised of clients selected from those waiting for their appointments at the University of Texas Southwestern Medical Center family

planning clinics at Lake June, Lancaster-Keist, and Maple Plaza, in Dallas, Texas. Only female clinic clients between the ages of 14-45 years were recruited for the study. Only those female clinic clients who signed all the consent forms and were willing to participate in the study by answering all the questions, were included in the study. A total of 151 female clinic clients formed the low literacy group while 64 female clinic clients comprised of the high literacy group. All ethnic/racial groups were allowed to participate in the study. Arrangements were made for the consent forms and questionnaires to be read in Spanish if necessary. However none of the study participants asked for the consent forms and questionnaires to be read in Spanish.

Procedures

The procedures involved in this study consisted of instrument selection and administration as well as conducting focus group discussions. The following procedures were followed in a sequential order.

The first step in the study was to select the questionnaires to be used to determine demographic information, sources of health information concerning contraception and STDs (including HIV-AIDS), and knowledge

and attitudes regarding contraception and STDs (including HIV-AIDS). The questionnaires for this study were identified from those previously developed and used by other investigators. Written permissions were obtained from all authors of the questionnaires used in the study (Appendix B).

Face validity of the questionnaire measuring knowledge and attitudes regarding contraception and STDs, including HIV-AIDS was established next using a panel of experts from the University of Texas Southwestern Medical Center, Dallas, Texas. The experts on the panel were: Dr. Barbara Cambridge, Associate Professor, Department of Obstetrics and Gynecology; Ms Annette Carlson, RNC, Associate Director of Clinical Services, Division of Maternal Health and Family Planning; Dr. Lewis Mondy, Associate Director, Special Projects & Development, Division of Maternal Health and Family Planning; and Dr. Stephen Heartwell, Director, Division of Maternal Health and Family Planning (see Appendix C for experts' comments).

In the next step, the questionnaires were pilot tested at the family planning clinic, in East Dallas. This clinic is also operated by the University of Texas Southwestern Medical Center. Sixteen clinic clients were surveyed during

the third week of December 1993. The first goal of the
pilot-testing was to determine the time it took to
administer the questionnaires to each study participant.
The second goal was to solicit clients input about how and
what they felt about the questions that were read to them
and when the reading test was administered to each of them.
All reactions and comments were positive. The
questionnaires and reading test required about 15 minutes to
administer to each study subject. The pilot testing helped
the investigator resolve logistical issues associated with
the administration of the questionnaires and reading test.

Finally, the study began during the first week of
January, 1994. The investigator approached clinic clients
at three of the family planning clinics to explain the goals
and nature of the study and solicit their participation in
the study. Not all of the clinic clients approached agreed
to participate in the study. Next, the investigator
explained the consent forms and requested signatures from
participating clinic clients (see Appendix D for consent
forms). For minor subjects (under 18 years of age), consent
signatures were obtained from a parent or a guardian.
Copies of the signed consent forms were given to the study
participants. Each study subject was also asked if she

would like to participate in focus group discussions scheduled for a later date, one at each clinic. Each participant was asked to provide her first name only and a telephone number where she could be contacted once the focus groups were scheduled. The study subjects were also informed about the lunch that would be provided to them at these focus groups as well as the bus fare, if needed.

Once the consent forms were signed, the investigator read aloud the items from the questionnaires in an office provided by the clinics to the investigator. The demographic information sheet, the sources of health information questionnaire, and knowledge and attitudes questionnaire were read to each study subject and completed with their responses (see Appendix E for the questionnaires used in the study). No additional clarification was provided to the study subjects about any of the items in the questionnaires. Subjects were recruited for the study throughout the month of January, 1994. A total of 151 clinic clients comprised the low literacy group (1-7 grade reading level) and 64 clinic clients comprised the high literacy group (8-Post High School grade reading level).

Three focus groups, one for each clinic were scheduled during the month of February, 1994. Due to difficulties in

obtaining participation from subjects, focus group discussions were rescheduled twice at the Lancaster-Keist clinic. The focus group discussions at the Maple Plaza and Lake June clinics had three participants each, although seven women agreed to attend the focus group discussions.

The focus group discussions were held to clarify what the study subjects understood about selected items and how they interpreted the various items on the questionnaires. The investigator focused on sources of health information questions in terms of the various categories such as TV, healthcare staff, and others. For the knowledge and attitudes items, the investigator concentrated on items numbered 1, 2, 7, 11, 15, 26, 29, and 31. For each of these items, the investigator asked the focus group participants the following questions for discussions:

1. When I read this item (1, 2,...., 31) what do you think I was asking you or what do you think I meant?

2. Explain your answers, briefly.

3. How would you word this question if you had to ask it yourself?

After the investigator initiated the discussions on these items, she asked the participants to discuss and elaborate on other items they desired. The discussions were

audio taped with the participants' consent. All focus group discussion participants signed the consent forms for audio taping the discussions at the start of the sessions. The discussions lasted about one hour (Appendix D). All participants believed that the focus group discussions were extremely useful to them in making their ideas, opinions, and thoughts known to the investigator and hopefully to the clinic management and staff.

Instrumentation

The following survey questionnaires (Appendix E) were used in this study:

1. Wide Range Achievement Test (WRAT3)

2. Demographic Data/Information Sheet

3. Sources of Health Information Questionnaire

4. Knowledge and Attitudes questionnaire

Wide Range Achievement test (WRAT3). This 1993 edition of WRAT was used to determine the reading grade levels of all study subjects. The investigator purchased the reading test from Jastak Associates (A Division of Wide Range, Inc), P.O. Box 3410, Wilmington, Delaware 19804-0250. The WRAT3 reading subtest was used in this study. The reading test required about 5 minutes to administer, was less threatening

to the study subjects when compared with other literacy tests, and was recommended for use by Doak, a nationally recognized expert in literacy (C. C. Doak, Personal communications, November 2, 1993). The reading subtest contained two equivalent test forms, the BLUE and TAN forms, each containing 15 letters and 42 words that each study subject was asked to read. The two forms were equivalent and either forms could be used to determine the reading level of study subjects. Each study subject received a maximum of 15 points for the letter portion of the reading test and a maximum of 42 points for the words section of the test. One point was deducted for every letter that the subject could not read and every word she pronounced incorrectly. This provided an overall score for each subject reflecting her reading level. Age based tables printed in the WRAT3 manual were used to match each subject's score with the corresponding reading grade level. Either the TAN or the BLUE forms were administered to study subjects during the course of the research.

Demographic Data/Information Sheet. A three item instrument designed by the investigator was used to collect demographic data (age, ethnicity, and education) about the study subjects. All items were framed as simple questions

that were read aloud to each subject by the investigator. Several choices (eight choices for ethnicity and five choices for education) were given to the study subjects.

Sources of Health Information survey questionnaire. This questionnaire was adapted from instruments developed by Gombeski, Moore, Contant, Ramirez, Farge, and Kautz (1981) and Harris, Harris, and Davis (1991). This instrument was used to determine the number of sources of health information used by respondents and the amount learned from these sources regarding contraception and STDs (including HIV-AIDS). The number of sources of health information was determined by adding all the sources used by each subject. Twelve sources were listed for each topic and the number of sources of health information for each topic therefore assumed a numerical value ranging from 0-12. The amount learned from each source had a numerical value that ranged between 0 and 3 (0=Nothing learned; 1=Learned a little; 2=Learned some; 3=Learned a lot). The mean amount learned for each subject/topic was determined by adding all the scores for the amount learned from each source and dividing by 12. No reliability or validity statistics were available or reported for this instrument.

Knowledge and attitude survey instrument. This survey
instrument was adapted by compiling portions of previously
used questionnaires. The HIV-AIDS knowledge and attitudes
portion of the questionnaire was adapted from an instrument
developed by Nyamathi, Bennett, Leake, Lewis, and Flaskerud
in 1993. The investigators determined the Cronbach's
reliability coefficient for the knowledge scale and reported
it to be 0.77 (Nyamathi et al., 1993). Flaskerud and
Nyamathi (1989), in earlier work, determined the internal
consistency (KR-20) for the knowledge scale (0.82) and the
attitudes scale (0.58). The items regarding contraception
and other sexually transmitted diseases were adapted from an
instrument developed by Moore and Erickson (1985). No
reliability or validity statistics were available or
reported for this portion of the survey instrument.

The primary index of reliability (internal consistency)
determined for the eight study scales was the Cronbach's
alpha. Table 1 lists these reliability measures determined
in this study.

Table 1
Internal reliabilities for study scales

Scale	# of items in the scale	Cronbach's alpha
STD knowledge	19	0.64
STD attitude	6	0.43
Contraception knowledge	12	0.65
Contraception attitude	3	0.16
Contraception sources (w/other)	12	0.72
Contraception sources (w/o other)	11	0.73
STD sources (w/other)	12	0.75
STD sources (w/o other)	11	0.76

The attitude scales had the poorest internal consistency especially regarding birth control. The knowledge scales had much better internal consistency and had positive item-total correlations ranging between 0.25-0.40. The two sources scales were indexed for reliability with and without the "other" item. This item had a low item-total correlation (0.10) in both sources' scales. The decision to disregard this category was based on both the numerical value as well as comments from study respondents in focus groups that they were unsure of their responses on this item.

Two important criteria were followed in compiling the survey instruments. The first criterion was to have an

instrument that contained no more than 35 items. Such a survey instrument would be easier for low literate clients to understand and respond to accurately. The second criterion was to have survey instruments that have been previously used by other investigators because the goal of this study was not to design and/or validate new survey instruments.

Treatment of the Data

The primary index of reliability (internal consistency) chosen for all the scales was the Cronbach's alpha. Pearson correlation coefficients were calculated to determine the relationships between knowledge and attitude variables and the number of sources of health information and mean amount learned for each topic. Differences among various subgroups were evaluated using the analysis of variance (ANOVA) followed by posthoc Bonferroni multiple comparisons. Differences between the low and high literacy groups were calculated using a 2-sample student's t-test. Descriptive statistics in terms of frequencies and percentages were used to provide a profile of subjects' characteristics and their responses to sources of health information. Data were entered and compiled using the computer program called Key

Entry III (a DOS based, IBM computer program). Data
analysis was completed using the Statistical Analysis System
(version 6.04). All hypotheses were tested at the 0.05
level of significance.

CHAPTER IV

FINDINGS

Descriptive and inferential statistics were used to analyze data collected during the study. The results are organized in the following sequence in this chapter: (1) Analysis of Focus Group Discussions, (2) Descriptive Analysis of Demographic Characteristics (3) Descriptive Analysis of Instrument Responses, (4) Research Questions, (5) Hypotheses Testing, and (6) Additional Analysis.

Analysis of Focus Group Discussions

The focus group discussions were conducted to solicit study respondents' input regarding the various items on the questionnaires. The following recurrent themes emerged from the discussions:

1. Items would be better understood when framed as questions rather than as statements (examples given were items 1 and 2 in the knowledge and attitude questionnaire).

2. Some items were too broad and general and therefore difficult to answer (example given was the item 15 from the knowledge and attitude questionnaire). The use of specific scenarios were suggested for clarification.

3. Focus group participants believed that the use of any kind of abbreviations can be confusing to the study subjects (an example given was the use of STDs instead of sexually transmitted diseases).

4. Item 2 from the knowledge and attitude questionnaire was confusing to the focus group participants who believed that people die from diseases such as pneumonia and not from AIDS itself.

5. Item 1 in the knowledge and attitude questionnaire was also misleading to the discussion group participants who believed that AIDS was caused by behaviors such as sexual activity and intravenous (IV) drug use. The discussion group participants had difficulty distinguishing between cause and transmission of disease including HIV-AIDS.

6. In the questionnaire regarding sources of health information, the categories of 'Other healthcare staff,' and 'Other' were confusing and difficult to answer without any clarification from the investigator.

7. The time it took to administer the questionnaires (15-20 minutes) was not reported as a problem by any of the discussion group participants. The procedure of reading aloud the questionnaires to each study subject in the privacy of an office was appreciated by all the discussion

group participants. They believed that honest responses and avoidance of embarrassment required privacy.

Descriptive Analysis of Demographic Characteristics

Descriptive statistics and tabulations of the demographic characteristics and WRAT scores of the study respondents are listed in Tables 2-6. Table 2 shows the number of clients recruited for the study from each clinic.

Table 2

Number and Percentage of Subjects by Clinic (N=215)

Clinic	n	%
Lancaster-Keist(LK)	80	37.2
Lake June (LJ)	62	28.8
Maple Plaza (MP)	73	34.0
All Clinics	215	100.0

Table 3 indicates the ethnicity of the study subjects from each clinic. A majority of the study subjects were African Americans (59.5%), although a significant proportion of the study subjects from Lake June (24.2%) were Caucasian/White while 32.8% of the study subjects from the Maple Plaza clinic were Hispanics.

Table 3

Ethnicity of Study Subjects by Clinic (N=215)

Clinic	African Americans		Caucasian/ White		Hispanic		Other/ No answer	
	n	%	n	%	n	%	n	%
LK (n=80)	55	**68.7**	8	10.0	16	20.1	1	1.3
LJ (n=62)	40	64.5	15	**24.2**	7	11.3	0	0
MP (n=73)	33	45.2	13	17.8	24	**32.8**	3	4.1
Overall	128	**59.5**	36	16.7	47	21.8	4	1.8

Tables 4 and 5 indicate the WRAT scores and the self reported educational levels of the study subjects. A majority of subjects (58.7%) had a reading grade level ranging between 4-7 levels while 27.4 % read at the high school or post high school level based on WRAT scores.

Table 4

WRAT Scores of Subjects (N=215)

WRAT score (grade level)	n	%
1	2	0.9
2	9	4.2
3	14	6.5
4	21	9.8
5	20	9.3
6	30	14.0
7	55	25.6
8	5	2.3
High school and Post high school	59	27.4

Table 5

Self Reported Educational Level of Subject (N=215)

How much schooling have you completed	n	%
5-11 grade level	63	29.3
Completed high school	92	42.8
Attended college	60	27.9

Ages of the study subjects from each of the three clinics are listed in Table 6. Overall, the average age of the study subjects was 25 years (SD=6.2) with a minimum of 14 years and a maximum of 45 years.

Table 6

Subjects' Ages by Clinic (N=215)

Clinic	n	Minimum	Maximum	AGE Mean	SD
LK	80	14	42	23.7	5.8
LJ	62	15	45	25.5	7.3
MP	73	18	40	25.9	5.5
Overall	215	14	45	25.0	6.2

Analysis of Instrument Responses

The following tables (Table 7 and 8) indicate the number and types of sources of information used by study respondents for the topics of contraception and sexually transmitted diseases (including HIV-AIDS). The tables indicate the percentages of subjects who responded to each category of amount learned ("nothing," "a little," "some," and "a lot") from various sources regarding contraception and STDs including HIV-AIDS.

As evident from Table 7, the largest percentage of subjects indicated that they learned "a lot" about contraception from expert sources such as nurse, clinic, and doctor, and from print sources such as pamphlets and brochures. Sources such as radio and newspapers fared poorly, with a large proportion of the subjects indicating

that they learned nothing about contraception from these two sources of health information.

Table 8 represents the responses of subjects to the items concerning amounts learned about STDs including HIV-AIDS from various sources. A large percentage of the subjects indicated that they had learned a lot about STDs from the clinic and from pamphlets and brochures. Again radio and newspapers were infrequently used sources of health information about STDs including HIV-AIDS.

Table 7

Percentages of Subjects' Responses to the Items Regarding
Amounts Learned about Contraception

I learned about contraception	Nothing	A Little	Some	A Lot
	%	%	%	%
TV	34.4*	29.7	26.6	9.4
	54.3	19.9	19.2	6.6
Radio	73.4	20.3	6.2	0.0
	79.5	13.9	5.3	1.3
Newspapers	73.4	15.6	6.2	4.7
	76.2	9.9	9.9	4.0
Magazines	26.6	25.0	31.3	17.2
	43.7	23.8	20.5	11.9
Pamphlets/Brochures	9.4	7.8	26.6	56.2
	17.2	9.3	26.5	47.0
Family	17.2	18.8	23.4	40.6
	21.9	11.9	21.9	44.4
Friends	25.0	14.1	35.9	25.0
	24.5	16.6	30.5	28.5
Doctor	9.4	9.4	23.4	57.8
	11.3	7.3	23.8	57.6
Nurse	10.9	10.9	23.4	54.7
	17.9	12.6	18.5	57.0
Other Healthcare staff	39.1	14.1	23.4	23.4
	60.9	9.9	15.9	13.2
Clinic	4.7	9.4	28.1	57.8
	6.6	9.3	18.5	65.6
Other	73.4	6.0	7.8	17.2
	80.1	5.3	6.6	7.9

Note: The top line for each source represents the percentages of the
group with a reading level of 8th grade level or greater ($\underline{n}$=64). The
bottom line represents the percentages of the group with a reading level
of 7th grade level or lower ($\underline{n}$=151).
(*)-The boldfaced percentages indicate categories in which major
differences were noted between the two groups.

Table 8

Percentages of Subjects' Responses to the Items Regarding
Amounts Learned about STDs including HIV-AIDS

I learned about STDs and HIV-AIDS	Nothing	A Little	Some	A Lot
	%	%	%	%
TV	9.4*	21.9	35.9	32.8
	19.9	15.9	32.5	31.8
Radio	43.7	21.9	26.6	7.8
	57.6	15.2	17.2	9.9
Newspapers	39.1	28.1	23.4	9.4
	49.0	15.9	22.5	12.6
Magazines	21.9	26.6	28.1	23.4
	30.5	21.9	25.8	21.9
Pamphlets/Brochures	3.1	4.7	31.3	60.9
	11.3	11.9	15.9	60.9
Family	21.9	20.3	26.6	31.3
	28.5	11.9	22.5	37.1
Friends	28.1	21.9	31.3	18.8
	38.4	14.6	25.2	21.9
Doctor	15.6	17.2	23.4	43.7
	15.2	6.6	25.2	53.0
Nurse	14.1	10.9	31.3	43.7
	20.5	7.3	25.2	47.0
Other Healthcare staff	40.6	7.8	23.4	28.1
	64.2	4.6	13.9	17.2
Clinic	14.1	9.4	17.2	59.4
	11.3	11.9	16.6	60.3
Other	64.1	10.9	9.4	15.6
	76.8	7.3	6.0	9.9

Note: The top line for each source represents the percentages of the group with a reading level of 8th grade level or greater (n=64). The bottom line represents the percentages of the group with a reading level of 7th grade level or lower (n=151).
(*)-The boldfaced percentages indicate categories in which major differences were noted between the two groups.

Table 9 presents the measures of central tendency for the amount learned from the various sources of health information regarding two topics, contraception and STDs (including HIV-AIDS). The 12 sources were grouped into four categories, print media sources (pamphlets/brochures, newspapers, magazines), electronic media sources (television and radio), social sources (family and friends), and expert sources (doctor, nurse, clinic, and other healthcare staff).

Table 9

Mean Amount Learned from Sources of Health Information (N=215)

Amount learned about contraception	READING LEVELS	
	8th grade or greater	7th grade or lower
From all sources	1.6	1.4
From print media	1.4	1.2
From electronic media	**0.7**	**0.5**
From social sources	1.7	1.8
From expert sources	2.1	1.9

Amount learned about STDs and HIV-AIDS	READING LEVELS	
	8th grade or greater	7th grade or lower
From all sources	1.7	1.6
From print media	1.7	1.5
From electronic media	**1.5**	**0.9**
From social sources	1.5	1.1
From expert sources	1.9	0.9

Note: The boldfaced values indicate that electronic media (specifically television) provided more information on STDs than on contraception.

Tables 10 and 11 indicate some of the responses by subjects to the knowledge and attitude questions. These responses can be important for their health-related implications.

Table 10

Responses(%) to Selected STDs (including HIV-AIDS) Knowledge Questions (N=215)

Questionnaire Items	PERCENTAGES OF RESPONSE		
	Don't Know	False	True
AIDS is a disease caused by a virus.	4.2	5.1	90.7*
You know some place in your city where you can get tested or treated for the AIDS virus.	2.8	10.2	87.0*
You can get an HIV infection from having unprotected sex with someone who is carrying the AIDS virus.	1.4	0.5	98.1*
You can get HIV or AIDS from donating blood.	14.4	51.6*	34.0
You can protect yourself from getting an HIV infection by using a condom.	8.8	6.5	84.7*

Note: * indicates the correct response

Table 10 (cont.)

Questionnaire Items	PERCENTAGES OF RESPONSE		
	Don't Know	False	True
You can get an HIV infection or AIDS from eating food made by a person who has an HIV infection or AIDS.	16.3	79.5*	4.2
You can get an HIV infection or AIDS from a person with an HIV infection or AIDS who sneezed on you.	13.0	82.8*	4.2
You can get an HIV infection or AIDS from a toilet that someone with an HIV infection or AIDS used.	12.6	83.3*	4.2

Note: * indicates the correct response

Table 11

Responses(%) to Selected STDs (including HIV-AIDS) Attitude
Questions (N=215)

Questionnaire Items	PERCENTAGES OF RESPONSE		
	Don't Know	False	True
If a child with an HIV infection/AIDS were to attend your child's school you would take your child out of the school.	10.7	80.5	8.8
You don't feel right talking about HIV infection and AIDS.	1.9	88.4	9.8

Responses to questions, "When is a woman most likely to get
pregnant?" and "Are you familiar with the nine listed
methods of contraception?" by the total sample, the high
reading level group ($\geq$ 8th grade reading level), and the low
reading level group ($\leq$ 7th grade reading level) are shown in
the Figures 1 and 2. As shown in the figure 22.3% of all
subjects indicated that they did not know the answer to the
first question about when a woman was most likely to get
pregnant while 27.9% of all subjects answered the question
correctly. From the responses to the second question
regarding familiarity to the listed contraceptive methods,
it is evident that a majority of the study respondents were
familiar with condom, diaphragm, foam, Norplant, pill,

sponge, and withdrawal methods while few knew about Depo

Provera and/or rhythm method.

Figure 1. Responses (in Percentages) to the Question: When
Is A Woman Most Likely To Get Pregnant (N=215)?
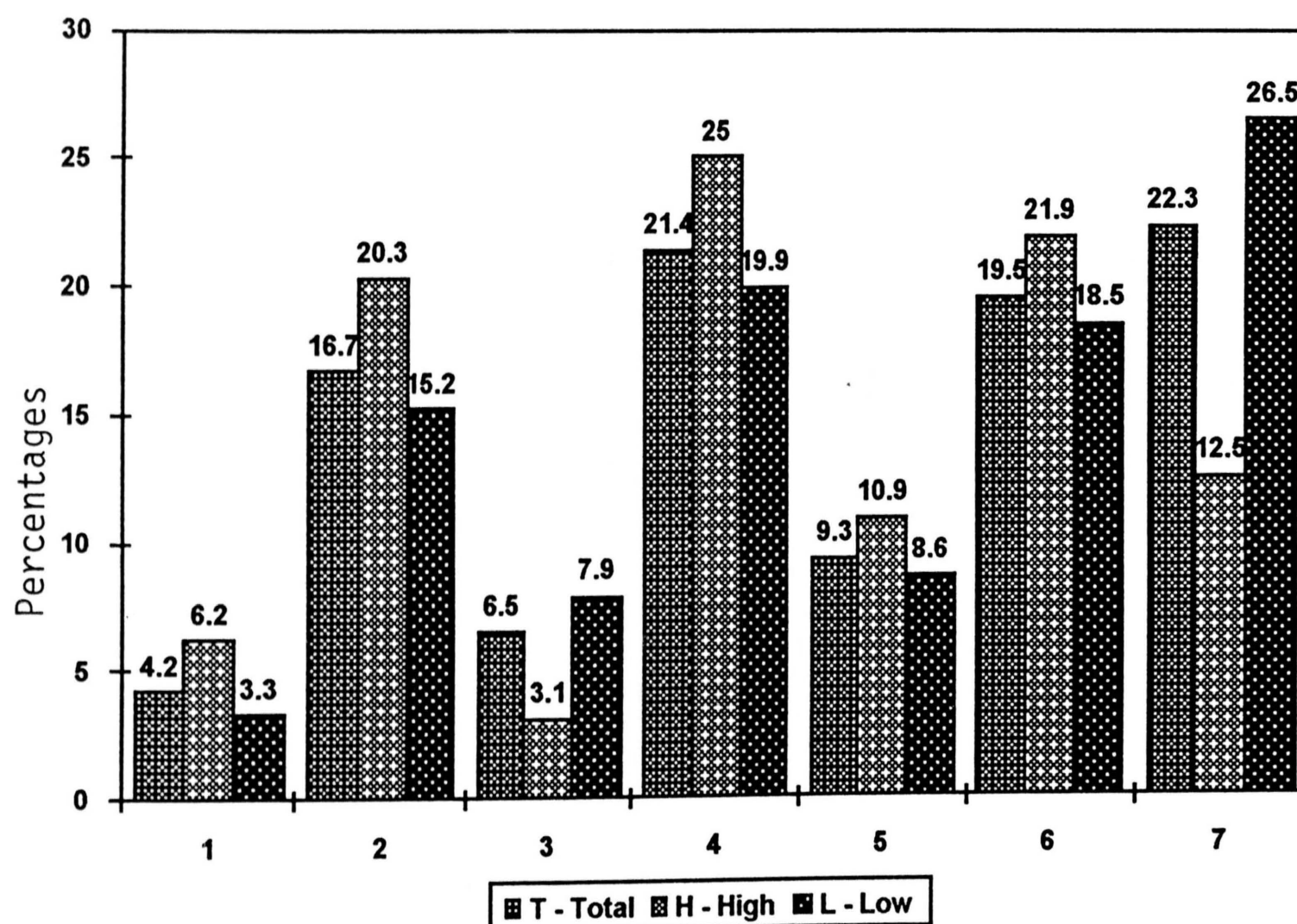
1 - during her period
2 - a few days after her period
3 - in the middle of her cycle*
4 - 14 days before her next period*
5 - A few days before her next period
6 - Equally throughout her cycle
7 - Do not know
* - indicate correct responses

Figure 2. Responses (in Percentages) to the Question: Are You Familiar With The Listed Methods Of Contraception (N=215)?
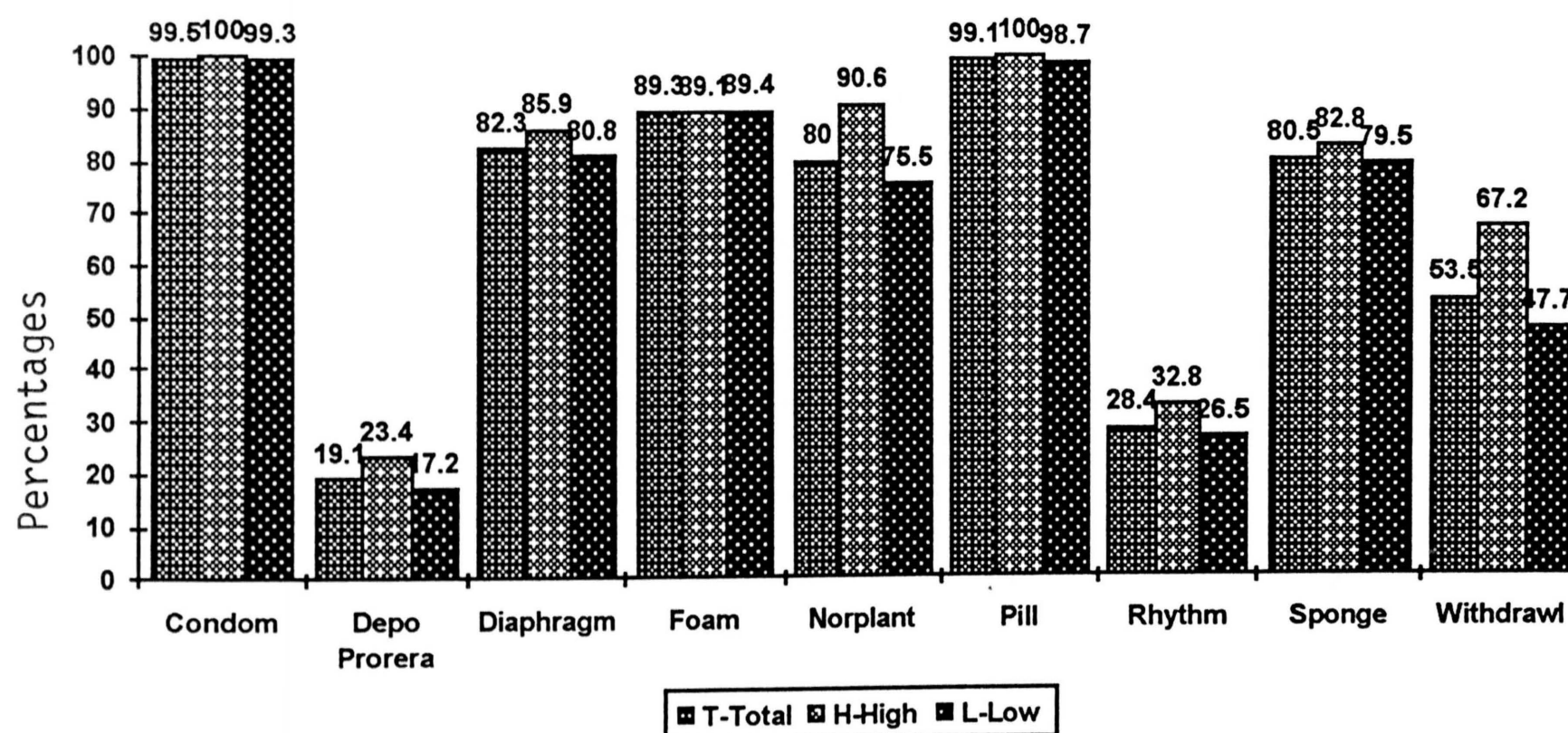
The following table indicates the mean scores on the knowledge and attitude scales for both contraception and STDs, including HIV-AIDS.

Table 12

Mean Scores on the Knowledge and Attitude Scales (N=215)

Scales	Overall	>8 grade reading level n=64	<7 grade reading level n=151
STD knowledge	16.6	17.1	16.3
STD Attitude	4.5	4.7	4.5
Contraception knowledge	8.5	8.9	8.2
Contraception attitude	2.7	2.7	2.7

The total possible scores on the STD knowledge scale, on the STD attitude scale, on the contraception knowledge scale, and on the contraception attitude scale were 19, 6, 12, and 3 respectively.

Research Questions

The following two research questions were addressed using the data collected from the questionnaires administered during the study.

1. Do family planning clinic clients use multiple sources of health information regarding contraception? Multiple sources of health information regarding contraception were used by the family planning clinic clients surveyed in the study. Table 13 indicates the average number of sources regarding contraception used by respondents distinguished by their reading grade levels.

Table 13

Mean Number of Health Information Sources Used by Subjects
regarding Contraception (N=215)

	<7th grade reading level n=151		>8th grade reading level n=64	
	MEAN	SD	MEAN	SD
Number of health information sources regarding contraception used by all subjects	7.1	2.3	8.0	2.4

Table 14 indicates the percentages of subjects using
various sources of health information regarding
contraception. The table also lists the rankings of the
sources based on the percentages of subjects who used them.

Table 14

Percentages of Subjects using Health Information Sources regarding Contraception and their Rankings (N=215)

SOURCE	<7th grade reading level (n=151)		>8th grade reading level (n=64)	
	%	Rank	%	Rank
TV	45.7	8	65.6	7
Radio	20.5	11	26.6	9.3
Newspapers	23.8	10	26.6	9.3
Magazines	56.3	7	73.4	6
Pamphlets/ Brochures	82.8	3	90.6	2.5
Family	78.2	5	82.8	4
Friends	75.5	6	75.0	5
Doctor	88.7	2	90.6	2.5
Nurse	82.1	4	89.1	3
Other healthcare staff	39.1	9	60.9	8
Clinic	93.4	1	95.3	1
Other	19.9	12	26.6	9.3

Note: Sources were ranked based on the percentages of subjects who used them to acquire information.

The clinic was the most used source of health information regarding contraception followed by doctor and pamphlets/brochures. Family and nurse also ranked high while radio and newspapers were the least used sources of health information regarding contraception along with the

"other" category. Television also ranked in the bottom half
and was not used often by study subjects as a source of
health information regarding contraception.

2. Do family planning clinic clients use multiple
sources of health information regarding STDs including HIV-
AIDS? Multiple sources of health information regarding
STDs, including HIV-AIDS were used by the family planning
clinic clients surveyed in the study. The table below
(Table 15) indicates the mean number of sources regarding
STDs including HIV-AIDS used by study subjects.

Table 15

Mean Number of Health Information Sources used by Subjects
regarding STDs (N=215)

	<7th grade reading level n=151		>8th grade reading level n=64	
	MEAN	SD	MEAN	SD
Number of health information sources regarding STDs used by all subjects	7.8	2.6	8.8	2.4

Table 16 indicates the percentages of subjects using
various sources of health information regarding STDs
including HIV-AIDS. The table also lists the rankings of

the sources based on the percentages of subjects who used
them.

Table 16

Percentages of Subjects using Health Information Sources
regarding STDs and their Rankings (N=215)

SOURCE	<7th grade reading level (n=151)		>8th grade reading level (n=64)	
	%	Rank	%	Rank
TV	80.1	3	90.6	1
Radio	42.4	9	56.3	7
Newspapers	51.0	8	60.9	6
Magazines	69.5	6	78.1	4.3
Pamphlets/ Brochures	88.7	1.5	78.1	4.3
Family	71.5	5	78.1	4.3
Friends	61.6	7	71.9	5
Doctor	84.8	2	84.4	3
Nurse	79.5	4	85.9	2.5
Other healthcare staff	35.8	10	59.4	8
Clinic	88.7	1.5	85.9	2.5
Other	23.2	11	35.9	9

Note: Sources were ranked based on the percentages of
subjects who used them to acquire information.

The sources of health information used by study
respondents for STDs including HIV-AIDS were different from

those used for contraception information. Further, there were differences in the sources of health information regarding STDs (including HIV-AIDS) used most often by the subjects in the two groups, those reading at or below seventh grade level and those reading at or above eighth grade level. Television ranked high among both groups and was used often for information on STDs including HIV-AIDS. Newspapers and radio were not used often as health information sources for STDs. Doctor, clinic, nurse, and pamphlets/brochures ranked high and were often used as sources of health information regarding STDs including HIV-AIDS.

Hypotheses Testing

The following four hypotheses were tested at the 0.05 level of significance, using the data collected through the use of questionnaires during the study.

1. There is no relationship between the amount learned from sources of health information and knowledge regarding contraception among family planning clinic clients.

2. There is no relationship between the amount learned from sources of health information and knowledge regarding STDs and HIV-AIDS among family planning clinic clients.

3. There is no relationship between the amount learned from sources of health information and attitudes regarding contraception among family planning clinic clients.

4. There is no relationship between the amount learned from sources of health information and attitudes regarding STDs and HIV-AIDS among family planning clinic clients.

Hypothesis 1

Pearson correlation coefficients were used to measure the relationship between the amount learned from sources of health information and knowledge regarding contraception among the family planning clinic clients surveyed. The correlations were computed for the group (n=151) who had reading levels between 1-7 grade levels and also for the group (n=64) who had reading levels between 8-Post high school grade levels. Contraception knowledge did not correlate significantly to the amount learned from health information sources regarding contraception for group 1 with reading level between 1-7 grade levels (r=0.155, p=0.058). However, for group 2 with higher reading skills, the correlation between knowledge and amount learned regarding contraception was significant (r=0.294, p=0.019).

Hypothesis 2

Pearson correlation coefficients were used to determine the relationship between knowledge regarding STDs including

HIV-AIDS and the amount learned from the sources of health information regarding STDs. STD knowledge did not correlate with the amount learned for both the groups, the first with reading skills between 1-7 grade level (r=0.136, p=0.096) and the second group with reading skills of 8th grade or higher level (r=0.184, p=0.147).

Hypothesis 3

Pearson correlation coefficients were calculated to determine the relationship between attitudes regarding contraception and the amount learned from sources of health information regarding contraception. No significant correlation was found between the two variables regarding contraception.

Hypothesis 4

Pearson correlation coefficients were used to determine the relationship between attitudes regarding STDs including HIV-AIDS and the amount learned from sources of health information regarding STDs. No significant correlation was found between the two variables regarding STDs including HIV-AIDS.

Additional Analyses

Various demographic characteristics such as age, ethnicity, educational level, and WRAT scores were examined

to determine if they were related to number of sources of health information and amount learned from sources.

Age related significantly with the number of sources of health information regarding STDs including HIV-AIDS in a negative direction, (Pearson's r=-0.284, p=0.023) indicating that older female clinic clients used fewer sources regarding STDs including HIV-AIDS when compared to younger study subjects.

With respect to the group with higher reading levels (8th grade or higher determined by the reading test), based on Spearman correlations, WRAT scores correlated with STD attitudes (Rho=0.246, p=0.05) but not to any of the other study scales. Self-reported educational levels also correlated significantly with knowledge regarding contraception (Rho=0.320, p=0.010) and with STD attitude (Rho=0.342, p=0.006) in this group.

For the group with lower reading levels (7th grade or lower determined by the reading test), the following results were obtained. Age did not relate significantly with attitude regarding contraception (r=-0.153, p=0.060). Based on Spearman correlations, WRAT scores related to contraception knowledge (Rho=0.165, p=0.042), to number of sources of health information regarding contraception (Rho=0.273, p<0.001), and to the amount learned about

contraception (Rho=0.214, p=0.008). Self-reported educational level related significantly to seven of the study scales (STD knowledge, STD attitude, contraception attitude, contraception knowledge, number of health information sources concerning contraception, number of health information sources concerning STDs, and amount learned from sources about contraception). Self-reported educational level did not correlate significantly to the remaining scale (amount learned about STDs).

Differences among the various subgroups were determined using the analysis of variance (ANOVA) followed by post hoc Bonferroni multiple comparisons to compare pairs of groups. The three clinics were not significantly different on any of the eight study scales. Differences among ethnic groups were noted. These differences are discussed in Chapter V. Differences between the two groups with varying reading skills were determined using the 2-sample student's t-test. The results from this analysis are provided in Chapter V.

CHAPTER V

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

People receive information about health issues from a variety of sources. Several factors affect the types and numbers of health information sources used by people. Two issues, poverty and illiteracy, can have profound influence on the types of sources of health information used. The relationship between number of sources of health information, amounts learned from these sources, and knowledge and attitudes of clinic clients is important. Understanding this relationship can help health professionals develop and make available the most relevant and useful sources of health information to the various segments of our population.

The present study was designed to investigate the sources of health information used by female family planning clinic clients concerning two topics, contraception and STDs including HIV-AIDS. The study also explored the relationship of the number of sources of health information and amounts learned with clients' knowledge and attitudes regarding those topics. A total of 215 women from three family planning clinics in Dallas were surveyed during the study. In addition, focus groups were conducted to better

understand study respondents' choices and answers to the questionnaire items. Variables of interest included number of sources of health information, amount learned from the various sources for each topic, and clinic clients' knowledge and attitudes concerning contraception and STDs, including HIV-AIDS. This chapter is organized to discuss the following: discussion, conclusions, and recommendations and directions for future research.

Discussion

During the spring of 1994, the investigator surveyed 251 women between the ages of 14-45 years who attended three of the family planning clinics in Dallas, operated by the University of Texas Southwestern Medical Center. Questionnaires were administered to all subjects. In addition, two focus groups with three subjects each were conducted at the clinics. Scheduling subjects for these discussions proved to be a major problem. Few subjects agreed to attend these discussions held at the clinics. Of those, only three subjects actually attended each of the two focus group discussions. Due to the lack of participation, the focus group discussion at the Lancaster-Keist clinic had to be cancelled.

Reliability

The internal reliability of the study scales was established using the Cronbach's alpha. The knowledge scales (for both STDs and contraception) and the scales for sources of health information regarding contraception and STDs including HIV-AIDS had Cronbach's alphas that ranged between 0.64-0.76. No reliability or validity statistics were reported for the sources of health information questionnaire by other investigators. Nyamathi et al. (1993) reported a Cronbach's alpha of 0.77 for the knowledge scale (regarding STDs) while this study reported a Cronbach's alpha of 0.64 for the same scale. The Cronbach's alpha for the attitude scales were low (0.43 for the STD attitude scale and 0.16 for the contraception attitude scale).

One explanation for these low reliability measures could be the limited number of items included in the two attitude scales (6 items for the STD attitude scale and 3 items for the contraception attitude scale). The reason for limiting the number of items was to keep the questionnaires short, simple, and readily understandable to the subjects, a majority of whom read at a grade level of seven or lower. Questionnaires were completed while clients waited for their clinic appointments. Hence, it was necessary for the time

involved in administering the questionnaires to be kept at a minimum. Subjects indicated that the 15-20 minutes time required for completing the questionnaires was a comfortable amount of time.

Descriptive Results

Descriptive statistics on the demographic characteristics of the three clinics and the subjects revealed the following profile. Of the total sample, 37.2%, 34.0%, and 28.8% of the subjects were from the Lancaster-Keist, Maple Plaza, and Lake June clinics respectively. Several more subjects were recruited from the Lancaster-Keist clinic than from the Lake June clinic to include the requisite number of subjects with a reading level of 1-7 grade from each clinic.

Although African American women comprised the majority (59.5%) of the subjects, it was important to note that a sizable proportion of the subjects from the Lake June clinic were Caucasian/White (24.2%), while 32.8% of the subjects from the Maple Plaza clinic were Hispanic.

The three clinics were very similar in terms of the mean ages of subjects. The overall mean age for the three clinics was 25.0 years, the minimum and maximum ranging between 14-45 years respectively.

Reading and Education level

The WRAT scores and the self-reported educational levels of study respondents indicate a discrepancy between an objective reading level test results and self-reported years of schooling. A majority (58.7%) of the study respondents had a WRAT score of 4-7 grade reading level, while only 29.3% of the study subjects reported 5-11 grade level of schooling. In fact, Meade and Byrd (1989) reported such a discrepancy in their study, where subjects reported a median education level of 10th grade, while reading ability, as measured by WRAT, placed this level at 6th grade. Meade and Byrd (1989) also reported that there existed a moderately positive correlation between reported years of schooling and WRAT scores and that the mean difference between self-reported educational grade level and WRAT score was 3.8 grade levels. The present study results also indicated a similar discrepancy between self-reported educational level and WRAT scores. This discrepancy must be taken into consideration when designing health education programs for diverse populations and when making available various sources of health information to people.

Sources of Information

The responses of the subjects to the items concerning sources of health information provided valuable data on the

types and number of sources of health information used and the amount learned from them on two issues, contraception and STDs including HIV-AIDS. With respect to contraception, the sources of health information used by subjects with a reading level of 7th grade or lower were similar to the ones used by subjects with a reading level of 8th grade or higher. Both groups used clinics most frequently as their source of health information regarding contraception followed by doctor, nurse, pamphlets/brochures, and family. The frequent use of clinics as sources of health information was expected because clinics were the settings for the study. The results also indicated that overall more study subjects received a lot of information regarding contraception from each of the four sources of health information, clinic, doctor, nurse, and pamphlets/brochures than from the others listed in the questionnaire. Television ranked relatively low as a frequently used source of health information on contraception. Radio and newspapers were also used infrequently by study subjects as sources of health information on contraception.

The data analysis results on the sources of health information indicated that some of the health information sources used for STDs (including HIV-AIDS) were different from those used for health information concerning

contraception. Differences between the two groups with varying reading grade levels were also noted. Television was the most frequently used source of information concerning STDs including HIV-AIDS by the group with the higher reading grade level, while the clinic and pamphlets/brochures were the most frequently used sources of information concerning STDs including HIV-AIDS by the group with lower reading grade levels.

The finding indicating more frequent use of television as a source of health information on STDs including HIV-AIDS by the group with higher reading skills, contradicts previous findings by Gombeski et al. (1982) and Harris et al. (1991). According to these studies, people with lower levels of education and income rely more on television and less on sources such as newspapers and magazines when compared to those in a higher socioeconomic strata. These contradictions among the studies may be because of the differences in the health topics that were explored in these studies. Gombeski et al. (1981) examined the sources of health information regarding cardiovascular health. Harris and associates (1991) explored sources of health information for a variety of health topics such as smoking, diet, alcohol, exercise and others health issues that were important and relevant to students in rural Southwestern

schools. The present study examined the sources of health information among female clients of family planning clinics with respect to contraception and STDs. Another reason for the different findings among the studies may be the fact that television has been used more effectively to inform and educate women about STDs, particularly about HIV-AIDS than about other health-related topics. The television education campaign on HIV-AIDS include special programs, product advertisements, celebrity messages, and public service announcements (PSAs).

The findings regarding sources of health information about contraception and STDs and the differences among the groups with varying reading skills may be explained by the availability of and access to certain sources of health information for each of these groups. Both these groups have ready access to the clinic and to pamphlets and brochures. Hence, their frequent use as sources of health information for both STDs and contraception. However, access to a television set or to cable programs may depend on income, and a knowledge of the availability of such programming. Both of these may be more limited within the group with lower reading skills. This would explain why clinic and pamphlets/brochures were the most frequently used sources of health information for this group for both

contraception and for STDs. However, for the group with higher reading skills, the clinic and pamphlets/brochures were used most frequently as sources of health information about contraception whereas the television was their primary source of health information for STDs. Both these groups ranked expert sources such as doctor and nurse high on their list of frequently used sources of health information.

Furthermore, results suggest that the group with better reading skills may be able to better discriminate between sources of health information on different topics and choose the best one among them. Such a distinction was not evident in the group with the lower reading skills and the subjects used the same sources of health information for both STDs and contraception.

Television has been used more frequently as a source of health information regarding STDs including HIV-AIDS than as a source of health information on contraception as is evident from its more frequent use as a health information source for STDs by female family planning clinic clients in the study. Aguilar and Hardy (1993) who used the data from the National Health Interview Survey reported that 73% of the study respondents used television as the number one source of HIV-AIDS information while only 35% of the

respondents used radio programs as a source of information regarding HIV-AIDS.

Knowledge and Attitudes

Responses of the subjects to the items on the knowledge and attitude questionnaire provided several important findings. Despite the tremendous amount of information available to the public about STDs including HIV-AIDS, several alarming gaps exist in the knowledge levels of the study subjects. Only 52% of all study subjects (49% of subjects with 7th grade or lower reading level and 58% of subjects with 8th grade and higher reading level) responded correctly to the item, "You can get HIV or AIDS from donating blood." This overall percentage is very similar to that reported from the study by Aguilar and Hardy (1993) in which respondents answered a question on HIV-AIDS transmission as a result of blood transfusions. A number of people still have misconceptions about blood transfusion and HIV-AIDS transmissions. Unfortunately, the questionnaire format used did not distinguish between a respondent who believed that such a transmission was likely and the one who thought it was just a theoretical possibility if the present day standard blood bank practices were not followed.

A majority (84.7%) of all subjects (84.1% of subjects with 7th grade or lower reading level and 85.9% of subjects

with 8th grade and higher reading level) responded in the positive to the item, "You can protect yourself from getting an HIV infection by using a condom." Responding to the item that dealt with getting an HIV infection or AIDS from eating food made by a person with an HIV infection or AIDS, 79.5% of all the study respondents (78.8% of subjects with 7th grade or lower reading level and 81.2% of subjects with 8th grade and higher reading level) answered correctly. This item had a relatively large overall proportion (16.3%) of subjects choosing the 'don't know' answer option, one of the three possible answers for each of the items on HIV-AIDS. These findings from the knowledge and attitude questionnaire support those from Nyamathi et al. (1993) study and those from the National Health Interview Survey (Aguilar & Hardy, 1993). Although there was an awareness about HIV transmission via sexual contact, needle sharing, and perinatally among low income and low literate women, misconceptions relating to the fear of HIV transmission through casual contact were still prevalent.

Regarding the question "When is a woman most likely to get pregnant," the largest percentage (22.3%) of all study subjects (26.5% of subjects with 7th grade or lower reading level and 12.5% of subjects with 8th grade and higher reading level) stated that they did not know the answer to

this item, which was one of the seven answer options from which they had to choose. With respect to the item regarding familiarity with various contraceptive methods, the largest percentage of all study subjects stated that they were familiar with the pill (99%) and the condom (100%). Overall, fewer respondents were familiar with other contraceptive methods such as Depo Provera (17-23%), rhythm (27-33%), and withdrawal (48-67%). Clearly, these findings indicate a need for specific and directed health education efforts to inform low income and low literate women about all available contraceptive methods when they visit the family planning clinics.

Relationship between Sources of Information, Knowledge, and Attitudes

The correlational analysis provided information on the relationship of number of sources of health information, amounts learned from the sources, and knowledge and attitudes regarding each of the two topics under consideration. No significant correlations were noted between the two attitude scales (attitudes toward contraception and STDs including HIV-AIDS) and the number of sources of health information and the mean amount learned from these sources regarding the two topics. One explanation for the lack of correlation with the attitude

scales could be the limited number of items on the attitudes' scale leading to poor reliability measures.

Some significant correlations between the knowledge scales and the number of sources of health information and the amount learned from these sources were noted as indicated in the previous chapter on study findings. Although statistically significant, these correlations may not be meaningful. This is one of the few studies that has attempted to explore this relationship which can have several potential implications. One implication could be the need to provide relevant and reliable sources of health information to low income and low literate women who may have limited access to health information sources and therefore limited knowledge and poor attitudes towards various health issues.

Ethnic Differences

Ethnic groups differed on several of the study scales, Hispanics scoring consistently lower than African Americans and Caucasians/Whites on the STDs and contraception knowledge scales. Hispanic clinic clients participating in the study also scored lower than the African American study respondents on the STDs attitude scale, used fewer sources of health information regarding contraception and STDs, and learned lesser amounts about these two topics from the

various sources of health information. Cultural differences along with issues related to acculturation among Hispanics may explain some of these differences.

Reading Level Differences

An important aspect of the study data was the findings indicating the differences between the two groups that read at different levels, one at 1-7 grade level and the other at 8-Post high school level. Using 2-sample student t-test, significant differences were noted on the two knowledge scales (for STDs and contraception) and on the number of sources of health information regarding contraception and STDs. The group with lower reading skills (1-7 grade level) scored lower on the two knowledge scales and used fewer number of sources of health information for both topics when compared to the group with higher reading level (8th grade or higher). There were no significant differences on the attitudes scales and in the amounts learned on both topics. The problems with the attitudes scales (few items with poor reliability measures) and the limitations of the amounts learned scales with only four levels (0, 1, 2, and 3) could be responsible for the results obtained.

Focus Groups

The focus group discussions clarified some of the choices and responses of the study subjects. In fact the

answer to the item regarding the use of condoms to protect oneself from HIV infections became clearer after the focus group discussions. Although most (99-100%) study subjects were familiar with the condom, fewer (85%) believed that condoms were effective in protecting them from HIV-AIDS infections. Insufficient information about the correct use of a condom and indications from the clinic healthcare personnel that the condom was not a 100% or perfect barrier against HIV infections were stated as some of the reasons why fewer study subjects believed in the effectiveness of a condom in preventing HIV infections.

Contraception and STDs

Although contraception and STD (including HIV-AIDS) transmission are related issues, few programs and health education strategies have attempted to address them in such a fashion. The sources of information used by low income and low literate female clients of family planning clinics were different for these two topics. As far as information sources regarding contraception were concerned, neither the print media (newspapers and magazines) nor the electronic media (television and radio) have been used effectively to convey information to women who need it the most but who may have limited access to such critical information. However, television has been used effectively in informing many women

about STDs including HIV-AIDS. This can have important implications in reaching out to low income and low literate women who may experience difficulty reading instructions, pamphlets and brochures, and newspapers and magazines.

Although newer contraceptive methods such as Norplant and Depo Provera have been available for use, few study subjects were aware of them. The need for newer and innovative strategies that rely more on pictorial depictions than on words and those that use simple and repetitive messages are clearly needed to reach out to the low income and low literate women and to inform and educate them. Most of the study subjects rated healthcare professionals such as doctors and nurses as important sources of health information. The family planning clinics were also rated high as sources of health information for both contraception and STDs. However, few of these sources have been used effectively and in a proactive manner to inform and educate clinic clients. Healthcare professionals, particularly health educators, can play an important role in providing factual and relevant information on contraception and HIV-AIDS to their clients and patients at the family planning clinics.

Conclusions

Four null hypotheses were proposed and tested at 0.05 level of significance using the data collected during the study. The following conclusions were drawn from the fingings:

Hypothesis 1. There is no relationship between the amount learned from the sources of health information and knowledge regarding contraception among family planning clinic clients. Hypothesis 1 was not rejected at p=0.05 for the group with reading level between 1-7 grade levels. However, it was rejected at p=0.05 for the group with reading level between 8-Post high school grade levels.

Hypothesis 2. There is no relationship between the amount learned from the sources of health information and knowledge regarding STDs and HIV-AIDS among family planning clinic clients. Hypothesis 2 was not rejected at p=0.05 for the group with reading level between 1-7 grade levels. However, it was rejected at p=0.05 for the group with reading level between 8-Post high school grade levels.

Hypothesis 3. There is no relationship between the amount learned from the sources of health information and attitudes regarding contraception among family planning clinic clients. Hypothesis 3 was not rejected at p=0.05.

Hypothesis 4. There is no relationship between the amount learned from the sources of health information and attitudes regarding STDs and HIV-AIDS among family planning clinic clients. Hypothesis 4 was not rejected at p=0.05.

Recommendations and Directions for Future Research

Based on the findings from the study, the following recommendations are offered. First, suggestions for improving clinic services describe strategies for accomodating the low literate client. Second, further research in the area of low literacy and patient access to health information are outlined.

Suggestions for Clinical Services

Solicit clients' ideas and opinions to understand the salient aspects of their healthcare and medical needs.

Provide information that is simple and relevant and repeated several times to correct misconceptions and errors in information processing.

Use oral communications, pictorial representation, and videos in informing and educating clinic clients.

Be aware of the cultural factors and barriers that profoundly affect the health-related behaviors of clinic clients. This can be particularly true for behaviors concerning contraception and sexual activity.

Provide health-related educational materials written at appropriate reading level suitable for clinic clients at all reading levels.

Train healthcare staff at the clinics to be aware of the barriers to healthcare faced by the low income and low literate clinic clients on a daily basis. These issues may affect many of their health-related behaviors including their compliance with treatment modalities and their practice of preventive behaviors.

Make available more health educators and counselors to answer clients' questions and help them make important health decisions concerning contraception and sexual activity in a non-threatening environment.

Update health information regularly and make it available to all clinic clients. Also, organize this health information in a comprehensive and repetitive manner.

Future Research

Based on this study, the following are some of the ideas and directions proposed for future research:

1. Improve the questionnaires so that the reliability of the attitudes scales can be improved.

2. Conduct similar studies at the other family planning clinics.

3. Use qualitative methods such as focus group discussions to further understand the healthcare needs and problems of the clinic clients.

4. Explore the health information sources of both men and women who visit the clinics on contraception and STDs including HIV-AIDS as well as several other health issues.

5. Examine the influence of the significant others and partners, family, church, and other important social sources who can help women receive and process health information and translate it into positive attitudes and behaviors.

6. Examine how information diffuses among low literate and low income women.

7. Determine the accuracy (both actual and perceived) of sources of health information available today, particularly those available to low income and low literate women on a variety of health issues including contraception and STDs including HIV-AIDS.

References

Aguilar, S. M., & Hardy, A. M. (1993). AIDS knowledge and attitudes for 1991: Data from the National Health Interview Survey (Advance Data No. 225). Hyattsville, MD: National Center for Health Statistics.

Anderson, D. M., Meissner, H.I., & Portnoy, B. (1989). Media use and the health information acquisition process: How callers learned about the NCI's Cancer Information Service. Health Education Research, 4, 419-427.

Antonovsky, A. (1967). Social class, Life expectancy, and overall mortality. Milbank Memorial Fund Quarterly, 45(2), 31-73.

Aruffo, J. F., Coverdale, J. H., & Vallbona, C. (1991). AIDS knowledge in low-income and minority populations. Public Health Reports, 106(2), 115-119.

Aved, B. M., Irwin, M. M., & Cummings, L. S. (1993). Barriers to prenatal care for low-income women. The Western Journal of Medicine, 158, 493-498.

Barnes, L. P. (1992). The illiterate client. MCN, 17, 99.

Berger, J. (1988, September 6). Price of illiteracy translates into poverty and humiliation. New York Times, p. 1A,12A.

Clausen, J. (1985). U. S. Hispanics not as cancer aware. Albuquerque Journal, p. 1.

Cochran, S. D. (1989). Women and HIV infection: Issues in prevention and behavior change. In V. Mays, G. Albee, & S. Schneider (Eds.), Primary prevention of AIDS: Psychological approaches (pp. 309-329). Newbury Park, CA: Sage.

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Davis, T. C., Jackson, R. H., George, R. B., Long, S. W.,
   Talley, D., Murphy, P. W., Mayeaux, E. J., & Truong, T.
   (1993). Readability ability in patients in substance
   misuse treatment centers. The International Journal of
   the Addictions, 28, 571-582.

Doak, C. C., Doak, L. G., & Root, J. H. (1985). Teaching
   patients with low literacy skills. Philadelphia: J. B.
   Lippincott Company.

Doak, L. G., & Doak, C. C. (1980). Patient comprehension
   profiles: Recent findings and strategies. Patient
   Counseling and Health Education, 2(3), 101-106.

Dumber Than We Thought. (1993, September). Newsweek,
   p. 44-45.

Estey, A., Musseau, A., & Keehn, L. (1991). Comprehension
   levels of patient reading health information. Patient
   Education and Counseling, 18, 165-169.

Feinstein, J. S. (1993). The relationship between
   socioeconomic status and health: A review of literature.
   The Milbank Quarterly, 71(2), 279-322.

Flaskerud, J. H., & Nyamathi, A. M. (1989). Black and
   Latina womens' AIDS related knowledge, attitudes, and
   practices. Research in Nursing & Health, 12, 339-346.

Freimuth, V. S., & Marron, T. (1978). The public's use of
   health information. Health Education, 9, 18-20.

Gans, J. E., Blyth, D. A., Elster, A. B., & Gaveras, L. L.
   (1990). American adolescents: How healthy are they?
   Chicago: American Medical Association.

Giblin, P. T., Poland, M. L., & Sachs, B. A. (1986).
   Journal of Adolescent Health Care, 7, 168-172.

Gillian, A., Scott, M., & Troup, J. (1989). AIDS education
   and risk reduction for homeless women and children:
   Implications for health education. Health Education, 20,
   44-47.

Gombeski, W. R., Jr., Moore, T. J., Contant, C. F., Ramirez, A. G., Farge, E. J., & Kautz, J. A. (1981). Health information sources of the poorly informed: Implications for health educators and communicators. Health Values: Achieving High Level Wellness, 5(5), 199-206.

Gombeski, W. R., Jr., Ramirez, A. G., Kautz, J. A., Farge, E. J., Moore, T. J., & Weaver, F. J. (1982). Communicating health information to urban Mexican Americans: Sources of health information. Health Information Quarterly, 9, 293-309.

Greenberg, J. S., Bruess, C.E., & Mullen, K. D. (1992). Sexuality - insights and issues. Dubuque: Brown & Benchmark Publishers.

Grimes, D. A. (Ed.). (1993). The contraception report: Reproductive health in the perimenopause. Liberty Corner, N. J: Emron Inc.

Grimley, D. M., Riley, G. E., Bellis, J. M., & Prochaska, J. O. (1993). Assessing the stages of change and decision-making for contraceptive use for the prevention of pregnancy, sexually transmitted diseases, and Acquired Immunodeficiency Syndrome. Health Education Quarterly, 20, 455-470.

Hadley, J. (1982). More medical care, better health? An economic analysis of mortality rates. Washington: Urban Institute Press.

Hadley, J. (1988). Medicare spending and mortality rates of the elderly. Inquiry, 25, 485-93.

Harris, M. B., Harris, R. J., & Davis, S. M. (1991). Ethnic and gender differences in Southwestern students' sources of information about health. Health Education Research, 6, 31-42.

Harris, Louis, & Associates. (1973). The Public and High Blood Pressure (DHEW Publication No. [NIH] 75-356). Washington, DC: U. S. Government Printing Office.

Hazuda, H. P ., Stern, M. P., Gaskill, S. P., Haffner, S. M., & Gardner, L. L. (1983). Ethnic differences in health knowledge and behaviors related to the prevention and treatment of coronary heart disease. American Journal of Epidemiology, 117, 717-728.

Hoagberg, B. L., Rode, P., Skovholt, C. J., Oberg, C. N., Berg, C., Mullett, S., & Choi, T. (1990). Barriers and motivators to prenatal care among low-income women. Social Science and Medicine, 30, 487-495.

Hofferth, S. L., & Hayes, C. D. (Eds.). (1987). Risking the future: Adolescent sexuality, pregnancy, and child bearing (vol. 2). Washington, DC: National Academy Press.

Howard, H. H., Blick, E., & Quarles, J. P. (1987). Media choice for specialized news. Journalism Quarterly, 64, 620-623.

Kanonowicz, L. (1993). National project to publicize link between literacy, health. Canadian Medical Association Journal, 148, 1201-03.

Khanna, J., VanLook, P. F., & Griffin, P. O. (1992). Reproductive health: A key to a brighter future: Biennial Report 1990-1991. Geneva: World Health Organization.

Kirsch, I. S., Jungeblut, A., Jenkins, L., & Kolstad, A. (1993). Adult literacy in America: A first look at the results of the National Adult Literacy Survey (GPO stock No. 065-000-00588-3). Washington, DC: U. S. Government Printing Office.

Kitagawa, E. M., and Hauser, P. M. (1973). Differential mortality in the United States: A study in socioeconomic epidemiology. Cambridge: Harvard University Press.

Laveist, T. A. (1993). Segregation, poverty, and empowerment: Health consequences for African Americans. The Milbank Quarterly, 71(1), 41-64.

Ledbetter, C., Hall, S., Swanson, J. M., & Forrest, K. (1990). Readability of commercial versus generic health instructions for condoms. Health Care for Women International, 11, 295-304.

Levenson, P. M., Morrow, J. R., Jr., Morgan, W. C., & Pfefferbaum, B. J. (1986). Journal of Early Adolescence, 6(2), 183-195.

Logue, E. E., & Jorjoura, D. (1990). Modeling heart disease mortality with census tract rates and social class mixtures. Social Science and Medicine, 31, 545-50.

Lunin, L. F. (1987). Where does the public get its health information? Bull. N. Y. Acad. Med., 63, 923-938.

Malloy, C. (1992). Children and Poverty: America's future at risk. Pediatric Nursing, 18, 553-557.

Manfredi, C., Czaja, R., Buis, M., & Derk, D. (1993). Patient use of treatment-related information received from the cancer information service, Cancer, 71(4), 1326-1337.

Mays, V. M. (1989). AIDS prevention in Black populations: Methods of a safer kind. In V. M. Mays., G. W. Albee., & S. F. Schneider (Eds.), Primary prevention of AIDS: Psychological approaches (pp. 264-279). Newbury Park, CA: Sage.

McBarnette, L. (1988). Women and Poverty: The effects on reproductive status. Women and Health, 12(3/4), 55-81.

McCarn, G. H. (1986). Sources of health information for consumers and health practitioners. Family and Community Health, 9(2), 46-50.

McElmurry, B. J., Swider, S. M., Grimes, M. J., Dan, A. J., Irvin, Y. S., & Lourenco, S. V. (1987). Health Advocacy for young, low-income, inner city women. Advances in Nursing Science, 9(4), 62-75.

Meade, C., & Byrd, J. C. (1989). Patient literacy and the readability of smoking education literature. American Journal of Public Health, 79(2), 204-206.

Meade, C. D., Diekmann, J., & Thornhill, D. G. (1992). Readability of American Cancer Society patient education literature. Oncology Nursing Forum, 19(1), 51-55.

Meissner, H. I., Potosky, A. L., & Convissor, R. (1992). Journal of Community health, 17(3), 153-165.

Moore, D. S., & Erickson, P. I. (1985). Age, gender, and ethnic differences in sexual and contraceptive knowledge, attitudes, and behaviors. Family & Community Health, 8(3), 38-51.

Morgan, P. P. (1993). Illiteracy can have major impact on patients' understanding of health care information. Canadian Medical Association Journal, 148, 1196-1197.

Muller, C. (1988). Medicaid: The lower tier of health care for women. Women & Health, 14(2), 81-103.

Najman, J. M. (1993). Health and poverty: Past, present and prospects for the future. Social Science and Medicine, 36(2), 157-166.

National Center for Health Statistics. (1988). National Survey of Family Growth. Hyattsville, MD: National Center for Health Statistics.

Neinstein, L. S. (1991). Teenage pregnancy in adolescent health care: A practical guide (pp. 561-576). Baltimore: Urban and Schwarzenberg.

Neinstein, L. S. (1994). Issues in reproductive management. New York: Thieme Medical Publishers, Inc.

Nelson, M., & Mondanaro, J. (1987). Health promotion for drug dependent women. In Treatment services for drug dependent women (pp. 247-302). (DHHS Publication No. ADM 87-1219). Rockville, MD: National Institute on Drug Ause.

Norbeck, J. S., & Anderson, N. J. (1989). Psychosocial predictors of pregnancy outcomes in low-income, Black, Hispanics, and white women. Nursing Research, 38, 204-215.

Nyamathi, A., Bennett, C., Leake, B., Lewis, C., & Flaskerud, J. (1993). AIDS-related knowledge, perceptions, and behaviors among impoverished minority women. American Journal of Public Health, 83(1), 65-71.

Nyamathi, A. M., Leake, B., Flaskerud, J., Lewis, C., & Bennett, C. (1993). Outcomes of specialized and traditional AIDS counseling programs for impoverished women of color. Research in Nursing & Health, 16, 11-21.

Palmer, B. L. (1989). Changes in the stochastic planning horizon and its effect upon the elderly. Doctoral dissertation, Massachusetts Institute of Technology.

Plimpton, S., & Root, J. (1994). Materials and strategies that work in low literacy health communication. Public Health Reports, 109(1), 86-92.

Reis, J., Sherman, S., & Macon, J. (1989). Teaching inner-city mothers about family planning and prenatal and pediatric services. Journal of Pediatric health Care, 3, 251-256.

Roslow, P., & Roslow, S. (1980). How U. S. Latins use radio. Journal of Advertising Research, 20(3), 19-22.

Rosoff, A. (1988). Non-compliant or illiterate? Lancet 1(8581), 362.

Ross, C. K. (1981). Factors influencing successful prevention health education. Health Education Quarterly, 8, 187-207.

Segal, E. (1991). The juvenilization of poverty in the 1980s. Social Work, 36, 454-57.

Shayne, V. T., & Kaplan, B. J. (1991). Double victims: Poor women and AIDS. Women & Health, 17(1), 21-37.

Sidel, R. (1991). Putting women and children first: Priorities for the future. Journal of Public Health Policy, 12(1), 37-49.

Sollod, R. N. (1987). Behavioral science and adult illiteracy: Becoming part of the solution. Behavior Analysis and Social Action, 6(1), 23-26.

Sonenstein, F. L., Pleck, J. H., & Ku, L. C. (1989). Sexual activity, condom use and AIDS awareness among adolescent males. Family Planning Perspectives, 21, 152.

Svenson, L. W., & Campbell, R. L. (1992). Perceived health status and desired health information needs of university students. Canadian Journal of Public Health, 167-168.

Tanaka, P. A., Yeung, D. L., & Anderson, G. H. (1989). Health professionals as sources of infant nutrition information for metropolitan Toronto mothers. Canadian Journal of Public Health, 80, 200-204.

The Johns Hopkins School of Hygiene and Public Health. (1993). Population Reports: Controlling sexually transmitted diseases (series L, No. 9). Baltimore, MD: Author.

UNESCO. (1988). Statistical Yearbook 1988. Paris, France: Author.

U. S. Department of Health and Human Services. (1990). Healthy people 2000: National health promotion and disease prevention objectives (DHHS Publication No. (PHS)91-50213). Boston, MA: Jones and Bartlett Publishers.

U. S. Department of Health and Human Services. (1993). HIV/AIDS Surveillance Report (Third quarter edition). Atlanta, GA: Centers for Disease Control and Prevention.

Wasserhert, J. N. (1992). Epidemiological Synergy: Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. Sexually Transmitted Diseases, 19(2), 61-77.

Weaver, F. J., Herrick, K. L., & Ramirez, A. G. (1978). Establishing a community data base for cardiovascular health education programs. Health Values, 2, 249-256.

Weiss, B. D., Hart, G., McGee, D. L., & D'Estelle, S. (1992). Health status of illiterate adults: Relation between literacy and health status among persons with low literacy skills. Journal of American Board of Family Practice, 5, 257-264.

Weiss, B. D., Hart, G., & Pust, R. E. (1991). The relationship between literacy and health. Journal of Health Care for the Poor and Underserved, 1, 351-363.

Wing, S., Casper, M., Riggan, W., Hayes, C., Tyroler, H. A. (1988). Socioeconomic characteristics associated with the onset of decline of Ischemic heart disease mortality in the United States. American Journal of Public Health, 78, 923-6.

Wing, S., Dargent-Molina, P., Casper, M., Riggan, W., Hayes, C. G., & Tyroler, H. A. (1987). Changing association between community occupational structure and Ischaemic heart disease mortality in the United States. Lancet, 2, 1067-71.

Wofsy, C. (1987). Human immunodeficiency virus infection in women. Journal of American Medical Association, 257, 2074-2076.

Worsley, A. (1989). Perceived reliability of sources of health information. Health Education Research, 4, 367-376.

Appendices

Appendix A

Permission Letters from UTSWMC and TWU

SOUTHWESTERN
THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

Institutional Review Board

August 17, 1993

Satya P. Krishnan
Department of OB/GYN

RE: IRB FILE # 0893 33800
     Health Information Among Family Planning Clinic Clients
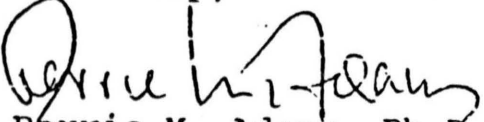
Dear Ms. Krishnan:

On August 17, 1993, the Institutional Review Board considered the above-referenced study and approved the protocol and consent form as enclosed. Please use this approved consent form and destroy all other drafts or undated copies. The annual review of this study is scheduled for August 1994.

University and Federal regulations require that written consent be obtained from all human subjects in your studies. The consent form should be kept on file for a period of three years past completion of the study. A copy of the consent form should be given to each participant in your study. Also, the University attorneys have asked us to remind investigators to <u>put a copy of the consent form in the subject's medical record</u>. Investigators should file the original, executed copy of the consent form with their records of the protocol.

The HHS regulations require you to submit annual and terminal progress reports to our Institutional Review Board and to receive continuing review of your activity annually by this Board. You are also required to report to this Board any death or serious reactions resulting from your study. Failure to submit the above reports may result in severe sanctions being placed on the Southwestern Medical Center. Furthermore, if you require a modification contact me in order that appropriate review and approval can be made prior to implementing the change.

If you have any questions related to this protocol or to the Institutional Review Board please contact me at extension 82258 or Romelle Hase at extension 83060.

Sincerely,

Perrie M. Adams, Ph.D.
Associate Dean for Research
Chairman
Institutional Review Board

PMA/rh
Enclosure

Appendix B

Permission Letters from Authors for Use of Questionnaires

I/We grant Ms. Satya Krishnan permission to use the survey instrument/questionnaire dealing with male and female sexual and contraceptive knowledge, attitudes and behaviors for her doctoral dissertation. This survey instrument/questionnaire was used by Dr. Erickson and Dr. Dianne Moore in the 1985 paper titled "Age, gender, and ethnic differences in sexual and contraceptive knowledge, attitudes, and behaviors," published in the journal titled <u>Family & community Health</u>.

Signature: _Dianne S Moore C N m PhD_

Name(Print): _DIAnne Moore_

I/We grant Ms. Satya Krishnan permission to use the survey instrument/questionnaire dealing with male and female sexual and contraceptive knowledge, attitudes and behaviors for her doctoral dissertation. This survey instrument/questionnaire was used by Dr. Erickson and Dr. Dianne Moore in the 1985 paper titled "Age, gender, and ethnic differences in sexual and contraceptive knowledge, attitudes, and behaviors," published in the journal titled <u>Family & community Health.</u>

Signature:

Name(Print): Pamela I Erickson

I/We grant Ms. Satya Krishnan permission to use the survey instruments/questionnaires dealing with AIDS related knowledge, attitudes, and practices described in the articles titled "Black and Latina Womens' AIDS related knowledge, attitudes, and practices (Research in Nursing & Health, 1989) and "AIDS-Related knowledge, perceptions, and behaviors among impoverished minority women (American Journal of Public Health, 1993) for her doctoral ⟵— research.

Signature(s): *Adeline Nyamathi*
Jacquelyn H. Flaskerud

Names(Print): Adeline Nyamathi
JACQUELYN L. FLASKERUD

October 14, 1993

Mr. William R. Gombeski
Department of Bioethics
Cleveland Clinic Foundation
Cleveland, OHIO 44195

Dear Mr. Gombeski,

      I talked with you a few days ago about using the survey that you and your collaborators used and described in your 1981 paper. The title of the paper was, "Health Information Sources of the poorly informed: Implications for Health Educators and Communicators," published in <u>Health Values: Achieving High Level Wellness</u> in 1981. I would like to use a similar sources of health information survey as part of my doctoral dissertation. Please indicate your permission for me to use this survey by signing this letter and mailing it back to me as soon as possible.

      Thank you very much. If you have any questions about my study, please call me or write to me.

Sincerely,

Satya krishnan

Satya Krishnan
1828 Winding Creek Blvd
Flower Mound, TX 75028.
214-539-2980.

Wm R Gombeski Jr.
10-27-93

THE CLEVELAND CLINIC
FOUNDATION

William R. Gombeski, Jr.
Associate Director, Marketing Center
Division of Health Affairs - KK20
9500 Euclid Avenue, Cleveland, Ohio 44195
216-444-8847 Fax: 216-444-7021

I/We grant Ms. Satya Krishnan permission to use the survey instrument/questionnaire dealing with sources of health information described in the article titled "Ethnic and gender differences in Southwestern students' sources of information about health," published in the journal <u>Health Education Research</u> (1991).

Signature(s): _Mary B. Harris_

Names(Print): _Mary B. Harris_

Appendix C

Letters from Experts to Establish Face Validity

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

Department of Obstetrics & Gynecology
Division of Maternal Health & Family Planning

November 30, 1993

Ms. Satya Krishnan
1828 Winding Creek Blvd.
Flower Mound, TX 75028

Dear Satya:

You have by now received the three sets of draft questions that you asked Annette
Carlson, Dr. Heartwell, and me to look over. In general we thought that they were
quite satisfactory for measuring what you are concerned about: (1) knowledge of
HIV/AIDS and other STDs, (2) knowledge regarding contraceptive methods, (3)
attitudes about STDs including HIV/AIDS, (4) attitudes regarding contraception.

My only major concern is that a careful distinction must be made between HIV
infection on the one hand, and AIDS on the other hand. To have an HIV infection is
not the same as having AIDS, as I am sure you know. There are very specific criteria
for defining AIDS. Barbara Cambridge mentioned to me that she also had some
concerns about making this HIV/AIDS distinction, and I urge you to have a talk with
her.

I know that sometimes it is hard to believe, but one day you will be finished with your
dissertation. Good luck to you on every step of the way.

Sincerely,

Lewis W. Mondy, Ph.D.

Enclosures

LWM/mh

THE UNIVERSITY OF TEXAS
Southwestern Medical Center
AT DALLAS

Barbara S. Cambridge, Ph.D.

Department of Obstetrics and Gynecology
Division of Prenatal Diagnosis
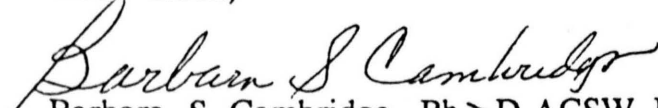
Ms. Satya krishnan
1828 Winding Creek Blvd.
Flower Mound, TX 755028

Dear Ms. Krishnan,

I have reviewed your research instrument and, in my opinion, it appears to be capable of ascertaining the information you seek on the sources of health information, knowledge and attitudes of the patients attending family planning clinics regarding contraception STD and HIV/AIDS.

If I can be of further assistance, please contact me.

Good Luck,

Barbara S. Cambridge, Ph > D, ACSW, LMSW < ACP
Associate Professor

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

Department of Obstetrics & Gynecology
Division of Maternal Health & Family Planning

December 10, 1993

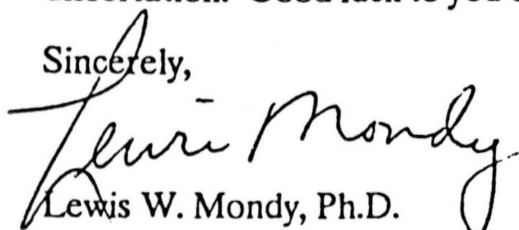Satya Krishnan
1828 Winding Creek Blvd.
Flower Mound, Texas 75028
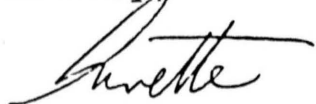
Dear Ms. Krishnan:

It was a pleasure meeting with you to discuss the proposed
Survey instrument.

Considering the time constraint in the clinic setting, I
feel comfortable that the Survey will measure the 4 aspects
that you seek. Dr. Mondy indicated in his letter the
specific points which were discussed when we met with you.

Thank you for the time and interest you have devoted to the
project.

Sincerely,

Annette Carlson, RNC
Associate Director of Clinic Services
Division of Maternal Health and Family Planning

AC/id

Appendix D

Consent Forms for Study Subjects

Texas Woman's University
Participant Consent To Participate In Research

Sources of Health Information regarding Contraception and STDs among Family Planning
Clinic Clients

Investigator: Phone Number:
Satya Krishnan   214-376-5451 X5923

You are asked to take part in this research project that will try to find out the various
sources of health information used by you and other clinic clients.

Purpose

The purpose of this study is to find out the sources of health information about birth
control and sexually transmitted diseases (STDs) among family planning clinic clients.
The study also hopes to explore the relationship between amount learned from the sources
of health information and knowledge and attitudes about birth control and STDs
(including HIV-AIDS).

Procedures

By taking part in this study, you will answer questions about sources of health
information. You will also be asked questions about your knowledge and attitudes about
birth control and STDs (including HIV-AIDS). It will take you about 30 minutes to
answer these questions. The investigator will read these questions to you and complete
the survey with your answers. This can be done while you wait for your appointment at
the clinic. You will also be given a test (WRAT) to find out how well you can read. You
will be asked if you would like to take part in focus group discussions at the clinic on a
later day. No names and/or other identifying information will be asked from you. All
study data will be handled by the investigator and stored in a locked cabinet for 3 years
and then will be shredded.

If you have any questions about this research and research subjects' rights, you may
contact Satya Krishnan at the following numbers: 214-376-5451 X5923.

Your participation in this study is voluntary. Refusal to participate will involve no penalty
or loss of benefits to which you are otherwise entitled. Also, you may discontinue
participation in this study at any time without penalty or loss of benefits to which you are
otherwise entitled.

An offer to answer all my questions regarding the study has been made and I have
been given a copy of the dated and signed consent form. A description of the
possible attendant discomfort and risks reasonable to expect have been discussed
with me. I understand that I may terminate my participation in the study at any
time. I understand that no medical service or compensation is provided to the
subjects by the University as a result of injury from participation in research.

Participant signature:_____   Date:_____
If the participant is a minor:
Parent/Guardian signature:_____   Date:_____

If you have any concerns about the way this research has been conducted, contact the
Texas Woman's University Office of Research at (817)-898-3375.

Texas Woman's University

I, the undersigned, do hereby consent to the recording of our voices by Satya Krishnan, acting on this date under the authority of Texas Woman's University. I understand that the material recorded today may be made available for research purposes; and I hereby consent to such use.

I hereby release Texas Woman's University from any and all claims arising out of such taking, recording, reproducing, publishing, transmitting, or exhibiting as is authorized by Texas Woman's University.

_____

Signature of participant

_____

Date

Incase the participant is a minor:

_____

Signature of parent or guardian

_____

Date

_____

Signature of Investigator

_____

Date

IRB Form #4, Page 1

THE UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER AT DALLAS
SUBJECT CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF STUDY: Sources of health information among family planning clinic clients -
An investigation

SPONSOR: Lewis W. mondy, Ph.D.

INVESTIGATORS:	OFFICE PHONE #	NIGHT/WEEKEND #
1. Satya Priya Krishnan	214-376-5451 X5923	214-539-2980
2.		
3.		
4.		

You are being asked to participate in a research study. Persons who participate in research are entitled to certain rights. These rights include but are not limited to the subject's right to:

1. Be informed of the nature and purpose of the research;

2. Be given an explanation of the procedures to be followed in the research, and any drug or device to be utilized;

3. Be given a description of any attendant discomforts and risks reasonable to be expected;

4. Be given a disclosure of any benefits to the subject reasonable to be expected, if applicable;

5. Be given a disclosure of any appropriate alternatives, drugs, or devices that might be advantageous to the subject, their relative risks and benefits;

6. Be informed of the alternatives of medical treatment, if any, available to the subject during or after the experiment if complications arise;

7. Be given an opportunity to ask any questions concerning the research and the procedures involved;

8. Be instructed that consent to participate in the research may be withdrawn at any time, and the subject may discontinue participation without prejudice;

9. Be given a copy of the signed and dated consent form;

10. And be given the opportunity to decide to consent or not to consent to participate in research without the intervention of any element of force, fraud, deceit, duress, coercion, or undue influence on the subject's decision.

Page 1 of 4 Pages

IRB File # 6893 35.8cc

Date Approved AUG 17 1993

(02/93)

TITLE OF STUDY: SOURCES OF HEALTH INFORMATION AMONG FAMILY PLANNING CLINIC CLIENTS — AN INVESTIGATION.

You have the right to privacy. All information that is obtained in connection with this study that can be identified with you will remain confidential within the limits of State Law. Information gained from this study that can be identified with you will be released only to the investigators, and if appropriate, to your physician and the sponsors of the study. For studies regulated by the Food and Drug Administration (FDA), there is a possibility that the FDA may inspect your records. The results of this study may be published in scientific journals without identifying you by name.

In addition, the records of your participation in this study may be reviewed by members and staff of the Institutional Review Board, and you may be contacted by a representative of the Board for information about your experience with this study. If you wish, you may refuse to answer any questions the Board may ask of you. We also would like for you to understand that your record may be selected at random (as by drawing straws) for examination by the Board to insure that this research project is being conducted properly.

Every effort will be made to prevent any injury that could result from this research. Compensation for physical injuries incurred as a result of participating in the research is not available. The investigators are prepared to advise you about medical treatment in case of adverse effects which you should report to them promptly. <u>Phone numbers where the investigators may be reached are listed in the heading of this form.</u>

If you have any questions about the research or about your rights as a subject, we want you to ask us. If you have questions later, or if you wish to report a research-related injury (in addition to notifying the investigator), you may call the Chairman of the Institutional Review Board during office hours at 214/648-2258.

Participation in this research study is entirely voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without affecting your status (as a patient, student, employee, etc.), or the medical care that you will receive. Under certain circumstances the study may be discontinued by the sponsor or the investigator.

Any significant new findings developed during the course of the research which may relate to your willingness to continue participation in this study will be provided to you.

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP

_____

(02/93)

Consent To Participate

Sources of Health Information among family planning clinic clients - An Investigation

You are invited to take part in this research project that intends to find out the various sources of health information used by you and other clinic clients.

Purpose
We hope to ask you questions about the sources of your health information. The health topics of interest are HIV-AIDS, sexually transmitted diseases (STDs), and contraception. Some of you will also be asked to take part in focus groups, to express your opinions and ideas about the various sources of health information that you use.

Procedures
By participating in this study, you will answer questions about, and rank your sources of, health information. You will also be asked some questions about your attitudes and knowledge about HIV-AIDS, STDs, and contraception. The questions will be very simple and easy to understand. It will take you a maximum of 1/2 (half hour) to answer these questions. Questions will be in both English and Spanish. You can answer them while waiting for your appointment. Those of you willing to take part in focus groups will be invited to come back on another day to the clinic. You will be given bus tokens/money to come back to the clinic as well as money for lunch. No names and/or other personal information will be asked from you.

Possible Risks and Discomforts
There will be no risks or discomforts for you if you participate in this study. This project could help you and the clinics to deal better with your health problems.

Possible Benefits
We believe that there will be many benefits from this study. It will help the clinics understand your health needs better. It will help us develop better health education programs for you. The study will also help us to provide you with better health information brochures.

Alternatives to Participation
Your participation in the program is entirely up to you. You will not lose any benefits to which you are entitled, if you choose not to participate. Your health care at the clinics will be just the same.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS STUDY. YOU SHOULD NOT SIGN UNTIL YOU UNDERSTAND ALL THE INFORMATION PRESENTED IN THE PREVIOUS PAGES AND UNTIL ALL YOUR QUESTIONS ABOUT THE RESEARCH HAVE BEEN ANSWERED TO YOUR SATISFACTION. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ (OR BEEN READ) THE INFORMATION PROVIDED ABOVE.

_____   _____
Signature of patient   Date

_____
Signature of Person Obtaining Consent
(The investigator)

Appendix E

Questionnaires Used in the Study

1. <u>YOUR AGE:</u>
How old are you?   _____ years.

2. <u>YOUR ETHNICITY:</u>
What is your ethnicity?

          (Check one)   African American/Black   _____
                                   Asian/Pacific Islander   _____
                                   Caucasian/White   _____
                                   Hispanic (Mexican)   _____
                                   Hispanic (Other origin)   _____
                                   Native Indian/Alaskan Native _____
                                   Other   _____
                                   No answer   _____

3. <u>YOUR EDUCATION:</u>
How much schooling have you completed?

          (Check one)   Less than 5th grade   _____
                                   5th - 11th grade   _____
                                   Completed high school   _____
                                   Attended college   _____
                                   No answer   _____

If you would like to take part in a discussion group later on, please
print your first name and a telephone number on this sheet. I will contact you
when the date and time for the discussion is set.

First Name:_____

Telephone #:__ __ __-__ __ __-__ __ __ __.

If you come to the discussion group meeting, you will get a free lunch
and round-trip bus fare.

If you would like to take part in a discussion group later on, please print your first name and a telephone number on this sheet. I will contact you when the date and time for the discussion is set.

First Name:_____

Telephone #:__ __ __-__ __ __-__ __ __ __.

If you come to the discussion group meeting, you will get a free lunch and round-trip bus fare.

SURVEY #1

SOURCES OF HEALTH INFORMATION

We are interested in how and where people learn about health topics. For each topic many sources are listed.

PLEASE PUT A CHECK BY THE ANSWERS THAT DESCRIBE HOW MUCH YOU LEARNED ABOUT THE TOPIC FROM EACH SOURCE.

1. Where did you learn about contraception or birth control methods?

I learned about it from:	a lot	some	a little	nothing
TV	-----	-----	-----	-----
Radio	-----	-----	-----	-----
Newspapers	-----	-----	-----	-----
Magazines	-----	-----	-----	-----
Pamphlets/Brochures	-----	-----	-----	-----
Family	-----	-----	-----	-----
Friends	-----	-----	-----	-----
Doctor	-----	-----	-----	-----
Nurse	-----	-----	-----	-----
Other healthcare staff	-----	-----	-----	-----
Clinic	-----	-----	-----	-----
Other: List	-----	-----	-----	-----

_____

2. <u>Where did you learn about sexually transmitted diseases (STDs) and HIV-AIDS?</u>

I learned about it from:	a lot	some	a little	nothing
TV	-----	-----	-----	-----
Radio	-----	-----	-----	-----
Newspapers	-----	-----	-----	-----
Magazines	-----	-----	-----	-----
Pamphlets/Brochures	-----	-----	-----	-----
Family	-----	-----	-----	-----
Friends	-----	-----	-----	-----
Doctor	-----	-----	-----	-----
Nurse	-----	-----	-----	-----
Other healthcare staff	-----	-----	-----	-----
Clinic	-----	-----	-----	-----
Other: List	-----	-----	-----	-----

_____

SURVEY # 2
Knowledge and Attitudes Survey

I will read each statement. Tell me whether each statement is true, false, or you don't know.

	TRUE	FALSE	DON'T KNOW
1. AIDS is a disease caused by a virus.	-------	-------	-------
2. People who get AIDS usually die from it.	-------	-------	-------
3. You don't feel right being around men who have sex with both men and women.	-------	-------	-------
4. You could get an HIV infection or AIDS from sharing needles (shooting up) with someone who is infected with the AIDS virus.	-------	-------	-------
5. If a child with an HIV infection or AIDS were to attend your child's school you would take your child out of the school.	-------	-------	-------
6. A mother with an HIV infection or AIDS can pass the AIDS virus to her unborn baby.	-------	-------	-------

	TRUE	FALSE	DON'T KNOW

7. People who have AIDS usually have lost a lot
   of weight.   ------   ------   ------

8. You don't feel right talking about HIV infection and AIDS.   ------   ------   ------

9. You know some places in your city where
   you can get tested or treated for the AIDS virus.   ------   ------   ------

10. You could get an HIV infection from having unprotected sex
    with someone who has AIDS or is carrying the AIDS
    virus.   ------   ------   ------

11. People who have AIDS usually have fevers and
    infections.   ------   ------   ------

12. You could get an HIV infection or AIDS from donating blood.   ------   ------   ------

13. You can protect yourself from getting an HIV infection by using a   -------   ------   ------
    condom.

14. People who have an HIV infection or AIDS should not be allowed to -------   ------   ------
    work.

	TRUE	FALSE	DON'T KNOW

15. You could get an HIV infection or AIDS from eating food made by a person who has an HIV infection or AIDS. ——— ——— ———

16. You could get an HIV infection or AIDS from a person with an HIV infection or AIDS who sneezed on you. ——— ——— ———

17. You could get an HIV infection or AIDS from using a toilet that someone with an HIV infection or AIDS has used. ——— ——— ———

18. Cleaning works/needles with just water is enough to kill the AIDS virus. ——— ——— ———

19. A person can get the AIDS virus from sharing dirty works/needles with someone who has an HIV infection or AIDS. ——— ——— ———

I will read the following questions about birth control methods and STDs to you. Tell me your answer.

Birth control or contraception:

20. If you ever wanted to get any kind of birth control, do you know where to go?

------- know where to go

------- do not know where to go

21. When is a woman most likely to get pregnant?

------- during her period

------- a few days after her period

------- in the middle of her monthly cycle

------- 14 days before her next period

------- a few days before her next period begins

------- equally throughout the monthly cycle

------- don'tknow

22. Are you familiar with these birth control methods?

------- condom

------- Depo Provera

------- diaphragm

------- foam

------- Norplant

------- pill

------- rhythm

------- sponge

------- withdrawal

23. Are all birth control methods equally effective in preventing pregnancies?

        Yes / No

24. Are you comfortable talking about birth control?

        Yes / No

25. Do you and your partner discuss birth control methods with each other?

        Yes /No

26. Sex education or family life education should be taught to children at school?

        Yes / No

The rest of the questions are on STDs. Tell me "Yes" or "No" for an answer.

27. Are you familiar with STDs (sexually transmitted diseases)?

        Yes /No

28. Gonorrhea, Syphilis, Herpes, and Chlamydia are all examples of STDs?

        Yes / No

29. Can most STDs be treated with proper medical care?

        Yes / No

30. Can the number of people getting STDs be reduced by the use of condoms?

        Yes / No

31. Would you be ashamed to talk to someone about your STDs?

        Yes / No

32. Is it difficult for you to bring up the subject of STDs with your partner?

        Yes / No