

A
STUDY TO
INVESTIGATE THE
KNOWLEDGE OF THE VENEREAL DISEASE
PROCESS AND PREVENTIVE BEHAVIORS IN TWENTY INFECTED
AND TWENTY NON-INFECTED GONORRHEA PATIENTS IN A VENEREAL DISEASE CLINIC

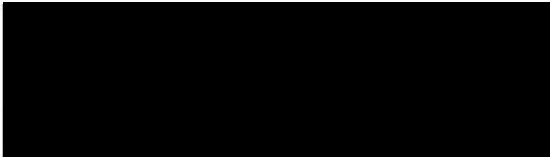
By
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A THESIS

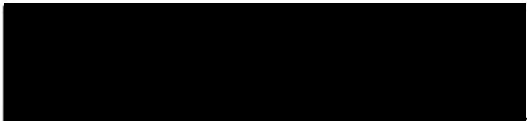
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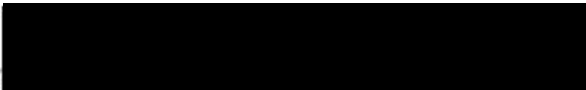
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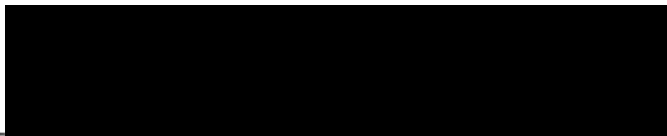
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l.y.y.

Chapter I

INTRODUCTION

The Problem

The spiraling rate of venereal disease in the teenage population has puzzled public health leaders since the results of the Task Force Report to the Surgeon General on the Eradication of Syphilis became known in 1956. It was pointed out in that report that the infectious syphilis rate among the fifteen to nineteen year age group was 10.1 per 100,000 population; in 1960, it was 19.4 per 100,000; and in 1970 the rate was 43.8 per 100,000. More than fifty per cent of all reported infectious syphilis in the United States occurs among teenagers and young adults under twenty-five years of age.

In 1936, Dr. Thomas Parran, Surgeon General of the United States Public Health Service reported the recommendations of the National Conference on Venereal Disease Control to:

Find, report and interview for sex contacts every early case of syphilis; mobilize enough money and drugs and doctors to treat every case regardless of cost; align health agencies and private physicians in a united front against syphilis and educate them to use scientific, modern methods...and give citizens the information required for individual and public protection. (22)

Serological testing, penicillin and the nationwide Rapid Treatment Centers helped to implement Dr. Parran's recommendations.

During the period from 1941 to 1947 the infectious syphilis rate per 100,000 population jumped from 52 cases to 76 cases per 100,000. This can be labeled the period of building control apparatus. The period from 1948 to 1953 might be labeled the period of orderly decline when the rates dropped from 55.9 per 100,000 to 6.2 per 100,000. From 1954 to 1957 the reported cases reached their lowest point; in 1957 it was 3.8 cases per 100,000. The Federal Government supported the case-finding apparatus by providing funds for casefinding activities by request of local governments. (22)

This dramatic success led to an apathy demonstrated by a decrease in Federal appropriations for venereal disease control from 9.8 million to three million dollars during the period between 1954 to 1957. This possibly reflected the feeling that penicillin was a simple and inexpensive cure. The sudden loss of appropriations led to a decrease of casefinding, treatment and quarantine activities. Steadily increasing urbanization also may have influenced this situation by increasing the reservoir of infection. The long acting penicillins shifted the main locus of diagnosis and treatment from public clinics to the private physician's office. This is especially pertinent because epidemiological investigation of contacts and close associates may not be completed due to the personal conflicts with the concept of violating the patient-physician relationship of confidentiality.

The World Health Organization gives the following reasons for an increase in the rate of venereal diseases:

1. Decreased fear of syphilis due to the advent of short penicillin treatment.

2. Increased population morbidity
3. Importation of syphilis from other countries
4. Increased teenage syphilis
5. Homosexuality
6. Increased consumption of alcohol. (5)

In 1970, Oregon State Board of Health called gonorrhea a growing epidemic among young people. The Board is especially concerned about the fact that 73% of the gonorrhea cases are found in the Portland Metropolitan Tri-County area. One out of every seventy teenagers in that area had gonorrhea during 1969. This rate is probably higher as a survey of 75% of Oregon physicians in 1970 showed that only 20.5% of the diagnosed cases are actually reported. (13)

Oregon's statistics are somewhat striking. Along with the national decline after 1945, the rate for gonorrhea remained steady at 28.2 per 100,000 for 1955 and 1956. It then started an upward swing. Fourteen years later in 1969, the rate was 324.8 per 100,000, which was 62.8% higher than in any of the years during World War II. Of 6,798 cases of gonorrhea in Oregon in 1969, 3,308 cases were found in the Portland area and 507 cases in Multnomah County. The national average computed in 1970 for cities with populations over 200,000 people was 645.7 cases per 100,000. Portland's gonorrhea rate was 870.2 cases per 100,000 which placed it in the upper 26.7 per cent of all large cities. (23)

To develop an understanding of some of the problems of venereal disease control, it is important to investigate the four basic means of communicable disease control, namely quarantine, immunization, irradiation of specific host and specific treatment. There is no effective way to quarantine gonorrhea. The undiagnosed female is often

symptomless and the ratio of females brought to treatment as named contacts is usually high. Due to the short incubation period of three to five days, large numbers of people may be infected within a short period of time. Effective quarantine of gonorrhoea is impossible as the infectious reservoir in the undiagnosed female cannot always be found. (24)

Investigations have indicated no significant natural immunity as the patient with repeated infections has become another problem. At present, there is no effective means of immunization. Government funds and research at the Communicable Disease Center in Atlanta, Georgia give highest priority in this area. The absence of any experimental animal in which gonorrhoea may be investigated has rendered the study of the disease difficult. Experimental infections in man are largely unsatisfactory for research purposes. (9)

Gonorrhoea can penetrate only columnar or transitional epithelial cells as those found in the urethra, cervix and rectum as the disease is transmitted from an infected person to a non-infected one through coitus. The organism hides in the female cervical, Skene and Bartholin glands. Culturing the secretions of the glands fails to detect the presence of gonococcus in some 40% of the female patients examined. Fluorescent antibody techniques have increased the yield of positive cultures in females, but this technique is still short of being 100% accurate in diagnosis. It is seldom realized that a high percentage of females are completely symptomless and unaware that they are infected. This carrier state provides a reservoir that serves to

perpetuate the infection within the population.

The male with untreated gonorrhea may experience painful and incapacitating lesions in the urethral tract which results in prompt medical attention. Diagnosis in the female is established through a history of exposure and demonstration of the gonococcus from culture and smear. Bacteriologic cultures performed under ideal conditions of the research laboratory are seldom able to demonstrate gonococci in more than 50 to 60% of bona fide female contacts. However, the Thayer-Martin selective medium for gonococci has been widely accepted for the primary isolation of the organism from conspicuously contaminated sites. The high degree of specificity and selective sensitivity of the medium also made it possible to accept with assurance presumptive culture testing for gonorrhea. (20)

Promiscuous behavior has presented a problem as a reflection of a modern social attitude. Teenage intercourse is not often a simple expression of curiosity or urge to adventure. Dating evidence of adolescents indicate insecurity and loneliness. Dating is an escape from loneliness and being left out. (2)

Lourie Reginald discusses changes in the pattern of adolescent freedom as a cause leading to greater promiscuity along with changes in sexual morality and decreasing family responsibility. She feels that the gang influence is stronger than religious and family standards. Public influences on sex in the mass media may have influenced the lack of orientation and negligence for venereal disease prevention. Preventive approaches must be applied to combat distortions in patterns

of impulse control and difficulties in early and mid-adolescent groups as well as repetition compulsion. Preventive approaches must prepare young children to incorporate information and to apply old standards and values to present day problems. (15)

Another dimension to increased promiscuity is that the contraceptive pill has increased sexual activity by removing the fear of pregnancy and increasing the risk for venereal disease. A study in Upsala, Sweden found that the number of sex partners per year and the frequency of the intercourse were significantly higher in women taking the pill than in another group studied who did not take contraceptive medications. It was considered that the increase in sexual activity probably increases the risk for gonorrhoeal infection in that 67% of those on the pill were diagnosed as having gonorrhoea in Julian's study. (9)

In another study by Julian to determine social and sexual behavior in venereal disease patients, it was found that of 205 patients in his Upsala, Sweden public clinic in 1968:

- 34% were from broken homes
- 39% were under juvenile authorities
- 20-25% for whom alcohol was a common problem
- 20-25% were university students. (10)

One hundred patients over thirteen and under twenty years of age were interviewed in a study conducted in the venereal disease clinics of three hospitals in England. Commonalities were broken homes, lack of proper education, no feeling of security, lack of communications within the family group, and poor training and example by the parents during the child's early life. (14)

In a sociological study of 600 teenagers in the New York City

Social Hygiene Clinics, Celia Deschin found many differences in social class, race and religion. One characteristic was a kind of drifting or lack of goals or if the patient had goals, a sense of apathy or helplessness about achieving them. It was expected that the majority would come from families of lower or middle class status, but few maintained ties with their families and were involved in socially deviant behavior in other than their sexual activities. Most were highly promiscuous or homosexual. Premarital sex relationships and an emphasis on sexuality divorced from interpersonal relationships and responsibility was evident. Deschin says that sex becomes merely a release of physiological tension, as an index of masculine prowess or feminine popularity or even a commodity with which to buy dates, clothes, friendships, affection or other lacks of life. (3)

The Yacinda study in Southern California in 1970, questioned if the traditional source of venereal disease information from family and other relatives provided equal knowledge and information as those whose source was from formal education in the school. Those whose information was derived from parents and relatives showed poorer scores than those in the study who had superior knowledge and information from the school. His study showed that there was a gap between knowledge of symptoms and the actual transmission of the disease when seeking answers to the problems of venereal disease control. (27)

The Manser study on educational levels and attitudes of patients from the Social Health Clinics of the Philadelphia Department of Public Health showed that the patients felt that information should be pro-

vided in the school. The impression from that study was that if the signs and symptoms were taught along with the necessity for seeking medical treatment, few people would be infected. (11)

It is not enough to teach people about venereal disease and encourage them to seek prompt attention. During the current campaigns against venereal disease, public health workers find difficulty in dealing with promiscuity. It appears that there is no way to prevent venereal disease short of abstaining from promiscuous sexual activity. (17)

Dr. William Brown, Chief of the Venereal Disease Program of the National Communicable Disease Center feels that the tide of the epidemic may be turned by efforts in terms of:

1. Total abstinence of sexual intercourse
2. Limiting sexual activities to just one sex partner
3. Proper use of contraceptives by males. (25)

Summary

The problems of venereal disease control are multiple. There are medical concerns for interrupting the infection process. Diagnosis, medication and reporting are at issue. Psycho-social concerns of human relationships, needs, feelings and sexual behaviors complicate control efforts.

The essence of venereal disease control appears to be in the building of individual strengths through health education that would assist the individual in the use of preventive measures and identifying symptoms that prompt early medical care.

Purpose of the Study

The purpose of this exploratory study is to investigate by questionnaire the relationship between the knowledge of venereal disease prevention and the behaviors involved in prevention.

Justification of the Study

Due to the widespread increase in the incidence of venereal disease it is vital to understand the measures for venereal disease prevention. Health educators have accepted the challenge of bringing facts to the community for prevention. As a nurse in the role of health counselor, it is especially pertinent to understand the effects of venereal disease preventive education she provides and how information is used in preventive behaviors.

Hypotheses

It is hypothesized that knowledge of the signs, symptoms, long term effects and method of spread does not prevent venereal disease. It is further hypothesized that knowledge of preventive behavior is not related to the presence or absence of disease.

The Method

A group of twenty male, teenage gonorrhea patients, and twenty male teenagers without gonorrhea from the Multnomah County Health Department Venereal Disease Clinic were asked to participate in an exploratory study to investigate their responses to questions regarding the venereal disease process, prevention, and their preventive actions.

The first twenty male teenage patients diagnosed with gonorrheal infections were matched with twenty patients free from disease during the data collection period. The forty patients were all newly admitted patients without previous history of venereal disease or treatment. It was assumed that the first twenty positive patients would not be significantly different than the next twenty positive patients. Those patients free from disease were matched according to age, race, educational level and marital status with those patients with diagnosed gonorrhoea.

A pilot test of the questionnaire was completed with five subjects in each dichotomized group of infected and non-infected patients as described above, prior to the initiation of the study. The purpose of this sampling was to investigate procedural standards and provide the investigator with an opportunity to become accustomed to administering the tool.

Limitations

Limitations of this study were mainly those factors involved in the design of the project, and the inability to generalize the results to other populations.

Limited matching was by design to control demographic variables. The first twenty patients who were diagnosed as having gonorrhoea were matched respectively with twenty patients free from disease as to age, sex, marital status and educational level.

This sample was taken from a public clinic without fees for service. This population was select since all levels of socio-economic status

were not represented and in fact might reflect lower socio-economic subjects.

Definitions

Venereal Disease: A disease which is spread from person to person by sexual intercourse and is referred to as V. D. Venereal disease refers to both syphilis and gonorrhoea, but in this study confined to gonorrhoea.

Teenager: An individual whose chronological age is between thirteen and nineteen years of age inclusive.

Contact: An individual who has been exposed to a venereal disease.

Preventive Behaviors: Specific actions directed towards the control of venereal disease used by individuals.

The Design

It was hypothesized that the knowledge of the signs, symptoms, long term effects and method of spread was not related to infection or non-infection in a study of twenty infected and twenty non-infected male patients in a venereal disease clinic. It was further hypothesized that the knowledge of preventive behavior was not related to the presence or absence of disease in the same population. The experimental model appears in the following paradigm.

Experimental Model

<u>Groups</u>	<u>Knowledge</u>	<u>Behaviors</u>
Infected Patients	Group A ₁	Group A ₂
Non-infected Patients	Group B ₁	Group B ₂

The most direct test of the hypothesis was knowledge of venereal disease process related to infection or non-infection and was computed with the use of Student "t" statistic for significance. The means for Group A₁ will be computed and compared with the mean for Group B₁. If the mean for Group B₁ is significantly higher, then knowledge is related to health. If A₁ is significantly higher, then knowledge is not related to health. If there is no significant difference, then knowledge is unrelated to health or disease status.

The second portion of the hypothesis, that knowledge of preventive behavior is related to infection or non-infection, will be computed with the use of Student "t" statistic to compare the means of Group A₂ and Group B₂. If the Group A₂ mean is higher, the behavior is related to health. If the mean for Group B₂ is higher, then preventive behaviors are not related to health. If there is no significant difference, then preventive behaviors are not related to health or disease status.

The Student "t" statistic was selected as the most robust small sample statistic. The assumption of the Student "t" is that it is appropriate for evaluating the difference between the means of two independent random samples and if $N_1 = N_2 - 25$, the test is relatively insensitive to rather drastic violations of assumptions about normality of distribution and heterogeneity of variance. (44)

Organization and Overview of the Study

The introductory chapter included the purpose of this study, justification and methodology. The second chapter will consist of a review of the literature related to the education and behavioral studies of patients with venereal disease. Chapter III is a report of this study, and Chapter IV contains the analysis of the data. Finally, Chapter V presents conclusions and recommendations for further study.

Chapter II

REVIEW OF THE LITERATURE

Introduction

In pursuing the literature pertinent to this study, the areas of educational and behavioral research were considered. No studies were found relating specifically to the individual's use of venereal disease information. There was a lack of knowledge of the relationship of psychological, social and cultural factors to venereal disease. Much has been done since 1965 in the social sciences in an effort to predict high risk groups and identify personalities and behaviors involved with the acquisition of venereal disease.

Educational Research of Venereal Disease Patients

Daniel Rosenblatt and Devon Kabaskalian published An Evaluation of an Educational Campaign for Adolescents in Venereal Disease completed in New York City during 1962 through 1963, which provides valuable insights into the internalization of venereal disease information. The purpose of their study was to measure after the campaign, the extent, intensity and kinds of exposure to venereal disease information, and the level of knowledge acquired during the campaign. The second dimension of the study was to develop a risk prediction by scaling responses to questions dealing with attitudes toward premarital sexual relations and venereal disease. The investigators found that a greater

exposure to and awareness of overt sexual behavior and venereal disease were positively correlated with a permissive attitude toward sexual activity. It was found by the use of a twenty-four page questionnaire that those who were sexually promiscuous and had a good understanding of the disease process had a higher risk factor than those who had less knowledge of the disease and who were less promiscuous.

Pertinent to this study is the section in the Rosenblatt study in which the questions involved the participants' knowledge of the venereal disease. The participants consisted of three groups, Brooklyn College students, Working Papers Clinic and a Prison group to whom a questionnaire was administered. The most frequently missed item was:

14. Syphilis and gonorrhoea are usually caught from:
- | | |
|--------------|-----------------------|
| water | door handles |
| food | drinking fountains |
| knives | lifting heavy objects |
| toilet seats | sexual contacts (16) |

If the chosen populations were not aware of the method of disease transmission, it would be difficult for them to initiate appropriate preventive behaviors.

The Yacinda study in 1970 in southern California showed that the knowledge of venereal disease increased as the subjects grew older. The group studied was between sixteen and twenty-five years of age. The sixteen to seventeen year olds had the poorest level of knowledge. The factual retention in the teenage group showed the highest scores in the upper age groups when the time length away from the education sources was the greatest. The level of knowledge or the disease rate in a control group was not described in the research design. (27)

Behaviorial Studies Related to Venereal Disease

A study by Wells completed in 1969, designed to identify personality characteristics of patients suffering from venereal disease, showed that venereal disease patients are a markedly neurotic group. They occupy a subclinical category between normals and clinical neurotics. Patients were tested on the Eysnck Personality Inventory Scale. For both men and women, the casually infected were more neurotic than those infected via a more permanent relationship. The most introverted personalities were infected by their spouse, the intermediate ones by a regular friend or consort and the extroverted by casual contacts. (24)

The United States Public Health Service Venereal Disease Consultants undertook a study to determine attitudes and behavior of venereal disease patients and persons most likely to be infected. It was found that social class was a more important general factor than urbanization or ethnicity in explaining differential gonorrhoeal rates in females. This was important in assessing high priority groups and targets for education. Epidemiological studies are essential because it is never known where the disease was actually acquired or why preventive techniques were not utilized. (21)

L. H. Glass sought to gain insight into the psycho-social factors of individuals who have or suspect that they have gonorrhoea. One hundred male gonorrhoea patients from a Los Angeles Venereal Disease Clinic participated in this 1967 study. Seventeen psycho-social factors such as general morale, and social self-confidence were measured. Multi-

variate factorial analysis showed some relationship to the number of infections per year. More importantly, Glass found that gonorrhea may be a symptom of inadequate personal relationships. Glass recommends that any educational program aimed towards eliminating or decreasing the possibility of infection must take into account social and personality characteristics. Concentration on an educational approach which would reduce promiscuity would reduce the risk of gonorrheal infection. For example, proper use of prophylactics might be stressed along with emphasis on more selectivity in choosing sex partners. (6)

Prophylactic measures such as condoms, soap and water, and douches may decrease risk, yet most feel that they are offensive and interfere with sexual satisfaction. Sexual abstinence is not likely to be an accepted method of prevention since it requires modification of sexual activity. In reversing the rise in venereal disease, legislative measures such as required reporting of cases and attendance at clinics without fee, may be self-limiting.

Summary

The educational research by Rosenblatt and Kabaskalian in New York and the Yacinda study in California contribute to solving the problem of the increasing rate in venereal disease by providing information about a group of promiscuous, but fairly well informed teenagers. Well's behavioral research relates that this group is extroverted and usually infected by casual contacts. The United States Public Health Service's study in Memphis found that venereal disease patients were of a similar lower middle class without regard to urbanization or ethnic group.

With the population identified, this study sought to determine whether or not the level of knowledge about venereal disease signs, symptoms, method of transfer, and long term effects can be related to infection or non-infection in this group.

Chapter III

REPORT OF THE STUDY

Setting of the Study

This study was designed to investigate the relationship of the knowledge of venereal disease to preventive behavior and disease status. The Multnomah County Venereal Disease Clinics were selected for data collection. Permission was requested from and granted by Dr. Walter Goss, Health Officer, to use this clinical facility during the month of August, 1971. (See Letter of Request in Appendix.)

A small room with two adjoining desks in the clinic was used for the interview sessions. This afforded privacy for data collection. The patient was asked to participate in this study after diagnosis and prior to treatment. When the patient completed the questionnaire, he returned to the clinic for treatment and or discharge depending upon his diagnosis. Those patients with a negative diagnosis received a special code so that confirming laboratory culture reports could be documented at a later date.

Preparation of the Instrument

Questions one through six in the questionnaire tested knowledge of facts. (See Appendix C.) These were selected from Andre Blanzanco's programmed learning text called VD Facts You Should Know. (1)

Questions seven through ten were selected from the tool used in the Rosenblatt study, Evaluation of a Venereal Disease Campaign for Adolescents. (16) The selected questions were those items that reflected knowledge of disease process and prevention. The remaining items were developed by the author to discern behaviors by providing stems for open-ended responses in an interview situation.

Part III or questions sixteen through twenty-one were designed to investigate the fears and sexual activity which were directly related to the danger of venereal disease infection.

Part I including questions one through ten were scored as to correctness with a value of one point for a correct response. Questions eleven through fifteen or Part II were given two points for a correct response. Part III included questions sixteen through twenty-one regarding information on fears, attitudes and sexual activity were tabulated according to frequency of varying responses.

A pilot study of five matched participants in their respective dichotimized groups provided the investigator with clues as to clinic flow, administration of the tool, coding the questionnaires to insure confidentiality, scoring, and to provide experience in the administration of the tool. The pilot run was valuable in allowing the staff to familiarize themselves with the presence of the researcher. Daily reports were given to the staff as to the progress of the study. A generalized enthusiasm developed as the researcher became accepted as a member of the clinic team.

The Population

The first twenty male teenaged, unmarried, but not divorced patients with gonorrhea were asked to participate in this study. Other patients diagnosed as free of disease who met matching criteria of age, sex, race, and level of education were asked to participate. The matched non-infected group all had symptoms, but laboratory study and physical examination indicated absence of gonorrhea or syphilis. This is not to infer that symptoms might have not developed into clinical evidence of gonorrhea or non-specific urethritis.

The possible participants were introduced to the purpose of the study and asked to participate. Most patients showed interest and only two of those asked refused to participate. Respondents then completed the questionnaire in approximately fifteen minutes.

The factual portion of the study was discussed with the patient at the end of the interview to provide direct feedback regarding correctness of responses to the factual information.

The homosexual factor became apparent in non-verbal clues, evasive responses and direct admission. Clinic staff shared suspicions of homosexuality so that data would not be distorted. The staff would suggest to the patient that he not participate in the study if requested when reasonably assured of a patient's homosexuality. Male homosexuals will often request special rectal examinations without direct admission of their homosexuality.

A total of sixty respondents completed the questionnaire. Five of the respondents were not included due to apparent homosexuality.

It was assumed that those participants included in the study were responding from heterosexual experiences.

The matching procedure deleted the remaining respondents. One Indian and one Oriental were deleted as their ethnicity could not be matched. A total of forty respondents were included in this study. Twenty male patients diagnosed as having venereal disease were matched according to age, color, level of education, and marital status with a corresponding number of non-infected male teenaged patients from the venereal disease clinic.

Data obtained from the face sheet of the questionnaire were computed according to each question. (See Face Sheet in Appendix B.) Table 1 indicates the demographic profile of the combined groups and includes level of education.

Question 1 asked for the age of the respondent. The range for the entire sample was sixteen to nineteen years. The mean age was 18.3 years.

Question 2 inquired the sex of the respondent. All respondents were male.

Question 3 asked the respondents to record the highest level of education achieved prior to their venereal disease clinic attendance. The mean years of education was twelve years.

The race or color factor was not considered as a variable for the purposes of this study. The interviewer recorded the color separately rather than placing a question into the study. Race was a factor in matching. Four black respondents were matched in the age groups of

nineteen and eighteen years. This study had thirty-six white respondents and four who were black.

Table 1. Twenty Infected and Twenty Non-Infected Male Patients Categorized by Age, Level of Education and Color from a Venereal Disease Clinic.

Age in Years	Years of Education	Color	Number
19	some college	white	12
19	twelve years	black	2
19	twelve years	white	4
19	eleven years	white	2
18	some college	white	4
18	twelve years	white	6
18	eleven years	black	2
18	nine years	white	2
17	twelve years	white	2
17	eleven years	white	2
16	ten years	white	2
Mean = 18.3	Mean = 12 years	white	36
		black	4

Question 4 sought clues to the source of the population's venereal disease information. Twelve of the non-infected group responded that the major source of their information had been obtained in school. Of the infected respondents, ten reported their information source was school. Twenty-two of the forty patients received information from school rather than from friends, family, public media or books. The next most frequent response to source of venereal disease information was that of a friend. Six of the infected and six of the non-infected respondents replied that a friend was the source of their venereal disease information. (See Table 2, p. 24.)

Table 2. The Source of Venereal Disease Information as Reported by Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic.

INFECTED GROUP		NON-INFECTED GROUP	
Response	Number	Response	Number
School	10	School	12
Friend	6	Friend	6
Public Media	2	Public Media	2
Books	1	Books	0
Other	1	Other	0
Total	20	Total	20

Question 5 asked patients to report their marital status. None of the respondents had been married.

Question 6, "I chose this agency to examine me because:" was designed to evaluate whether economic resources were factors in the population studied. Eight of the non-infected group and ten of the infected group indicated a limited income as the major reason for attending the public clinic. This response was greater than the number of responses for any other alternative. (See Table 3.)

Table 3. Responses of Twenty Infected and Twenty Non-Infected, Male Venereal Disease Patients as to Reasons for Selecting a Public Venereal Disease Clinic.

Question No.	Response	Infected Group	Non-Infected Group
1.	I have no family doctor.	1	1
2.	My doctor referred me.	0	1
3.	I have a limited income.	10	8
4.	I didn't know where else to go.	1	4
5.	I can remain anonymous.	3	1
6.	My friend referred me.	4	3
7.	The health department told me.	3	1
8.	Other	Counselor	Grandmother Parents Drug Clinic School
(Some gave more than one reason.)		Responses 23	Responses 23
		Respondents 20	Respondents 20

Question 7 asked for the dates of previous venereal disease infections, specifically gonorrhea and syphilis. All patients reported no previous infection or prophylactic treatment.

Finally, comparisons were made on the mean of the knowledge portion of the questionnaire and the two major sources of venereal disease information, school and a friend. (See Table 4.)

Table 4. Scores of Ten Infected and Twelve Non-Infected Male Venereal Disease Patients Who Reported School as the Source of Their Venereal Disease Information.

INFECTED GROUP			NON-INFECTED GROUP		
Patient #	Response	Knowledge Score	Patient #	Response	Knowledge Score
4	school	10	1	school	4
6	school	9	4	school	10
7	school	9	6	school	9
9	school	8	7	school	9
11	school	8	8	school	9
14	school	7	9	school	9
15	school	8	10	school	8
16	school	8	12	school	8
17	school	8	13	school	7
20	school	6	14	school	9
			16	school	8
			18	school	9
10	School	82	12	School	99
	Mean	8.2		Mean	8.25

Of those non-infected patients who received their major source of venereal disease information from school, the mean of the knowledge portion of the questionnaire was 8.2. Of those in the infected group, the mean responses to the knowledge portion was 8.25. The mean of the knowledge scores for those who claimed a friend as their major source of venereal disease information was 8.8 from six respondents of the infected group, and 7.7 for the mean of six respondents in the non-

infected group. (See Table 5.)

Table 5. Scores of Six Infected and Six Non-Infected Male Venereal Disease Patients Who Reported a Friend was the Source of their Venereal Disease Information.

INFECTED GROUP			NON-INFECTED GROUP		
Patient #	Response	Knowledge Score	Patient #	Response	Knowledge Score
1	Friend	8	2	Friend	4
2	Friend	7	5	Friend	6
5	Friend	10	15	Friend	8
8	Friend	10	17	Friend	7
12	Friend	10	19	Friend	7
13	Friend	8	20	Friend	7
6	Friend	53	6	Friend	40
	Mean	8.8		Mean	7.7

Chapter IV

ANALYSIS OF THE DATA

Part I and Part II of the Questionnaire

It was hypothesized that knowledge of signs, symptoms, method of transmission and long term effects of venereal disease does not prevent disease. It was also hypothesized that knowledge of preventive behavior does not prevent disease.

Experimental Model

<u>Groups</u>	<u>Knowledge</u>	<u>Behaviors</u>
Infected Patients	Group A ₁	Group A ₂
Non-Infected Patients	Group B ₁	Group B ₂

As a test of relationship between knowledge and disease status, a Student's "t" test between Group A₁ and B₁ proved not to be statistically significant. Statistical measures were as follows:

Group A ₁	Mean = 8.10		
	S _x = 1.52		
Group B ₁	Mean = 7.50		
	S _x = 1.75		
Student "t"	0.59		
Alpha .01	1.68	38 degrees of freedom	

The result was interpreted to mean that the level of knowledge is unrelated to disease status.

To establish whether preventive behavior was related to infection

or non-infection a Student's "t" test was applied to A₂ and B₂.

The results were as follows:

Group A ₂	Mean = 5.85		
	S _x = 1.65		
Group B ₂	Mean = 1.65		
	S _x = 1.92		
Student "t"	0.17		
Alpha 0.01	1.68	38 degrees of freedom	

The result was that there is no significant difference between knowledge of preventive behavior of those who have and those who do not have venereal disease.

Part III of the Questionnaire

Part III of the questionnaire was designed to explore the possible motivations for prevention and the nature of the sexual activity of the infected and non-infected samples. This portion of the questionnaire includes questions 16 through 21. (See Part III of Questionnaire in Appendix B.)

Responses to the questions were summarized according to the frequency of the response to the open-ended items. These statements were selected as the most flexible method in accordance with the nature of this exploratory investigation. Verbatim responses were recorded.

The first item in this segment deals with the fear aspect. Question 16 was "The fear I have about venereal disease is:." Nine of the infected group reported no fears. Seven of the reasons for no fears dealt with the fact that treatment was available.

Seven of the twenty non-infected respondents had no fears. This

is comparable to the nine in the infected group who had no fears. Only two of the non-infected felt that the availability of treatment was a reason.

Sterility seemed to be the most common fear among both groups. Six of the infected group and five of the non-infected group felt sterility was a factor.

Those of the non-infected group showed an interesting range of responses for having no fears. Most responses were related to factors over which they felt they had no control, such as bad luck.

Five of the non-infected group reported a fear of spreading disease to others. Only one of the infected group responded in this manner. Among the infected group, there were seven responses dealing with changes in normal body function as sterility or blindness. Of the non-infected group eight responses dealt with body changes. Two of the infected group showed social implications such as changes in relationships with others. Of the non-infected group, one person indicated fear of his mother discovering the disease. (See Table 6, p. 30.)

Question 18 was constructed to discern whether venereal disease information provided a framework to understand disease process and prevention. The question, "The thought of venereal disease occurs to me:?" should reflect internalization of venereal disease knowledge into preventive behaviors. Four of the infected group and five of the non-infected group indicated that venereal disease occurred to them prior to intimate contact. Two persons in the infected group responded that venereal disease occurred to them before and after

intimate contact.

Of the infected group six responded that the thought of venereal disease occurred to them after intimate sexual contact and six indicated that at no time did the thought occur to them. Seven responses were in the category of "depends upon." The most frequent response in that area was that the thought of venereal disease occurred only if symptoms were present.

Nine of the non-infected group responded that the thought of venereal disease never occurred to them. Only two reported that venereal disease occurred to them prior to contact. (See Table 7, p. 31.)

Table 6. Responses of Twenty Infected and Twenty Non-Infected Male Patients Regarding Fear of Venereal Disease.

<u>Response</u>	<u>Numbers</u>	<u>Response</u>	<u>Numbers</u>
1. No fears	<u>9</u>	1. No fears	<u>7</u>
2. The reason I have no fears:		2. The reason I have no fears:	
Treatment available	7	Treatment available	2
Just another disease	1	Just another experience	1
Don't know anything about		Bad Luck	1
the disease	<u>1</u>	Logical consequence	1
	<u>9</u>	Never thought it would	
		happen to me	1
		Don't know	<u>1</u>
			<u>7</u>
3. The fears I have about VD are:		3. The fears I have about VD are:	
Sterility	6	Sterility	5
Spreading the disease to others	1	Spreading disease to others	5
Brain involvement	1	Spreading to the brain	1
Undiagnosed contact	1	Spreading to other parts	
My girl friend would find out	1	of my body	1
My friends would find out	<u>1</u>	Blindness	1
	<u>11</u>	Mother would see my dirty	
		shorts	<u>1</u>
			<u>14</u>
Total responses	20	Total responses	21
Total respondents	20	Total respondents	20

Table 7. Responses of Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic Regarding Thinking About Venereal Disease.

<u>Response</u>	<u>Infected Group</u>	<u>Non-Infected Group</u>
1. Prior to intimate sexual contact	4	5
2. After sexual contact	6	2
3. At no time occurs to me	6	9
4. Depends upon		
Always occurs to me	2	0
If partner appears clean	1	2
If symptoms occur	3	2
If contact becomes infected	<u>1</u>	<u>0</u>
	Responses	23*
	Respondents	20

* Some gave more than one response.

Question 19 was designed to determine whether or not patients with symptoms could relate them to the disease process, and then to behaviors which may have prevented symptoms. The question was, "I think I caught the disease this time because...?" Responses were generalized into six categories:

- A. I don't know
- B. Blaming the partner
- C. Cleanliness and hygiene
- D. Bad luck or religious reasons
- E. Lack of judgment
- F. Intercourse

The most significant response to this question seemed to come from patients who responded, "I don't know." Four of the Infected Group and six of the Non-Infected Group responded in this manner. Ten of the forty respondents could not relate to a cause and effect relationship.

Six respondents related the causal factor to be sexual transmission or blaming the partner. This is comparable to six responses from the non-infected group.

The other large category seems to have been in the area of "lack of judgment" or "carelessness." Five of the infected group and two of the non-infected group responded in this manner. In comparing the infected and non-infected groups, they similarly blamed their partner for the infection, with six responses each. Four felt they really didn't know why they became infected. The infected group felt that their lack of judgment was not a factor (5 responses) as compared with the non-infected group (2 responses).

The non-infected group felt they did not know why they might be infected (six responses). The sexual contact was to blame (six responses) or the lack of hygiene and cleanliness was the causal factor in acquisition of the disease. (See Table 8, p. 33.)

Questions 20 and 21 deal with the nature of the sexual activity of the twenty infected and twenty non-infected participants. Question 20, "The number of individuals involved in sexual contact during the previous week." indicated that most respondents had only one partner during the past week. (See Table 9, p. 33.)

Question 21, "The persons involved in sexual contact were:" showed that half of each group responded that the sexual contact involved a girl friend. "Girl friend" was explained by the respondents as a person with whom one had a reasonably close personal relationship in contrast to a "casual acquaintance" to whom the individual was known, but not socially intimate. (See Table 10, p. 34.)

Table 8. Responses of Twenty Infected and Twenty Non-Infected Male Venereal Disease Patients as to Reasons for Becoming Infected.

Response	Infected Group N=20	Non-Infected Group N=20
A. "I don't know."	4	6
B. Blaming the Partner		
1. "I didn't know the girl."	3	2
2. "I didn't suspect my contact had it."	3	2
3. "Negligence on my contact's part."	0	1
4. "Someone gave it to me."	0	1
C. Cleanliness and Hygiene		
1. "I didn't wash afterwards."	1	1
2. "I wasn't clean."	1	1
3. "I didn't use a condom."	0	1
4. "I had sores."	0	1
D. Bad Luck or Religious Reasons		
1. "I had bad luck."	1	1
2. "Bad Karma."	1	0
E. Lack of Judgment		
1. "Caution to the wind."	1	0
2. "I was careless."	2	1
3. "Lack of judgment."	1	0
4. "I was drunk."	1	1
F. Intercourse		
1. "I had Intercourse."	1	1
Total	20	20

Table 9. The Number of Individuals Involved in Sexual Contacts During the Previous Week of Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic.

Response	Infected Group	Non-Infected Group
One person	15	11
Two persons	3	3
Three persons	1	0
None	1	6
Total	20	20

Table 10. The Sexual Contacts of Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic.

<u>Response</u>	<u>Infected Group</u>	<u>Non-Infected Group</u>
Girl Friend	10	11
Pickup	7	5
Casual Acquaintance	3	1
Girl Friend and Pickup	0	2
Fiance'	0	1
<u>Prostitute</u>	<u>0</u>	<u>0</u>
Total	20	20

The responses show that half of the group had intercourse with girl friends during the previous week. The inference being that the intercourse was with only one girl friend rather than relationships with many girl friends during a given time.

Summary

The result of the analysis of the data from Part I and Part II of the questionnaire showed that the knowledge of signs, symptoms, method of transmission and long term effects of venereal disease was not related to the presence or absence of disease. Secondly, the knowledge of preventive behaviors was not related to infection or non-infection. The use of Student's "t" test for significance showed no relationship and the hypotheses were accepted.

Part III produced no statistically significant findings between the infected and non-infected groups. Some broad generalizations can be made.

Fears of venereal disease were expressed by the majority of both the infected and non-infected groups. Denial of fear was more often expressed by the infected respondents.

Almost half of the non-infected group stated that at no time did venereal disease occur to them. Less than half stated that the possibility of venereal disease occurred to them prior to intercourse. Six of the infected respondents said "after contact," and "at no time" did venereal disease occur to them. More of the infected group answered in the category of "depends upon" than did the non-infected group.

The infected group was more likely to blame others for their infection, their own carelessness, or they did not know the reason for becoming infected, in that order of frequency. The non-infected group found they did not know why they might be infected, blamed their contacts or they felt that it was their own carelessness and/or hygiene that was the causal factor in the acquisition of the disease.

Half of the group had intimate sexual contact with only one girl friend the week before the interview.

Chapter V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the relationship between the knowledge of the signs, symptoms, method of transmission, and long term effects of venereal disease and the knowledge of the preventive behaviors. It was hypothesized that the knowledge of prevention does not prevent venereal disease. Second, that the knowledge of preventive behavior is not related to the presence or absence of disease. Furthermore, evidence of motivations for prevention of venereal disease was sought.

The method of investigation was a descriptive survey employing a fixed alternative and open-ended questionnaire. Part I of the questionnaire dealt with factual knowledge of the venereal disease process. Part II dealt with the knowledge of preventive behaviors, and Part III was designed to identify motivation, attitudes and the sexual behaviors involved in prevention.

A group of twenty infected, male, teenaged venereal disease patients were matched according to age, sex, race, level of education and marital status with the first twenty non-infected male venereal disease patients during one month's data collection period at the

Multnomah County Department of Public Health Venereal Disease Clinics. The population consisted of thirty-six white and four black patients with the mean age of 18.3 years. The mean years of education was twelve years. The major source of the samples' venereal disease information was reported to be educational programs at school. There was little difference between the mean scores of those who received their information from friends versus those who received their information at school. Eighteen out of forty reported that the reason they chose a public agency to examine them was due to a limited income. It was not determined whether this was personal income or parental income.

It was hypothesized that the knowledge of venereal disease prevention and knowledge of preventive behavior does not prevent disease. The method of analysis consisted of computing Student's "t" test between the knowledge of prevention and disease status of infected patients. The result was interpreted that the level of knowledge was unrelated to disease status. To establish whether knowledge of preventive behavior was related to disease status, a Student's "t" test was applied to test the difference between the infected and non-infected patients' scores. The result was that there was no significant difference between the knowledge of preventive behavior between those who were infected and those who were not infected with venereal disease. The mean of the knowledge scores of the infected group was 8.10 and the mean for the non-infected group was 7.50. The mean scores of the knowledge of preventive behaviors for the infected group was 5.85 and for the non-

infected patients, 5.75. The hypotheses were accepted.

Part III of the questionnaire was designed to explore the possible motivations for prevention and the nature of the sexual activity of the infected and non-infected samples. Fears of venereal disease were expressed by the majority of both infected and non-infected groups. Denial of fear was more often expressed by the infected respondents. The infected group was more likely to blame the infection on their partner or carelessness. The non-infected group did not know why they might be infected or stated that their sexual contact was at fault. Finally, the infected and non-infected samples related that they had only one partner during the week previous to their infection. That person was a girl friend.

Discussion

The small sample size used in this study was limiting and results cannot be generalized to other populations. A larger sample from the venereal disease clinic with a comparable group from a randomized general population might give more validity to the instrument.

The instrument is somewhat at question. Part II regarding knowledge of preventive behaviors had only five questions and was weighted in the statistical computations. Clarification of the stem questions and increased depth into the individual's knowledge of preventive techniques is desirable. What specific techniques the non-infected patients used would have been of value to this study.

The purpose of the clinic is diagnosis, treatment and education regarding prevention for all patients who present venereal disease

symptoms. All patients in this study were suffering with a symptom that provoked them to attend the clinic. Therefore, the population in this study may have not had clinical evidence of disease but in actuality had been in the beginning or declining stages of gonorrhea or non-specific urethritis. Asymptomatic subjects may have revealed a statistically significant difference in their responses to question regarding prevention.

Question 20 was designed to discover the number of sexual contacts of the infected and non-infected patients. However, the *Nisseria* gonorrhea organism takes three to five days to incubate and the researcher made no provisions to learn the length or duration of the patients' symptoms. The question was asked the number of sexual contacts during the previous week. The previous week may have included the days in which the patient may have curtailed sexual activities due to symptoms. Question 20 would have been of more value to this study had the author included two weeks rather than one week in the question structure.

Fear provoked by symptoms might serve to motivate patients to seek information from other patients during the clinic session. The question remains as to how much was learned in the clinical setting. This factor was not controlled.

Recommendations for Further Study

This study showed that the knowledge of venereal disease and the knowledge of preventive behavior had no relationship to the presence or absence of venereal disease as demonstrated by a study of twenty infected and twenty non-infected male patients in a venereal disease

clinic. The following recommendations for further study are suggested.

1. Part II of the questionnaire dealing with knowledge of preventive behaviors needs clarification in the stem questions. More questions are needed regarding the individual's knowledge of preventive measures in controlling venereal disease.
2. A larger sample which included a stratified random sample from a general population of teenagers could be compared with an infected sample.
3. This study might have pretested patients in the clinic to measure the effect of learning motivated by the presence of disease and the experience in the clinical setting.
4. The study might be expanded to measure the effect of re-learning preventive measures and its effect upon re-infection rates.
5. The questionnaire could be modified to use non-participant methodology to control for variable introduced by an interviewer.

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APPENDICES

APPENDIX A
Correspondence

August 5, 1971

Walter M. Goss, M. D.
Director of Medical Services
Multnomah County Division of Public Health
12240 N. E. Glisan
Portland, Oregon

Dear Dr. Goss:

As a graduate student in nursing education, I am interested in determining the knowledge of venereal disease prevention and behaviors of patients attending the Venereal Disease Clinic at the Ankeny Street Office.

I would appreciate having your permission to utilize the resources at the above clinic during the last two weeks of August. Specifically, I would appreciate the cooperation of the staff and the use of an interviewing room during clinic hours.

Patients will be asked to complete an informational questionnaire and participate in an open-ended interview which would take approximately twenty minutes. A sample population of fifty patients will be sought after they have been examined and prior to treatment. Patients will be assured of confidentiality, and all responses will be coded to insure privacy.

If further information is desired, please feel free to contact me at 236-3746. Thank you for your attention to this matter.

Sincerely yours,

(Mrs.) Lynn Yustin

Mrs. Lynn Yustin is a regularly enrolled graduate student at the University of Oregon School of Nursing. Any help you can offer with this study will be greatly appreciated.

(Miss) Evelyn Schindler
Associate Professor of Nursing

APPENDIX B
Questionnaire

APPENDIX B
Face Sheet

1. Age _____
2. Sex _____
3. Highest level of education completed:
 1. 8th grade or less _____
 2. 9th grade _____
 3. 10th grade _____
 4. 11th grade _____
 5. 12th grade _____
 6. some college _____
4. VD information acquired from:
 1. School _____
 2. Friend _____
 3. Public media _____
(TV, radio, newspapers)
 4. Books _____
 5. Other _____
5. Marital Status:
 1. Single _____
 2. Married _____
 3. Separated _____
 4. Divorced _____
 5. Widowed _____
6. I chose this agency to examine me because: (Select most correct)
 1. I have no family doctor.
 2. My doctor referred me.
 3. I have a limited income.
 4. I didn't know were else to go.
 5. I can remain anonymus
 6. My friend referred me.
 7. The Health Department told me.
 8. Other _____ (Please complete)
7. Previous venereal disease infections:
 1. Gonorrhoea _____
 2. Date of infection _____
 3. Syphilis _____
 4. Date of infection _____
 5. Treatment, but not infected _____
 6. Date of Treatment _____

APPENDIX B
Questionnaire

Part I

1. If a woman thought she might have gonorrhoea, the wisest thing for her to do is:
 1. Wait to see if someone catches it from her to make sure.
 2. Go to a doctor or a health department clinic and ask to be examined for gonorrhoea.
 3. Avoid embarrassment by going to a doctor and asking only for a regular physical examination.

2. If you thought you had syphilis or gonorrhoea, what would be the smartest thing to do?
 1. Wait and see if you recover without treatment.
 2. Ask a druggist for the right kind of medicine to treat yourself.
 3. Tell a doctor what you suspect.

3. Which is the surest way to avoid syphilis and gonorrhoea?
 1. Get vaccinated against them as you would do against smallpox.
 2. See a doctor for treatment as soon as you think you might be infected.
 3. Avoid intimate skin to skin contact with persons who might be carrying the germs.

4. Which of the following would be the fastest way to stop the spread of gonorrhoea to other persons?
 1. Treat all persons who have any symptoms resembling those of gonorrhoea.
 2. Treat all persons with symptoms known to have been caused by gonorrhoea.
 3. Treat all persons known to have been exposed to gonorrhoea whether they have symptoms of this disease or not.

5. If you thought you had been exposed to syphilis what would be the best thing for you to do?
 1. Get a blood test and if it is negative, forget it.
 2. Wait and watch for signs of syphilis.
 3. Tell a doctor about it.

6. Syphilis and gonorrhea are usually caught from:
1. Water
 2. Food
 3. Toilet seats
 4. Door handles
 5. Lifting heavy objects
 6. Sexual contact
7. Could an infectious person pass syphilis along to other persons without realizing it?
1. Yes
 2. No
8. If a man is not treated for gonorrhea, he may not be able to be a father?
1. True
 2. False
9. If a woman with gonorrhea does not feel sick, there may be no sign of the disease until it spreads up through her womb and into her tubes?
1. True
 2. False
10. Syphilis cannot be passed on by the mother to her unborn child.
1. True
 2. False

Part II

11. What symptoms prompted you to seek medical attention?
What was the first course of action you took?
12. When you know you have a venereal disease will you...?
1. Tell your sexual contacts to seek treatment?
 2. Have the Health Department inform your contact of exposure?
 3. Not reveal my disease to anyone?
 4. Not reveal my contacts to anyone?
 5. 1 and 3
 6. 2 and 4
 7. 1 and 2
13. The method I use to prevent infection is _____
1. I use this method always.
 2. I use this method occasionally.
 3. I never use any method.

14. I can best avoid infection of syphilis or gonorrhoea by_____.
15. I can prevent the spread of VD by_____.

Part III

16. The fears I have about VD are_____.
17. I have no fears because_____.
18. The thought of venereal disease occurs to me:
1. Prior to intimate sexual contact.
 2. After sexual contact.
 3. At no time occurs to me.
 4. Depends upon_____.
19. I think I caught the disease this time because_____.
20. The number of individuals involved in sexual contacts during the last week?
21. The sexual contacts involved:
1. Pick up
 2. Prostitute
 3. Girl friend
 4. Boy friend
 5. Spouse

APPENDIX C

Raw Data

APPENDIX C
Questionnaire

Part I

	Frequency of Response	
	A	B
1. If a woman thought she might have gonorrhoea, the wisest thing for her to do is:		
1. Wait to see if someone catches it from her to make sure.	0	1
2. <u>Go to a doctor or a health department clinic and ask to be examined for gonorrhoea.</u>	19	19
3. Avoid embarrassment by going to a doctor and asking only for a regular physical examination.	1	0
2. If you thought you had syphilis or gonorrhoea, what would be the smartest thing to do?		
1. Wait and see if you recover without treatment.		
2. Ask a druggist for the right kind of medicine to treat yourself.		
3. <u>Tell a doctor what you suspect.</u>	20	20
3. Which is the surest way to avoid syphilis and gonorrhoea?		
1. Get vaccinated against them as you would do against smallpox.	0	3
2. See a doctor for treatment as soon as you think you might be infected.	12	8
3. <u>Avoid intimate skin to skin contact with persons who might be carrying the germs.</u>	8	9
4. Which of the following would be the fastest way to stop the spread of gonorrhoea to other persons?		
1. Treat all persons who have any symptoms resembling those of gonorrhoea.	4	8
2. Treat all persons with symptoms known to have been caused by gonorrhoea.	5	5
3. <u>Treat all persons known to have been exposed to gonorrhoea whether they have symptoms of this disease or not.</u>	11	7

Frequency of
Response

A	B
---	---

5. If you thought you had been exposed to syphilis what would be the best thing for you to do?

- | | | |
|---|----|----|
| 1. Get a blood test and if it is negative, forget it. | 2 | 2 |
| 2. Wait and watch for signs of syphilis. | 0 | 1 |
| 3. <u>Tell a doctor about it.</u> | 18 | 17 |

6. Syphilis and gonorrhoea are usually caught from:

- | | | | |
|-----------------|--------------------------|----|----|
| 1. Water | 4. Door handles | | |
| 2. Food | 5. Lifting heavy objects | | |
| 3. Toilet seats | 6. <u>Sexual contact</u> | 19 | 18 |

7. Could an infectious person pass syphilis along to other persons without realizing it?

- | | | | | | | |
|---------------|----------------|----------------|--|--------------|---------------|---------------|
| 1. <u>Yes</u> | $\frac{A}{19}$ | $\frac{B}{18}$ | | 2. <u>No</u> | $\frac{A}{1}$ | $\frac{B}{3}$ |
|---------------|----------------|----------------|--|--------------|---------------|---------------|

A = Infected Group

B = Non-Infected Group

8. If a man is not treated for gonorrhoea, he may not be able to be a father.

- | | | | | | | |
|---------|----------------|----------------|--|----------|---------------|---------------|
| 1. True | $\frac{A}{16}$ | $\frac{B}{17}$ | | 2. False | $\frac{A}{4}$ | $\frac{B}{3}$ |
|---------|----------------|----------------|--|----------|---------------|---------------|

9. If a woman with gonorrhoea does not feel sick, there may be no sign of the disease until it spreads up through her womb and into her tubes.

- | | | | | | | |
|---------|----------------|----------------|--|----------|---------------|---------------|
| 1. True | $\frac{A}{15}$ | $\frac{B}{16}$ | | 2. False | $\frac{A}{5}$ | $\frac{B}{4}$ |
|---------|----------------|----------------|--|----------|---------------|---------------|

10. Syphilis cannot be passed on by the mother to her unborn child.

- | | | | | | | |
|---------|---------------|---------------|--|----------|----------------|----------------|
| 1. True | $\frac{A}{5}$ | $\frac{B}{3}$ | | 2. False | $\frac{A}{15}$ | $\frac{B}{17}$ |
|---------|---------------|---------------|--|----------|----------------|----------------|

21. The sexual contacts involved:

1. Pick up _____
2. Prostitute _____
3. Girl friend _____
4. Boy friend _____
5. Spouse _____

Table 11. Raw Scores on Knowledge and Behaviors of Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic.

Patient No.	Group A ₁ Knowledge	Group A ₂ Behaviors	Patient No.	Group B ₁ Knowledge	Group B ₂ Behaviors
1	8	8	1	4	5
2	7	6	2	4	5
3	5	8	3	4	5
4	10	6	4	10	10
5	10	7	5	6	6
6	9	5	6	9	8
7	9	7	7	9	6
8	10	7	8	9	4
9	8	4	9	9	4
10	9	5	10	8	4
11	8	5	11	8	9
12	10	5	12	8	3
13	8	2	13	7	6
14	7	8	14	9	6
15	8	7	15	8	9
16	8	5	16	8	7
17	9	6	17	7	5
18	5	3	18	9	5
19	8	8	19	7	5
20	6	5	20	7	3
	162	117		150	115
	Mean 8.1	Mean 5.85		Mean 7.5	Mean 5.75
Standard Deviation	1.52	1.65	Standard Deviation	1.75	1.92

Table 12. The Source of Venereal Disease Information and Knowledge Scores of Twenty Infected and Twenty Non-Infected Male Patients in a Venereal Disease Clinic.

INFECTED GROUP N = 20			NON-INFECTED GROUP N = 20		
Patient #	Response	Knowledge Score	Patient #	Response	Knowledge Score
1	Friend	8	1	School	4
2	Friend	7	2	Friend	4
3	Public Media	5	3	Public Media	4
4	School	10	4	School	10
5	Friend	10	5	Friend	6
6	School	9	6	School	9
7	School	9	7	School	9
8	Friend	10	8	School	9
9	School	8	9	School	9
10	Public Media	9	10	School	8
11	School	8	11	Public Media	8
12	Friend	10	12	School	8
13	Friend	8	13	School	7
14	School	7	14	School	9
15	School	8	15	Friend	8
16	School	8	16	School	8
17	School	9	17	Friend	7
18	Other	5	18	School	9
19	Books	8	19	Friend	7
20	School	6	20	Friend	7

AN ABSTRACT OF THE THESIS OF

LYNN YOSHIHARA YUSTIN

for the

MASTER OF SCIENCE IN NURSING EDUCATION

Date receiving this degree: June 9, 1972

Title: A STUDY TO INVESTIGATE THE KNOWLEDGE OF THE VENEREAL DISEASE PROCESS AND PREVENTIVE BEHAVIORS IN TWENTY INFECTED AND TWENTY NON-INFECTED GONORRHEA PATIENTS IN A VENEREAL DISEASE CLINIC.

APPROVED: _____

(Associate Professor in Charge of Thesis)

The purpose of this study was to investigate by questionnaire the relationship between the knowledge of the signs, symptoms, method of transmission and long term effects of venereal disease and the presence or absence of venereal disease. Secondly, the researcher sought to identify a relationship between the knowledge of preventive behaviors and the presence or absence of venereal disease. Information as to the feelings, attitudes and sexual behaviors involved in venereal disease prevention were sought from a sample population of twenty patients infected with gonorrhea and twenty non-infected male patients from a venereal disease clinic.

Limitations of this study were mainly those factors involved in the design of the project and the inability to generalize the results to other populations. A select sample was taken from a public clinic without fees for services.

The first twenty infected, male teenaged gonorrhea patients were

asked to participate from the Multnomah County Department of Public Health. These patients were matched with twenty patients free of gonorrhea from the same clinic. Patients were matched according to age, sex, level of education and color. The sample populations were asked to complete a three part questionnaire involving knowledge of the venereal disease process, knowledge of preventive behaviors, and questions regarding feelings, attitudes and sexual behaviors involved in venereal disease prevention.

Findings

It was hypothesized that the knowledge of venereal disease process and the knowledge of preventive behavior does not prevent disease. A Student's "t" test between the knowledge of venereal disease process and disease status indicated that the level of knowledge was unrelated to disease status. A Student's "t" test between the knowledge of preventive behaviors and disease status indicated that there was no significant difference between those twenty infected and twenty non-infected gonorrhea patients from a venereal disease clinic. The hypotheses were accepted.

There was little statistical difference between the responses to open-ended responses between the twenty infected and twenty non-infected gonorrhea patients regarding feelings, attitudes and sexual behaviors involved in venereal disease prevention.

Recommendations for Further Study

This study showed that the knowledge of venereal disease and the knowledge of preventive behavior had no relationship to the presence or absence of venereal disease as demonstrated by a study of twenty infected and twenty non-infected male gonorrhoea patients in a venereal disease clinic. The following recommendations for further study are suggested.

1. Part II of the questionnaire dealing with the knowledge of preventive behaviors need clarification in the stem questions. More questions are needed regarding the individual's knowledge of preventive measures in controlling venereal disease.

2. A larger sample, which has included a stratified random sample from a general population of teenagers, could be compared with an infected sample.

3. This study might have pretested patients in the clinic to measure the effect of learning motivated by the presence of disease and the experience in the clinical setting.

4. The study might be expanded to measure the effect of re-learning preventive measures and its effect upon reinfection rates.

5. The questionnaire could be modified to use non-participant methodology to control for variable introduced by an interviewer.

Typed by
Leslie A. Ewing