

A STUDY OF HEALTH PROBLEMS IN A GROUP OF STUDENT NURSES IN A
SELECTED COLLEGIATE SCHOOL

By

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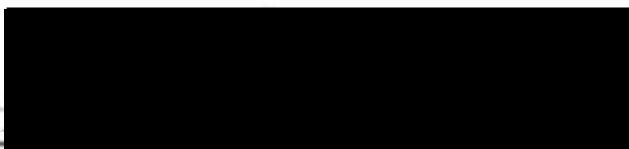
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TABLE OF CONTENTS

I.	Title Page	1
II.	Approval Sheet	ii
III.	Acknowledgements	iii
IV.	Table of Contents	iv
V.	Table of Figures	v
VI.	Table of Tables	vi
VII.	Chapter I. Introduction	1
	Introduction and scope of the problem	1
	Statement of the problem	2
	Need for the study	3
	Limitations of the study	5
	Assumptions	6
	Procedures of the study	7
	Summary and presentation of the study	9
VIII.	Chapter II. Survey of the Related Literature	10
	Background of the problem	10
	Summary	23
IX.	Chapter III. Procedures and Findings	25
	Setting of the study	25
	Method of the study	28
	Presentation and interpretation of data	29
	Summary	38
X.	Chapter IV. Summary, Conclusions, and Recommendations	40
	Summary	40
	Conclusions	45
	Recommendations	45
XI.	Appendix A	48
XII.	Appendix B	49
XIII.	Appendix C	50
XIV.	Bibliography	51
XV.	Figures	54

TABLE OF FIGURES

1.	Thirteen Most Common Areas of Complaint Causing Therapeutic Visits to the Student Health Service by Eighty-Nine Student Nurses	54
2.	Ten Most Common Areas of Complaint Causing Therapeutic Visits to the Student Health Service by Four Oriental Student Nurses	55
3.	Frequency of Therapeutic Visits Made to the Student Health Service by Eighty-Nine Student Nurses	55
4.	Frequency of Days Lost Due to Illness by Eighty-Nine Student Nurses	56
5.	Frequency of the Three Peaks of Health Service Visits Per Term for Eighty-Nine Student Nurses	56
6.	Frequency Distribution of the Three Peaks of Health Service Visits per Rotation for Eighty-Nine Student Nurses	57
7.	Frequency of Peak Term of Days Lost Due to Illness by Term for Seventy-Five Student Nurses	58
8.	Frequency Distribution of Peak Term of Days Lost Due to Illness by Clinical Rotation for Seventy-Five Student Nurses	58
9.	Sum Total of Days Lost per Complaint by Seventy-One Caucasian Student Nurses	59
10.	Sum Total of Days Lost per Complaint by Three Oriental Student Nurses	59

TABLE OF TABLES

1.	Health Care Concerns Demonstrated in Studies Prior to 1957 Reviewed by Stephenson	16
2.	An Analysis of the Main Health Care Concerns in a Student Health Service as Noted by Five Authors	17
3.	Health Problems of Student Nurses by Six Authors	18
4.	The Number of Visits to Student Health Service and Percent of Total Therapeutic Visits Made by 89 Student Nurses for the Most Frequent Complaints	31
5.	The Number of Visits to Student Health Service and Percent of Total Therapeutic Visits Made by Four Oriental Student Nurses for Various Complaints	31
6.	Comparison of Preventive and Therapeutic Visits of Caucasian Students Cared for by Physicians and Nurses in the Student Health Service	36
7.	Comparison of Preventive and Therapeutic Visits of Oriental Students Cared for by Physicians and Nurses in the Student Health Service	36
8.	Time Lag from Onset of Problem to Reporting to Health Service for Eighty-four Visits by Forty-eight Student Nurses	38

CHAPTER I

INTRODUCTION

Introduction and Scope of the Problem

Of each class that begins education in a school of nursing in the United States, it may be expected that over 30 percent will not complete the program (10, p98). The third highest cause of this withdrawal appears consistently to be that of ill health, which accounts for about ten percent of the total number of withdrawals, (31, p21). For acceptance to any school of nursing, certification of good mental and physical health by a physician is required (25, p15). It also appears that those health problems which result in withdrawal are greatest in the second year of nursing education rather than the first or third year (10,p57; 7,p426). This, however, is not clearly proven in the literature. Little study has actually been done on what are those health problems which result in withdrawal, or what other major health problems are of concern to student nurses. If so many students withdraw for reasons of ill health it seems obvious that there must be many more who are functioning at below optimum levels because of less than optimum health.

It is this possibility, or probability, of sub-optimal health on the part of some student nurses with which this study has been concerned. As noted above, there has been little study on health problems with regard to withdrawal except to note the existence of such problems. Furthermore, there has been little study, particularly

in recent years, on health problems encountered by student nurses in whom problems do not interfere with schooling to the point of withdrawal. Part of the reason for this apparent complacency may be the record of nursing education in improving conditions for student nurses so greatly over the last thirty-odd years. By comparison, the problem of under-par health on the part of some students, rather than many, does seem less significant. The fact remains, however, that there is considerable illness among student nurses, even though little has been done to find out what the cause of most of this illness is and how important it is in terms of interference with the student's optimal performance and well-being.

Statement of the Problem

This study consisted of a specific analysis of the health records of the senior class then enrolled in a selected collegiate school of nursing in an attempt to determine how many health problems these student nurses had, what types of problems these were, and how much they affected the educational program in terms of time lost.

The related questions which this study attempted to answer were:

1. What are the most common health problems of these student nurses as indicated by their visits to the student health service?
2. How many problems are there with relation to the number of students?
3. What effect do these problems have in terms of time lost from the educational program of the student?

4. Do these health problems climax at some specific point in the program with more health service visits and more time lost?

Other factors which were analysed as variables were:

1. the number and type of visits handled by the physicians as compared to those handled by the nurses in the health service
2. comparison of preventive visits, those made by healthy students for specific preventive or health promotion purposes such as immunization or physical examination, and therapeutic visits, those made by the student for the diagnosis and/or treatment of illness
3. types of illness causing most absenteeism
4. the stated length of time from beginning problem to time of seeking care
5. comparison of patterns of illness of Oriental student with those of Caucasian students.

Need for the Study

Because nurses are needed now more than ever before, it seems worthwhile to attempt to decrease the withdrawal rate from schools of nursing as much as possible. In examining causes of withdrawal, it has been noted that a major one is that of health problems. It seems that these withdrawals might be decreased by better understanding of what these health problems are and what is producing them. Possibly then appropriate measures for reducing productive factors might be taken.

It is not simply in decreasing withdrawals, however, that there is concern about understanding the health problems of student nurses.

This is only a portion of the problem. The largest part of the problem lies actually in the area of below-par health which affects many students. The problem resembles an iceberg--the students who finally withdraw due to illness are the part which is seen, but how far-reaching is the problem of the group of students who do not feel or do their best because of less than optimum health?

If some of the basic facts could be arrived at with regard to the amount of illness, types of these illnesses and other health factors which are interfering with optimum functioning of the student nurse in whatever setting she may be, it might provide for a better focus in eradicating health problems. Part of the purpose of this study has been a search for some of these facts.

Certainly it is not in affecting withdrawals alone that an understanding of the health and health problems of the student nurse can be helpful. If some basic knowledge in this area is established it may well have implications for both curriculum planning and student personnel services as these surely are closely related to the causes and care of health problems. It has been observed that tremendous progress has been made in nursing education and student personnel services toward the betterment of living and working conditions. There continues to be room for improvement. It may be that schools still put such stress on making up time lost due to illness that, rather than lose precious time and have to make it up later, students will continue in nursing practice--further endangering their own health and that of their patients and co-workers. Or it may be that certain parts of the curriculum present a much heavier load and give the student more than

she can comfortably and adequately handle, conditions which may well lead to lowering of physical and emotional resistance to disorder.

Through the establishment of this knowledge there certainly will be significance for the screening and selection of students. It might well appear that certain of the problems and withdrawals are concerned with students who might originally have better been guided into a field other than nursing from the standpoint of either the student's physical or mental make-up or both.

Another area for which this study has importance is that of counselling. Possible implications of need for different faculty qualifications, preparation, or appointments in order to supplement or, in some instances, replace the services provided by the health service may be seen in the results.

Toward these ends, then, the basic objectives of this study have been to: a) identify the points in the program where students seem to experience the greatest stress, as indicated by their health problems, b) correlate the curriculum experiences with the points of increased stress, c) identify areas of need in student personnel services related to health and guidance.

Limitations of this study

For the purposes of this study the following limitations have been accepted:

1. This study has been limited to information that was obtained from the health records of the senior student nurses in a selected collegiate school of nursing and their attendance and rotation records. The former records are on file in the student health service, the lat-

ter in the school of nursing.

2. This study was limited to students enrolled in the senior year of the basic professional program. All irregular students and all registered nurses enrolled in the general nursing or graduate programs were excluded.
3. Records of psychiatric consultations were excluded except as they appeared on the student's record. Generally they were not kept in the student health service and were not available for analysis.
4. Students who began with the current class and withdrew for reasons other than health were excluded from the study unless it appeared that a health problem was a contributing factor in the withdrawal. This decision was made by the investigator after examination of the record.
5. No attempt was made to investigate health problems of students who did not report to the student health service.

Assumptions

For the purposes of this study the following assumptions were made:

1. that the health records bore a pertinent relationship to the student's adjustment to the school,
2. that the records of the health problems as maintained by the student health service were reasonably accurate and complete,
3. that the students used the health service as their primary source of health care and counselling and that if they sought aid elsewhere it was reported to the student health physician for addi-

tion to the student's record as indicated,

4. that the student was in good physical and mental health on admission to the school of nursing,

5. that the records used were confidential and this confidence was maintained by the investigator.

Procedures of the Study

The scope of this study was limited by time, the number of students' records available, and the small amount of pertinent available literature. The basic procedures for the study are outlined in the following paragraphs.

Sources of Data. The primary source of data for the study was the health service records of the senior class of basic degree students then enrolled in the selected school of nursing. These records consisted of the master chart (hospital and clinic chart) and the dispensary sheet, maintained by the student health service which, on termination of the student's career at the school of nursing, was added to the master chart. The records of the school of nursing office were used for reports of the clinical rotation schedules and time lost from the program.

The health service director and head nurse were available to interpret the records where there was ambiguity.

There were 100 student nurses in the senior class when they enrolled. Those dropping out for reasons other than health, who were excluded from the study, numbered 11, so a total of 89 students' records were utilized. Only the records of those students included in the class on its admission to the school of nursing were used. The records

of the class were analyzed for each of the nine three-month terms they had been enrolled in the school. Records were included even if the student had made no visits to the student health service, since the student either presumably did not have health problems or did not report them properly. At any rate, they were a part of this group of student nurses, all affected by approximately the same environmental factors and as such had to be included even though their records did not indicate that they had health problems. This occurred only in certain terms, as there were no students who went through the entire period covered by the study with no visits to the student health service.

Procedures Used in the Collection of Data. The procedure for data collection was by tabulation on a master data sheet material from the above-named student records. Factors such as race; type of illness; number of days lost per time period; withdrawal from school, reason, and for how long; who cared for the problem; type of visit; time from onset until time of reporting were used as the basic framework of categories (See Appendix A).

Treatment of Data. Treatment of data was by electronic data processing which is more fully discussed in Chapter III.

Definitions and Terms. Certain terms will be used repeatedly and specifically in this study. The definitions presented below are used throughout the study.

A HEALTH PROBLEM is defined as a change in the status of a person physically or mentally in such a way as to threaten his optimum functioning. Such health problems are measured in this study by a single visit (or a series of visits for one occurrence of the same problem) to the

student health service.

A COLLEGIATE SCHOOL OF NURSING is one in which the student on enrollment in the school of nursing has completed a prescribed amount of college work and from which the student, on graduation, will be awarded a baccalaureate degree.

The SOPHOMORE (first) year of the nursing program consists of four academic quarters; the JUNIOR year, three quarters; and the SENIOR year, three quarters.

A STUDENT HEALTH SERVICE is a clinic set up expressly for students with the services of doctor(s) and nurses available to care for the students at certain hours with arrangements for night and weekend care. Services are essentially those usually provided through the family physician.

Summary and Presentation of the Study

This chapter presented briefly an introduction to the area of health problems of student nurses which result in withdrawal or sub-optimal functioning and focused specifically on the area of this study which includes health problems of a certain population of student nurses. Implications for curriculum planning, student personnel services, guidance, and faculty and student screening have been pointed out.

In Chapter II the survey of related literature will be presented in order to provide greater depth in the delineation of this problem. Chapter III will then present a discussion of the procedures of the study itself and an analysis of the data. Chapter IV summarizes the findings, offers conclusions, and provides recommendations for further study.

CHAPTER XI

SURVEY OF RELATED LITERATURE

Background of the Problem

In the introduction to this study it was pointed out that more nurses are needed now than ever before. The Report to the Surgeon General--TOWARD QUALITY IN NURSING points this out specifically:

To give the people of the United States safe, therapeutically effective, and efficient nursing service, some 850,000 professional nurses... will be needed by 1970. But to meet this need would require a total of 100,000 graduates in 1966-- a tripling of the present output of a little over 30,000. In view of limited school capacity and recruitment problems, a more realistic goal would be to increase the number of graduates to 53,000 a year by 1969. With this increase there should be a total of some 680,000 nurses in 1970 (30, p. 54).

Plainly, then, there is need to promote the graduation of as many competent nurses as possible within the next 5-7 years. In view of the number of withdrawals of students admitted to schools of nursing which Batts (4) states is "quite large" in comparison with students in fields such as engineering, liberal arts, and science, and which in the last 10 years has varied little from the 32 percent it was in 1951, it seems worthwhile to try to understand the elements which are leading to this loss of potentially acceptable nurses (10, p.98; 9, p.54). Probably some of these students are not actually suited for nursing. Authors such

as Lee (20) indicate that this loss could be affected by better pre-entrance examination--particularly psychological testing, which Lee states could alone cut the level of unsatisfactory students by as much as 14 percent with the use of an improved combination of psychological pre-tests.

It is recognized now that in the past, living and working conditions for student nurses have been far from desirable. A trend to remedy this was started well over forty years ago and is still going on. In 1930 a well-known study on health services to students, carried out by the United States Public Health Service, and reported in the American Journal of Nursing stated that:

The hospital and school of nursing have a definite responsibility in this matter of student health, and for two reasons. In the first place it is good business to keep the personnel well; and in the second place, they have accepted these young women as students and are therefore bound to use all possible means to keep them fit and to teach them to keep themselves fit (8, p1523).

This was one of the early expressions by the professional nursing organization of the school's responsibility to the student in terms of health services and it provided a strong influence on schools of nursing for the next 30 years. This influence covered a broad area from vacation time, to sick leave, to dietary provisions, and the requirements set up as a result of the study provided standards against which schools could measure their own student services.

A more recent development in nursing education with regard to student services is the area of guidance, which has become a field of

increasing concern in nursing as it has in other field of education.

Heaton makes a clear statement of the attitude of many nursing educators toward guidance:

In planning the curriculum for today and tomorrow where flexibility is the key note, nursing educators assume that education and guidance are one. Therefore, guidance, as applied to nursing education, may be considered as anything done to help the student nurse to become progressively better able to make decisions concerning her personal, educational, professional, social, and community relationships (1k, ph).

It would seem, then, that with the current and coming need for nurses, it behooves nursing educators to use the best methods they have to find and keep suitable students in the field of nursing. Trends have developed over a number of years that should help in the attainment of this goal.

The problem of student health fits into the larger framework of student adjustment, student withdrawal, and the ultimate provision of sufficient numbers of nurses. It is apparent that despite the trend toward better living and practice conditions, the overall withdrawal rate of student nurses has not changed significantly in the past decade.

In the next paragraphs the nature of student health services will be examined, as well as what they do and do not include in terms of assistance to the student.

Student Health Service--Purposes and Services

Taylor states, in her study on withdrawal of students reported in 1951, that:

Approximately 9 percent of all students who withdrew during the three-year period did so because of ill health. This means that in the schools studied (743 schools with a total of 22,189 students) nearly 700 students had to give up their nursing careers because they were ill. It would seem that such a large drop-out for this reason cannot help but reflect unfavorably on the efficacy of the programs now in operation for the safe-guarding of students' health (31, p15).

There seems to be little indication that these percentages have changed significantly in the last twelve years. There is surprisingly little emphasis on student health in recent literature.

Taylor's figures for the first five causes of withdrawal were:

- | | | |
|----|----------------------|---------------|
| 1. | failure in classwork | 28.5% |
| 2. | matrimony | 21.0% |
| 3. | dislike of nursing | 9.5% |
| 4. | personal | 9.5% |
| 5. | health | 9.1% (31,p21) |

In the twenty-one collegiate schools surveyed, Taylor found that ill-health was the third most important reason for dropouts (9.4%), being reversed in position with dislike of nursing in the overall study (31, p21).

In answer to the question "what is a health service?" Felton provides a useful definition which, though written for a health service operated both for students and employees, is useful when applied to a health service that is strictly student-oriented:

A health service is an organization within an institution devoted to some degree of preventive

medical care, health promotion, counselling, direct medical care, and research, which is practiced on a selective group of participants and maintains high standards, with implications of good public relations in employee fringe benefits (12, p55-56).

Stephenson, in a study of health services in schools of nursing applies this more directly to the student nurse:

One of the basic objectives of a good health program is to convince students that it is their responsibility to report any ailment promptly, no matter how minor it seems, not only for their protection but for the protection of their patients and associates (28, p38).

Davies gives a good overall view of what the student health service in a school of nursing is and does when he states that it:

...must include a variety of activities, from those having to do with daily emergencies and slight ailments to arrangements for care during illness, which involve the medical and surgical or special services of the hospital. It must provide a plan for health maintenance at different age levels, from the young freshman student to the older graduate (student), and for varying periods of time. (7, p421)

He stresses the purpose of the student health service in a more basic approach:

Reduced to its simplest terms, the fundamental purpose of this health service is to produce health nurses. This means not merely that they have accepted the health program laid out for them or that they have passed certain tests during and at the end of that time. It means that they emerge from their schools with the scientific knowledge which enables them to know what to do, and also the genuine appreciation and

well-established practice which makes them do it (7, p427).

Smith, Hilleboe, and Felton (27, p18; 16, p738; 12, p61) point out the importance of attitudes formed in reaction to the student health service, both with relation to the student's own health and with her general reaction to the importance of preventive and positive health care. Although these values are recognized, it is also recognized that the attitude of the faculty toward the student and the student health service may have great effect on the good the student gets from the health service no matter what the actual quality of care. The attitude of the health service staff toward the student likewise will have great effect on the students' use of the service. Schmitt (26, p52) in a study of problems of student nurses, reports that 37 percent of the students were distressed by the difficulty they felt existed in securing health services as needed.

Gordon, et al, (13, p218) stress the four usual motives of the student in reporting disease:

1. she has learned the advantage of early care and is practicing her learning
2. she may need reassurance that the symptom is not a sign of a serious problem
3. the illness may be an expression of psychological tension that needs attention
4. "compared with the other motives... (it) is of such minor importance as to warrant little consideration"--the deliberate manufacturing of ailments for certain purposes.

Ingridre makes it clear that the whole responsibility of student health does not rest on the staff of the student health service:

Instructors must give increased assistance in relating course material to solution of students' personal problems; they must place increased emphasis on attitude formation in psychology; they must assist the students to relate health instruction to personal health problems; and they must direct more attention to the psychosomatic aspects of health problems (18, p39).

In trying to discover what the vital services of a health service are, in a more specific way, Stephenson's review of the literature prior to 1957 is useful (28, p15-17). She points out that in comparing eight authors, the following points were particularly stressed. Table 1 has been constructed to show the points emphasized in the literature reviewed by Stephenson.

TABLE 1. Health Care Concerns Demonstrated in Studies Prior to 1957 Reviewed by Stephenson.

Health Care Concerns	% of studies reviewed mentioning concerns
(1)	(2)
1. Importance of the physical examination.	87%
2. Concern as to adequacy of health services.	75%
3. Concern as to number of hours worked by students.	75%
4. Need for health instruction.	67%
5. Need for proper living accommodations.	67%
6. Guidance.	50%
7. Proper diet.	37%
8. Vacations.	35%
9. Health programs on affiliation.	13%
10. Immunizations.	13%

These then were the areas deemed important by those evaluating the student health problem prior to 1957. As has previously

been noted, in the last five to ten years less has been written about services to students in health and related areas, possibly because so much progress has been made that there seems, by comparison, to be far less need.

The areas most stressed by five writers on student health during the last five years are present in Table 2. The percentages are helpful in noting areas of major stress, but it must be remembered that the numbers are very small. This does help, however, to point out that the emphasis is now placed almost entirely on direct health office services and far less on living and working conditions, which may indicate the progress made in the latter areas allowing more planning for details of health care.

TABLE 2. An Analysis of the Main Health Care Concerns in a Student Health Service as Noted by Five Authors.

health care concern	% of studies reviewed mentioning concern
(1)	(2)
1. Tbc skin test, x-rays, immunizations (Heinemann, Price, Torrop)	60%
2. Hospitalisation provisions (Hilleboe, Price, Torrop).	60%
3. Minor illness care (Hilleboe, Price, Torrop).	60%
4. Physical examination (Hilleboe, Torrop).	40%
5. Nurse interview (replacing physical exam) (Davie).	20%

Specific Problems Affecting the Health of Student Nurses

In analyzing the data from six reports (17, 7, 3, 34, 32, 19)

it is apparent that upper respiratory infections are by far the most common type of health problem reported by students. All authors stated this clearly. There were only two authors who gave detailed reports of other types of illnesses reported by the students and amount of these illnesses. The table of the reports of all these authors is presented below as Table 3.

TABLE 3. Health Problems of Student Nurses by Six Authors.

Condition	Number of incidents of a given condition listed by author						% of studies reporting condition
	Barr	Davies	Huntley	Jacobsen	Torrop	Wellington	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
URI	33%	X	24	X	X	187	100%
G-I			23			103	33%
ENT			15			17	33%
Surgery			3			16	33%
Injuries			4			5	33%
Dental						38	17%
Dysmenorrhea						51	17%
Flu						22	17%
Commun.Dis.			11			17	33%
Other	66%		13			39	50%
Total no. of Incidents	100%		93			495	50%

Because of the differences in reporting it is useless to compare the studies of Wellington and Huntley in terms of numbers. It is interesting to conjecture, however, the probable difference in health service philosophy or policy which result in differences such as reported numbers of injuries (compared to total illnesses) dental problems, or dysmenorrhea. These differences may be partially accounted for by the column marked

"other". That column is 14% of the total problems in Huntley's report and about 7% of the total problems in Wellington's report. It appears, however, that the one major conclusion that can be drawn from the above comparison is that upper respiratory infections were unanimously accorded top place in frequency of health problems. Not for nothing is this disorder called the "common" cold. It also appears that, according to the two available more detailed reports, gastro-intestinal disturbances were another prominent cause of illness.

It has been noted by some authors (7, p426; 11) that student nurses' illnesses tend to form clusters of episodes. Davies related this to a seasonal factor particularly associated with respiratory infections. He points out the fact that this peak seasonal incidence in the staff (in which he includes student nurses) coincides with a peak incidence in patient census. This increases the problem of encouraging employees to get proper care. They may feel obligated to remain on the job because of the heavy work load and concomitant personnel shortage.

Other problems which were not brought out by the above authors, but which were of concern in this study relate to the increasing number of emotional problems being brought to the health service (21, p427). Another factor is the decreasing incidence of tuberculosis in student nurses (15, p738). For years the possibility of contracting tuberculosis was felt to be a definite occupational hazard for nurses. The incidence of this illness in student nurses as opposed to the incidence in young women in the general population was significantly higher. Now through better isolation and case-finding methods, the incidence of tuberculosis

has decreased. Heinemann reported that the findings of a five-year study indicated that the danger of contracting the disease while the student nurse is having clinical experience with tuberculosis patients (or as a result of that experience) is now no greater than it would be if she were a member of an ordinary community.

In reviewing the areas in which student nurses find psychological problems it is noted that Schmitt (26, p41) found the greatest area of problems for all student nurses to be in the area of social and recreational activities; second was personal and psychological relations; and third was health and physical development.

In correlating attitudes and adjustment problems with student achievement Ingwire (18, p38) found that the students receiving the best grades seemed generally to have fewer conflicts and negative attitudes and a greater degree of general maturity while students receiving poor grades showed feelings of antagonism and frustration toward authority and tended more strongly to attribute their difficulties to poor health or financial problems. This area of adjustment may definitely have significance for those trying to understand student nurses' health problems.

When health problems of student nurses are compared with other groups the comparison is usually made with college women or with medical students. This latter selection is often made, despite many obvious differences, because the students frequently share health services, and generally similar environments. Felton (12, p57) expresses the opinion that student nurses generally have a broader selection of ailments with a greater number of health service visits than do medical students and relates this primarily to their being younger than the medical

students. He also reports that the number of visits in both groups tend to level off after the second year in the school.

Summerskill (29, p88) and Braaten (5, p247) give credence to the idea that the basic difference in amounts of illness in medical and nursing students is due primarily to the difference in sex. They both stress the differences in men and women's reaction to illness. Summerskill states that the "question is still unanswered as to whether women actually experience more illness or have lower thresholds for seeking medical attention" (29, p88). He points out that in some studies upper respiratory complaints among college women are 35 percent more frequent than among college men. Braaten notes this sex difference also in attendance at the university mental health clinic. He puts it:

With the same amount of actual psychopathology the girls will seek help more readily than the boys....In our culture it is possible that girls are given more sanction than boys to acknowledge emotional problems (5, p247).

Alexander (1, p71-72) reviews various studies which have attempted to correlate stress with respiratory infections. He states that:

Observations tend to support the thesis that students with emotional problems may have more colds than other students...but the evidence may be an expression of anxiety so that treatment is sought more readily (1, p72).

In reviewing the literature related to the second major question of the study regarding a possible increase in illness during the second year in the nursing school the literature is not altogether in agreement. The main factor that does come out of these studies seems to be

that there is a difference in the types of problems that student nurses encounter in their second or junior year (26, 18, 22, 23). Generally the juniors seem to be the group least satisfied with their lot in nursing (22, 18). Schmitt (26, p37-40) found problems of health and physical development to be the third-ranking for juniors and sixth-ranking for seniors. The juniors also had considerably more psychological-personal problems than did the seniors.

Mitchell's (23, p23) findings differed somewhat from Schmitt's in that she found health and physical development factors indicated by 7% of the first and third year students and by only 3.5% of the second year students as opposed to first and third year students. In the latter two classes she found problems with the nursing role and problems with the future (personal and professional life) to have respectively the major emphasis (23, p24025).

With regard to these problems during clinical experience, Davies reports that:

Further analysis of the undergraduate figures show that illness time is greater in the clinical than in the pre-clinical group, and greater in pediatrics and obstetrics than in the other services; and that illness was greatest in their second year and least in their first year (7, p426).

He also points out that the second year is spent continuously in the clinical services and that people must report minor diseases more faithfully there than in some areas.

Jacobsen's findings were along the same line (19). She found that the rate of episodes of illness was three times as high in juniors as in

seniors; that the absence rate of juniors was four times that of seniors; that the highest rates for juniors were during their pediatric rotations; and that there was a statistically significant relationship shown between low grades and high absence rates for the junior group. Of interest, she found that the student health services were used by that group of students only 39.8 percent of the times they were ill.

The only authority who directly differs with the increased rate of illness in the junior year is Taylor (31, p17) who found that while ill health caused 9.5 percent of withdrawals in the junior year, it caused 13 percent of withdrawals the senior year. This may be affected by the fact that her report was on withdrawals, not illness rates, per se, and that there are fewer withdrawals due, for instance, to dislike of nursing or failing grades (the two top reasons) that late in the program. Thus a greater percentage of withdrawals would be accounted for by ill health.

Summary

In summarizing the review of related literature, the study has been set in context with other problems associated with nursing education and the whole aspect of providing nurses for the increasing population. It has been established that the most common illness likely to be found among student nurses, according to the literature, is the upper respiratory infection, with gastro-intestinal disturbances most likely in second place. Very little information has been reported, however, on what is common in terms of time lost.

It has also been established that most authors do believe the junior year to be the most problem-filled year, possibly because of the clinical

experiences which are usually encountered at that time.

In the next chapter will be presented a discussion of the study itself with procedures of data collection, tabulation, and treatment detailed. The background provided in the review of the literature has been utilized in the procedures and evaluation of the study.

CHAPTER III
PROCEDURE AND FINDINGS

Introduction

Among the problems of student nurses, one of the significant areas appears to be that of less than optimum health. The purpose of this study has been to establish how many health problems a given group of student nurses had, what types of problems these were, and how much they affected the educational program in terms of time lost.

Some secondary factors which were considered in the study were:

1. the number and type of problems handled by the physicians as compared to those handled by the nurses in the health service
2. comparison of preventive visits (those made by students for specific preventive or health promotion purposes) and therapeutic visits (those made by students for the diagnosis and/or treatment of illness)
3. types of illness causing the most absenteeism
4. the stated length of time from onset of illness to time of seeking care.
5. comparison of patterns of illness of Oriental students with those of Caucasian students.

Setting of the Study

The student health service in which this study was done is lo-

cated in a medical center and is responsible for the care of eleven groups of students in addition to the basic nursing students. The total number of students cared for is in the neighborhood of 1200, of which about 300 are basic nursing students. Officially, the health service is not responsible for the care of employees, although first aid and simple problems such as colds and headaches are often handled by the staff.

The staff of the health service consists of two part-time physicians, one of whom is director of the health service. The physicians are available in the health service a total of about four to five hours daily. There are two full time registered nurses on duty and a receptionist secretary.

The purpose of the health service as given by the director is "to conserve and promote physical and mental health of the student." (30)

The functions of the student health service (30) fall into three separate areas:

1. Review of pre-entrance examination.

The students are required to have a physical examination prior to entering the school. The report of the examination is reviewed by the head nurse and the director of the student health service and any problems are followed up either prior to entrance or on entrance of the student into the school.

2. General medical care of the student.

Except for vacations and interims during which the students are not officially cared for by the health service (in actuality, the students often are cared for during this time), the student health service physicians function as the student's

family doctor would in the community. Office visits, referral to special clinics, emergency dental care, laboratory and x-ray studies, counselling, elective or terminal physical examinations, and limited hospitalization are provided as needed or at the discretion of the staff. The students are not required to utilize the services of the health service and occasionally elect to continue to be treated by their own physician.

3. Public health or preventive functions.

The health service encourages early visits and proper treatment of minor illnesses and isolation of students when indicated in order to protect the individual student and the rest of the student population. A full complement of immunizations are required prior to admission and these immunizations are kept up to date with boosters given when needed. Special immunizations are also provided as necessary. As part of the tuberculosis control program students receive tuberculin skin tests semiannually and chest films annually or more frequently as indicated. Positive tuberculin reactors have chest films every three months.

The health service does not provide unusual or expensive medication, although it does provide nearly all medication required by the students. It also does not provide care of chronic, pre-existing disease, hospital care for non-emergency disease, or ambulance service.

The students pay a small fee when they register for each term. This fee is required whether the student uses the health service or not.

Method

Selection of the Group. The senior class was chosen for this study because it was felt that, since they were within one or two terms of graduation, any patterns to be seen in their health problems would show in the profile of their health records over the nine terms they had been in the nursing school.

The group that enrolled in this collegiate school of nursing in the fall of 1961 totaled 100 students. By the limitations of this study it was established that those leaving the program for reasons other than health would not be included. This number was eleven. The study, then, involves the analysis of 89 of these senior students' records. There were no students who dropped out of the program permanently because of ill health, although some did drop out for as much as one term or more, to return later. These students were included in the study.

The class of students consisted of 85 Caucasian students and four Oriental students. Nearly all of the students on enrollment were in their nineteenth or early twentieth year. The slight variation in age was generally due to the fact that, while most of the students took one year of college before entering the school of nursing, some of them elected to take two, so were slightly older on admission to the school.

Procedure of the study. The method of this study was a form of record-analysis in which the student health record--including the dispensary sheet, kept by the health service, and the master chart were utilized (see Appendix A). The records kept in the nursing school office were utilized for locating clinical rotations and time lost from

rotation. The individual teachers' report of the time the student lost from her educational program, while not perfectly accurate, was deemed the most accurate measure available. The results of the study of each record were put on a large tally sheet. All the records were reported on this large sheet, then the items from this sheet were put on separate data sheets, one for each student (see Appendix B) for the use of the keypunch operator. These sheets were very similar in make-up to the original tally sheet except that a separate one was made for each student's record. The sheet was divided into columns according to year of entry; this was done primarily for use if a follow-up study should be done later on another class. All of the group in this study entered on the same date. Other categories were term, complaint, time lag in days, whether the visit was preventive or therapeutic, whether the student was cared for by a doctor or a nurse, time lost from school, and clinical rotation. Lines were also made for student number (each student was identified by a number, of which only the investigator had the code) age, and race. Age was recorded in case of need for later studies. The group under investigation was so homogeneous in age as to make analysis by age not worthwhile. They ranged from 18 through 20 years of age.

Presentation and Interpretation of Data

The four primary questions which this study sought to answer were:

1. What are the most common health problems of these student nurses as indicated by their visits to the student health service?
2. How many problems are there with relation to the number of students?
3. What effect do these problems have in terms of time lost from

the educational program of the student?

4. Do these health problems climax at some specific point in the program with more health service visits and more time lost?

In answering the first question: "What are the most common health problems of these students?" there were found to be a total of thirty-three reasons for visits, twenty-nine of these being health problem areas--the other four being visits for preventive reasons. The complete list of reasons for health service visits is given in Appendix C. For the purposes of this discussion the last four reasons (tuberculin skin tests, check x-rays, physical examinations, and immunizations) were not considered in analyzing the most common problems because those categories are for preventive rather than for therapeutic visits. In the appendix all reasons for health service visits are listed with the total number of visits per reason as well as the total number of days lost. Figure 1 shows the thirteen most common health problems. Upper respiratory infections proved to be, by a considerable margin, the most common problem and accounted for 18.2 percent of all visits made to the health services.

Percentages of the thirteen most prominent problem areas, based on the total number of therapeutic visits are given in Table 4. The rather large number of visits in the remaining 12.3 percent marked "other" represent the wide variety of problems in the seventeen uncharted categories of problems constituting therapeutic visits.

Table 4. The Number of Visits to Student Health Service and Percent of Total Therapeutic Visits made by 89 Student Nurses for the Most Frequent Complaints.

Complaint	Number of visits	Percent of total therapeutic visits
(1)	(2)	(3)
1. Upper respiratory infection	401	27.1%
2. Gynecologic problems.....	181	12.2%
3. Gastro-intestinal problems	154	10.4%
4. Dermatologic problems.....	119	8.0%
5. Eye problems.....	92	6.2%
6. Orthopedic problems.....	78	5.2%
7. Counselling.....	50	3.3%
8. Injury.....	45	3.0%
9. Headache.....	42	2.8%
10. Allergy.....	37	2.5%
11. Fatigue.....	36	2.5%
12. Ear, Nose, Throat problems	34	2.3%
13. Genito-Urinary problems...	33	2.2%
14. Others.....	179	12.3%
Totals	1478	100 %

In looking at the number of therapeutic visits per student for the Oriental students alone, comparison with Figure 1 shows some differences. Figure 2 demonstrates the frequencies for the Oriental students and Table 5 gives the percentages involved and may be compared with Table 4. Diet (reducing diet) is comparatively high and this is probably a chance factor due to the low number of students.

Table 5. The Number of Visits to Student Health Service and Percent of Total Therapeutic Visits Made by Four Oriental Student Nurses for Various Complaints.

Complaint	Number of visits	Percent of therapeutic visits
(1)	(2)	(3)
1. Upper respiratory infection	16	31.3%
2. Gynecologic problems.....	9	17.6%
3. Dietary problems.....	6	11.7%
4. Gastro-intestinal problems.	3	5.8%
5. Counselling problems.....	3	5.8%
6. Metabolic problems.....	3	5.8%
7. Communicable diseases.....	2	3.9%
8. Dental problems.....	2	3.9%
9. Headache.....	2	3.9%
10. Other.....	5	10.3%
Totals	41	100 %

In answering question 2--"How many problems are there with relation to the number of students?" the total number of therapeutic visits was divided by the total number of students and in turn by nine terms to derive the mean number of complaints per term of these students. Therapeutic visits only were used, as preventive visits were considered to reflect, perhaps, health consciousness or school policies but not health problems. The total number of therapeutic visits by all students was 1478. The overall mean for nine terms was 16.6 visits per student, with the mean per term, 1.84 visits. This may be interpreted to mean that the students average about two health problems per term which warrant a visit to the student health service. The range for all terms was 11-59 visits, the median 25, and the mode 29 visits. The Interquartile Range was 19-30 visits. The distribution is shown in Figure 3.

The total therapeutic visits for the Oriental students were fifty-one. The overall mean, then, was 12.7 or somewhat lower than that of the Caucasian students and considerably lower than the median of that group.

In answering question 3 regarding the effect in terms of time lost per student, the same method was used as in analyzing the data for question 2. The total number of days lost was divided by the number of students (89) and the result was divided by the number of terms (9). The range of time missed was from 0 days to 182 days. The median was four days and the interquartile range from one to five days. The distribution within this group was rather skewed. Figure 4 shows the distribution of time lost for all students with the days

lost shown on the abscissa and the number of students on the ordinate. In considering all the students, there were 14 of the 89 students who, according to the nursing school records had not lost one day of time from their program due to illness (one of these was an Oriental student).

In considering time lost by Oriental students--three of the four students lost at least one day. The number of days lost for each of those three respectively were one, three, and four. The mean for these students, then, was two days for the total program--much lower than the total mean for all students. This cannot be considered more than a possible indication of difference because of the low numbers of students involved.

In considering whether health problems appeared to climax during a certain term, each student's record was inspected to see during which terms she had the most health problems. This was done mainly because for many of the students, two or three terms were higher than the others in health visits, but were not different from each other by more than one or two visits, if at all. All visits were counted. The three highest terms were then tallied with one point for each of the three for all students. There was a definite indication (See Figure 5.) that the problems of student nurses do climax at a specific point in their program, resulting in more health service visits.

Figure 5 shows on the abscissa the nine terms of the program in chronological order. A definitely greater number of students have one of their three peak terms during the fifth term, with the

seventh and sixth terms next, in that order, considerably lower. On the ordinate is given the total number of tallies each term received. The tallies, added together, give three times the number of students, because three terms were counted for each student.

The same essential pattern as that demonstrated in Figure 5 for all students was reflected in the terms of highest visit rate of the Oriental students.

Another way to look at this problem of a peak in health problems is in the clinical rotations. Since the classes are divided, one group may have had pediatrics while the second group had obstetrics and third group had operating room-tuberculosis nursing experience. The arrangement of clinical rotations then is not exactly like that of terms. In Figure 6 one can read the results of this tally. The three terms of the junior year are considerably above the rest of the terms but fairly close to each other. Health service visits tend to peak during the junior year, most often in the fifth term, or according to rotation, during the operating room-tuberculosis nursing experience. This does not necessarily mean that all students had the most visits to the health service during the fifth term or during the tuberculosis-operating room rotation, but it means that one of the three highest terms for most of these students were in these areas. For the Oriental students, the obstetric rotation tended to rank highest, with pediatrics and operating room-tuberculosis nursing next.

Another way to determine peaks of health problems is by identifying the terms in which most students miss more days of educa-

tion time than any other. This is done both through terms and rotations. The results this time are somewhat different. It is found (see Figure 7) that the seventh term is the term, regardless of the rotation, in which most students have their peak of days lost. This frequency was done differently from those in Figures 5 and 6 in that only the one term of most days lost was counted. Only students who had missed days of education time were counted so that the $N=7$ rather than 89. The Oriental students reflected the same sort of pattern in both rotation and term with relation to terms of most time lost. Even with a different approach to calculating peaks of health problems, the terms of greatest time lost remain 5, 6, and 7, consistent with figures 5 and 6.

Figure 8 represents the distribution of days lost by these students with regard to rotation. In Figure 8, the first column (0) represents the terms in which students were not officially registered for a rotation. In Figure 8, all three terms of medical-surgical nursing were grouped for convenience and because the numbers were low. The number in the 0 group on the abscissa represent those who were out an entire term because of ill health, or most of the term so that they withdrew and actually had no clinical assignment on the record for that term but were still officially in school. It is apparent in Figure 8 that pediatrics is the highest term for days lost although it was third for health service visits. This may reflect the necessity for even stricter precautions on the part of the staff toward maintaining regulations for student clinical experience while not feeling quite well.

Two of the secondary factors which this study included were a com-

parison of the number of preventive and therapeutic visits made by the students and those cared for by the physicians as compared to those cared for by the nurses. Tables 6 and 7 show these comparisons. Table 6 demonstrates the figures for Caucasian students and Table 7, the figures for Oriental students.

Table 6. Comparison of Preventive and Therapeutic Visits of Caucasian Students Cared for by Physicians and Nurses in the Student Health Service

Cared for by	Therapeutic	Preventive	Total
(1)	(2)	(3)	(4)
Physician	719	86	805
Nurse	707	690	1397
Total	1426	776	

Table 7. Comparison of Preventive and Therapeutic Visits of Oriental Students Cared for by Physicians and Nurses in the Student Health Service

Cared for by	Therapeutic	Preventive	Total
(1)	(2)	(3)	(4)
Physician	29	5	34
Nurse	23	34	57
Total	52	39	

For the Caucasian students the physicians cared for 50.4 percent of therapeutic visits and only 11.4 percent of preventive visits. For the Oriental students the physicians handled 55.7% of therapeutic visits and 12.8% of the preventive visits made by the group. The figures are slightly higher for the Oriental students, but the numbers are too small to allow more than an indication of direction.

Of all the types of health problems reported, time lost in days was related to 21, with a range of 0-182 days lost. For all days lost listed with complaints, see Appendix C. For purposes of clarity Figure 9 utilizes only those complaints responsible for 25 or more days lost. This is based on figures for Caucasian students only. While the days lost for upper respiratory infection are due to short illnesses of many students, those days lost due to hepatitis and mononucleosis are due to a very few students who lost a great deal of time. The other illnesses were generally brief and resulted in few days lost.

The distribution of days lost for Oriental students (Figure 10) was somewhat different although the numbers are so small that the comparison can be only an indication of possible significance.

In comparing patterns of health problems and visits in Oriental and Caucasian students, the relationships have been shown in amount and types of health problems, amount and type of illness causing time lost, and a comparison of preventive and therapeutic visits as well as physician and nurse visits. Some of the patterns have been essentially those of the overall group and some have differed somewhat, but always the number of Oriental students was too small to make valid comparison.

The last area tested in this study was concerned with the stated time lag between the time the student first was affected by the problem and the time she went to the health service with the problem. This information was not available on all the visits, but it was noted on a total of 84 visits--81 by Caucasian students, three by Oriental

students. It is of interest that the time lag was not always written. It was generally written when the problem appeared of sufficient significance for the staff to make specific inquiries into the onset of the problem. In Table 8 are presented the mean time lag for all students, which was 8.6 days; for Oriental students, 6.6 days. The mode was 3 days for Oriental students, while for all students it was one day; the range for all students was from one to 90 days and the range for Oriental students was three to 14 days. The medians were three for the Oriental students and four for all students. The interquartile range was two to seven days for the total group, which means that 50 percent of the students, for whom a time lag from onset of problem was recorded, waited from two to seven days before reporting their problem. The interquartile range could not be computed for the Oriental student because of the small numbers involved.

Table 8. Time Lag From Onset of Problem to Reporting to Health Service for 84 Visits by 48 Student Nurses

Students	Visits with time lag (days)	Mean time lag (days)	Mode (days)	Range (days)	I-Q Range (days)
(1)	(2)	(3)	(4)	(5)	(6)
Oriental	3	6.6	3	3-14	
All students	84	8.6	1	1-90	2-7

Summary

In this chapter the method of this study has been explained and the setting of the study and choice of the population were discussed. The data which were gathered have been presented and interpreted with

regard to the various questions which the study sought to answer. The findings primarily reinforced those ideas presented in Chapter II.

The most common health problem, as in the review of literature, was found to be the upper respiratory infection. However, contrary to the review of the literature, second ranking problems were gynecologic problems rather than gastrointestinal. Some information has been gained about the significance of time lost from the program. Also, the indications given in the literature that the junior year was the one in which most problems occurred were borne out.

In Chapter IV a brief summary of the entire study will be presented with a discussion of the findings, and some recommendations for further study will be made.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine what the most common health problems of a group of student nurses were, how many of these problems there were, and how these problems had affected their educational experience in terms of time lost, and whether the problems climaxed at a certain point in the program.

Several other factors which were considered were

1. the number and type of health service visits handled by the physicians as compared to those handled by the nurses in the health service
2. the comparison of preventive visits (that is those visits made by healthy students for specific preventive or health promotion purposes such as immunization or physical examination), and therapeutic visits (those made by the student for the purpose of diagnosis and/or treatment of illness
3. the types of illness causing the most absenteeism
4. the stated length of time from beginning of the problem to the time of seeking care
5. comparison of patterns of the above factors in Oriental students with those in Caucasian students.

The study was done through a review of health service and nursing school records for the eighty-nine senior students of a collegiate school

of nursing chosen for the investigation. Data were compiled on a master tally sheet, then transferred to a single sheet for each student. These single sheets were used for key-punching electronic data-processing cards. The actual tabulation of data was done by electronic data-processing techniques.

The method of analysis for the study consisted primarily of computation of frequencies and distribution tables with measures of central tendency used for purposes of clarification. These were generally done for the total group and for the Oriental students separately to see if any differences appeared. However, it was recognized that these could not be more than indications of possible real differences since the numbers involved were small.

Findings

The following were the findings with relation to the four primary questions of the study:

1. It was found that upper respiratory infections were the most common health problem for these students, accounting for 27.1 percent of all therapeutic visits. Gynecologic problems accounted for 12.2 percent of therapeutic visits. The third commonest problem was gastro-intestinal problems which were 10.4 percent of the total. The health service visits which could be assigned to "counseling" from inspection of the records were 3.3 percent which is probably considerably lower than the actual amount as it is well known by the staff of this health service that much counseling is done by the physicians that is not recorded as such. There was a total of 29 different areas in which health problems occurred.

For the Oriental students upper respiratory infections and gynecologic problems ranked first and second, but dietary problems were

third and gastrointestinal problems fourth, with counseling in fifth place.

2. The total number of therapeutic visits (those representing a health problem) was 1478 for all students, with the mean over nine terms being 16.6 health service visits per student, or about 1.84 visits per term. The distribution showed that the overall range was 11-59 visits; the median, 23 visits; the mode 29 visits and the inter-quartile range 19-30 visits. The main point seems to be that although there was a rather small mean number of health problems, the range and distribution indicate that there were some students who had many more problems than this.

The Oriental students appeared to have a slightly lower mean number of therapeutic visits than did the Caucasian students (12.7 visits, overall mean). The number was too small to show trends or to make comparisons.

3. The total number of days lost from the educational program was 905 for all students. The overall mean was 10.1 days or 1.1 days per term. The range was 0-182, the median 3 days, and the interquartile range 1-5 days. There were 14 students who lost no days during nine terms. The mean days lost for the total program of the Oriental students was 2, well below the mean for all students, but quite compatible with the interquartile range for all students.

4. The term which ranked highest for most students in terms of health problems was fifth term which scored more than twice as many first, second, and third place tallies (each student's three terms with most health service visits were tallied) than any other term. The seventh and sixth terms were the next highest ranking terms, in that order.

When considering the peak of health problems from the point of view of clinical rotations the tuberculosis nursing-operating room experience ranked highest with obstetrics next and pediatrics not far behind. These three terms are the rotations which occur during the fifth, sixth, and seventh terms so there is considerable overlap between the two computations.

The Oriental students reflected the same pattern as above with regard to the top ranking of the fifth term, but they tended to rank obstetrics as the rotation with most health service visits with pediatrics and tuberculosis-operating room next and of equal rank.

When the peak for days lost was related to term, it was found that for all students (and for Oriental students, alone) the seventh term was the term in which most students had their peak of days lost. In relating days lost to clinical rotation, pediatrics ranked highest with tuberculosis-operating room next, and obstetrics third highest. This pattern was also the same for the Oriental students when they were considered separately.

Listed below are the findings related to the secondary factors considered in this study:

1. The physicians handled 719 therapeutic visits for the Caucasian students, compared to 707 cared for by the nurses. With the same group of students the physicians cared for 86 of the preventive visits and the nurses, for 690. There was a total of 1426 therapeutic visits and 776 preventive visits for the Caucasian students.

The physicians handled 29 therapeutic visits for Oriental students; the nurses handled twenty-three, and the physicians cared for five

preventive visits and the nurses cared for 34 preventive visits. The totals were 52 therapeutic visits and 39 preventive visits for this group of students.

2. Comparison of preventive visits was presented in #1, above.

3. The illness causing the most days lost was upper respiratory infection, with 250 days lost. Second was infectious hepatitis, responsible for 240 days lost. Infectious mononucleosis accounted for 138 days; gynecologic problems, 135 days; and gastro-intestinal problems, 114 days. There was a total of twenty-two complaints causing at least one day lost of the 29 types of health problems identified.

These disorders causing most absenteeism differed slightly for the Oriental students. They lost the most days because of communicable diseases, with gastro-intestinal problems and upper respiratory infections second and third.

4. Of the 2202 total visits made to the health service by all students, 84 of them recorded a time lag between onset of the problem and reporting of it to the health service. It is not known if this is because there usually was not a lag, or if it simply was not stated or recorded. Of the 84 visits, 81 were made by Caucasian students and three by Oriental students. The mean time lag for all was 8.6 days, for Oriental students alone, 6.6 days. The mode was three days for Oriental students and for all students one day; while the range for all students was 1-90 and the range for Oriental students, three to fourteen days. The medians were three for Oriental students and four for all students. The interquartile range for the total student group

was two to seven days.

5. The comparison of patterns of Oriental and Caucasian students are included in the discussions of the individual questions above. Generally some slight differences were shown, though not in all instances. With such small numbers the results can only provide interesting questions which might be followed up with a larger group.

Conclusions

1. All of the students in this study utilized the health services for their intended purposes.

2. The purposes of this study were fulfilled. It is noteworthy that the incidence of illness reaches a peak during the second year in nursing, namely the fifth, sixth, and seventh terms. The reasons for this peak are outside the scope of this study, hence lead to the first recommendation for further study.

3. The number of days lost from the program due to illness was quite low for the majority of students and would not appear to affect the educational program to a marked degree.

4. Upper respiratory infections cause not only the greatest number of health problems, but the greatest number of days lost by these students.

Recommendations for Further Study

1. Make a thorough study of the fifth, sixth, and seventh term curriculum in this selected school of nursing to attempt to identify factors that contribute to the peak incidence of illness during those terms.

2. Repeat the study combining a method of interviewing the students with regard to their attitudes about their health, health problems, and

their use of the health service,

3. Repeat the study on separate classes to see if the findings in this study appear to generalize

4. Make a similar study with a group which has graduated so the entire nursing school career could be studied

5. Relate illness patterns to age in a group with more variability of age or different age groups

6. Compare with another school to determine if the peak of incidence is reached there in Obstetrics--Pediatrics--Operating Room, as in this study.

7. Repeat the study with larger numbers of various minority groups for comparative purposes, to determine whether cultural differences have a significant influence on the health incidence problem.

8. Make a study relating student satisfaction with health services to use of those services

9. Relate students' problems, as seen by them, to their health problems, as reflected in their health records

10. Make a cost study of the services provided by the student health service.

APPENDIX A

Appendix A is made up of two parts: the dispensary sheet, which was the record of student health problems kept in the student health service, and the progress sheet which was part of the master chart which each student had for use by the clinics and hospitals.

(Please Type)

Name _____
 Maiden name _____
 Birth date _____
 Nearest relative _____
 Home address _____
 Portland address _____
 Phone _____
 Unit No. _____ Course _____

Immunization Record -- Dates:

Typhoid _____
 Diphtheria _____
 Tetanus _____
 Polio _____
 Influenza _____
 Smallpox _____
 Other _____

Mail to Student Health Service

UNIVERSITY OF OREGON MEDICAL SCHOOL - Portland 1, Oregon

TUBERCULOSIS CONTROL RECORD:

PPD intermediate (date, result)									
Chest film									
Other film									

DRUG SENSITIVITIES:

HEALTH SERVICE CLINIC VISIT RECORD:

(Date, Complaint, Treatment, Diagnosis when possible)

APPENDIX B

Appendix B presents an example of the data sheets which were used, one for each student, for recording the data from the master tally sheet so the key punch operator could read the data more readily.

APPENDIX C

Appendix C presents the entire list of reasons for which visits were made to the student health service, with the number of visits in each category and the number of days lost because of illness.

APPENDIX C

REASONS FOR VISITS TO THE STUDENT HEALTH SERVICE WITH THE NUMBER
OF VISITS MADE AND THE NUMBER OF DAYS LOST
PER REASON

Complaint	Days Lost	Visits Made
1. upper respiratory infection	250	401
2. eye problem	2	92
3. gastro-intestinal problem	44	154
4. gynecologic problem	135	181
5. orthopedic problem	10	78
6. infection	10	15
7. dermatologic problem	4	119
8. allergy	3	37
9. obstetrical visit	-	2
10. influenza	7	25
11. arthritis (rheumatoid)	-	5
12. fatigue	2	36
13. diet	-	26
14. injury	2	45
15. communicable disease (mumps, measles)	10	10
16. dental problems	2	28
17. counseling	4	49
18. minor surgery	-	9
19. pneumonia	-	2
20. asthma	-	2
21. major surgery	1	2
22. cardiovascular	-	4
23. headache	6	42
24. metabolic problem	-	14
25. infectious mononucleosis	138	12
26. neurological problem	2	9
27. infectious hepatitis	240	10
28. genito-urinary problem	8	33
29. ear, nose, throat problem	6	34
30. tuberculin skin test	-	333
31. chest x-ray	-	255
32. physical examination	-	96
33. immunization	-	134
Totals	905	2293

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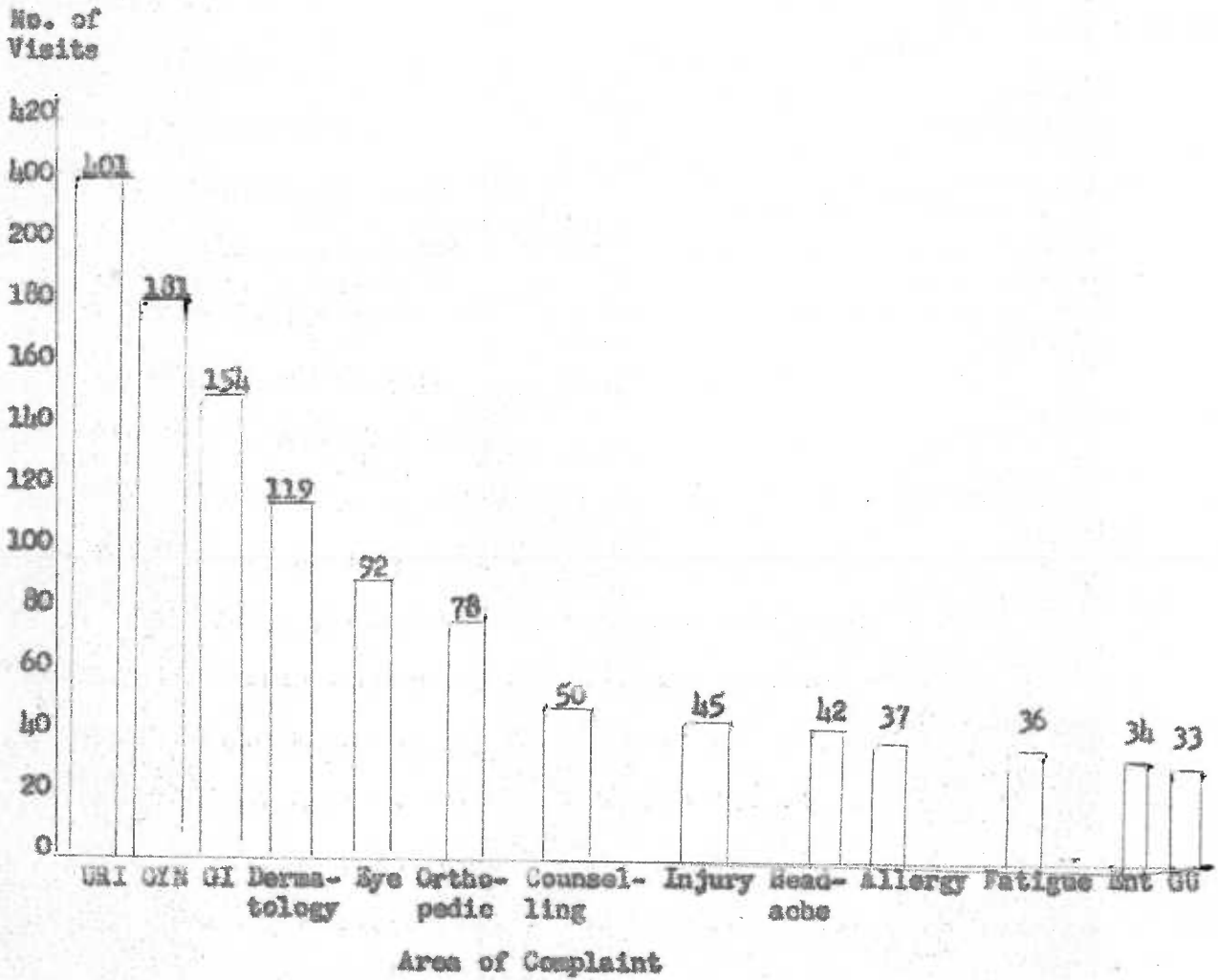


Figure 1. THIRTEEN MOST COMMON AREAS OF COMPLAINT CAUSING THERAPEUTIC VISITS TO THE STUDENT HEALTH SERVICE BY FORTY-NINE STUDENT NURSES

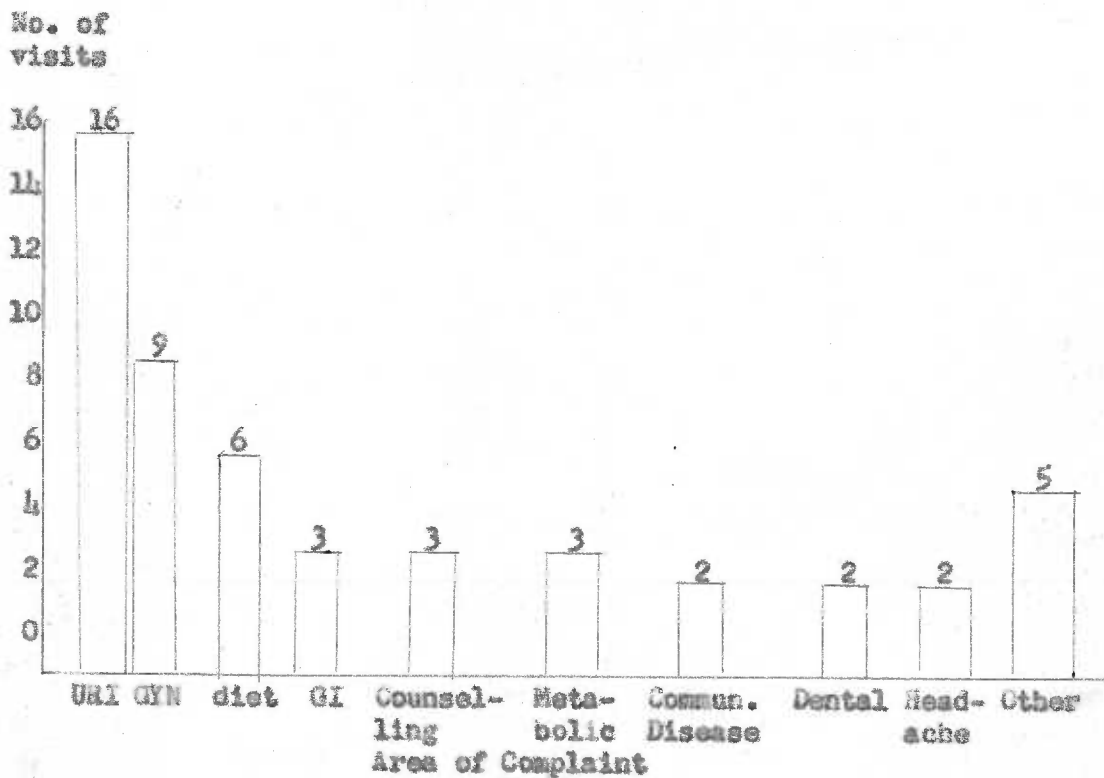


Figure 2. TEN MOST COMMON AREAS OF COMPLAINT CAUSING THERAPEUTIC VISITS TO THE STUDENT HEALTH SERVICE BY FOUR ORIENTAL STUDENT NURSES

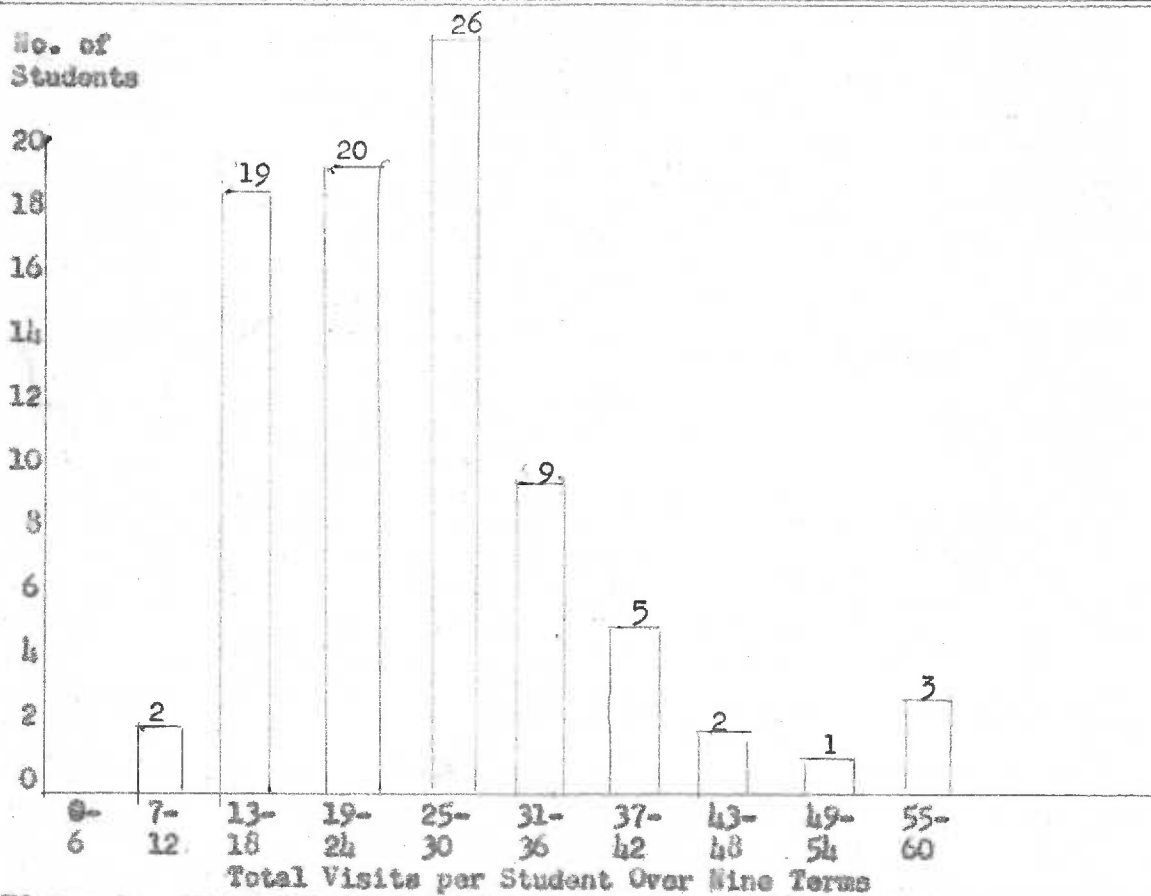


Figure 3. FREQUENCY OF THERAPEUTIC VISITS MADE TO THE STUDENT HEALTH SERVICE BY EIGHTY-NINE STUDENT NURSES

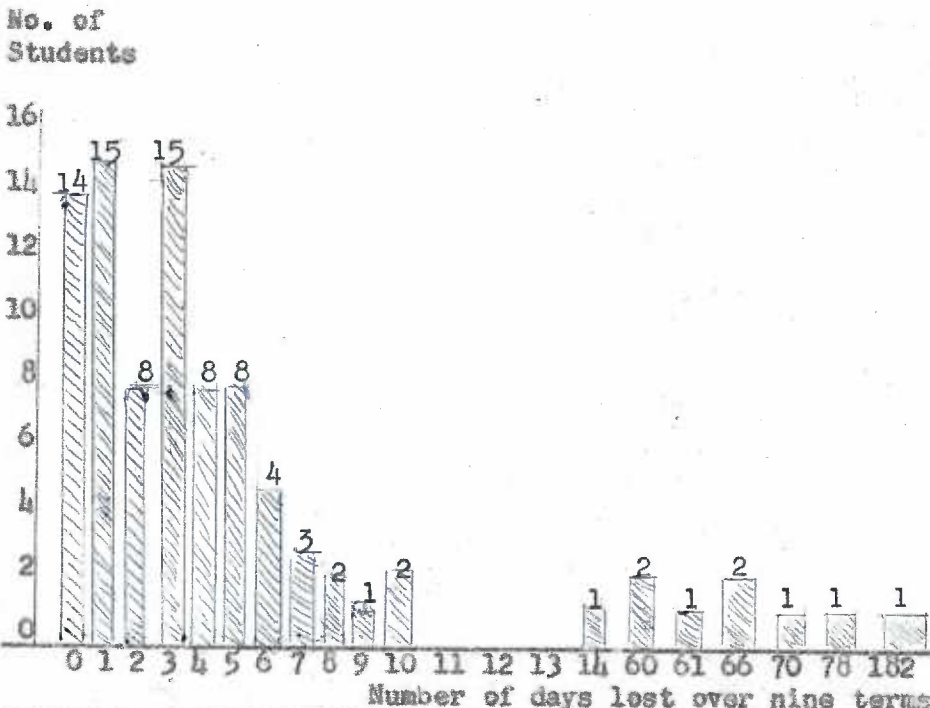


Figure 4. FREQUENCY OF DAYS LOST DUE TO ILLNESS BY EIGHTY-NINE STUDENT NURSES

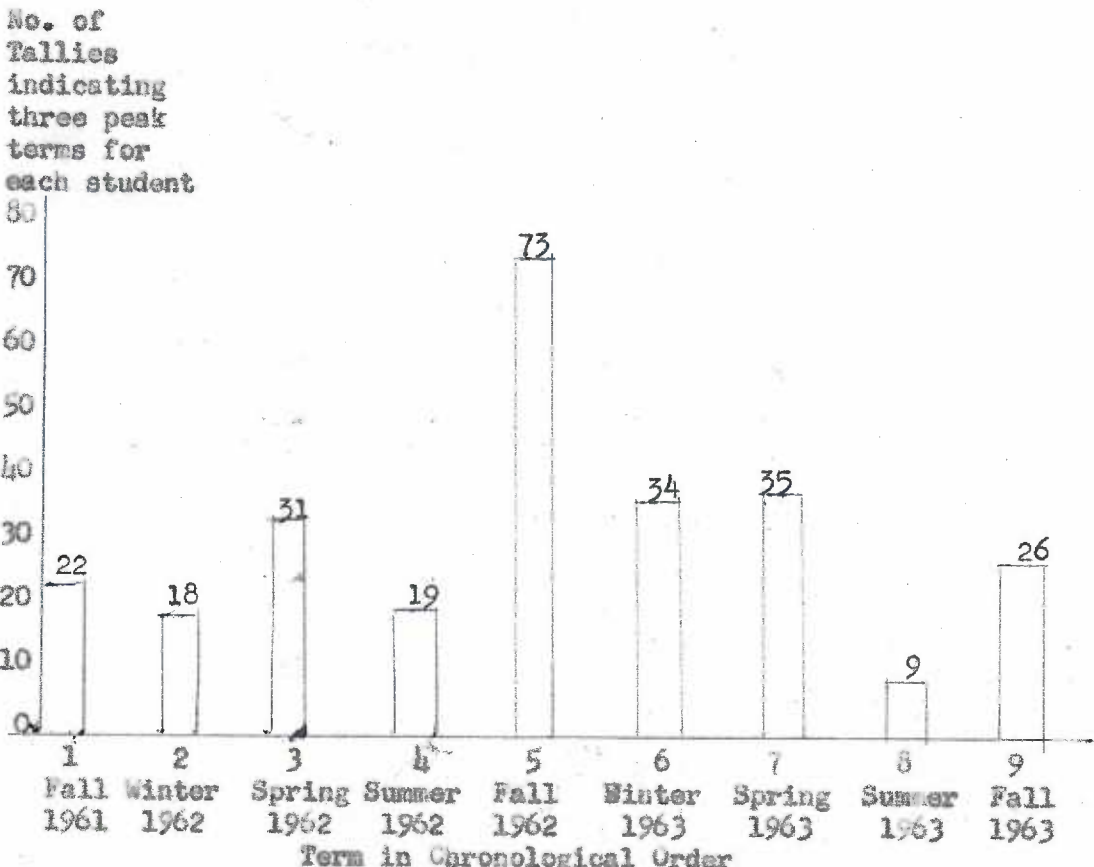


Figure 5. FREQUENCY OF THE THREE PEAKS OF HEALTH SERVICE VISITS PER TERM FOR EIGHTY-NINE STUDENT NURSES

No. of tallies
indicating three
peak rotations for
each student

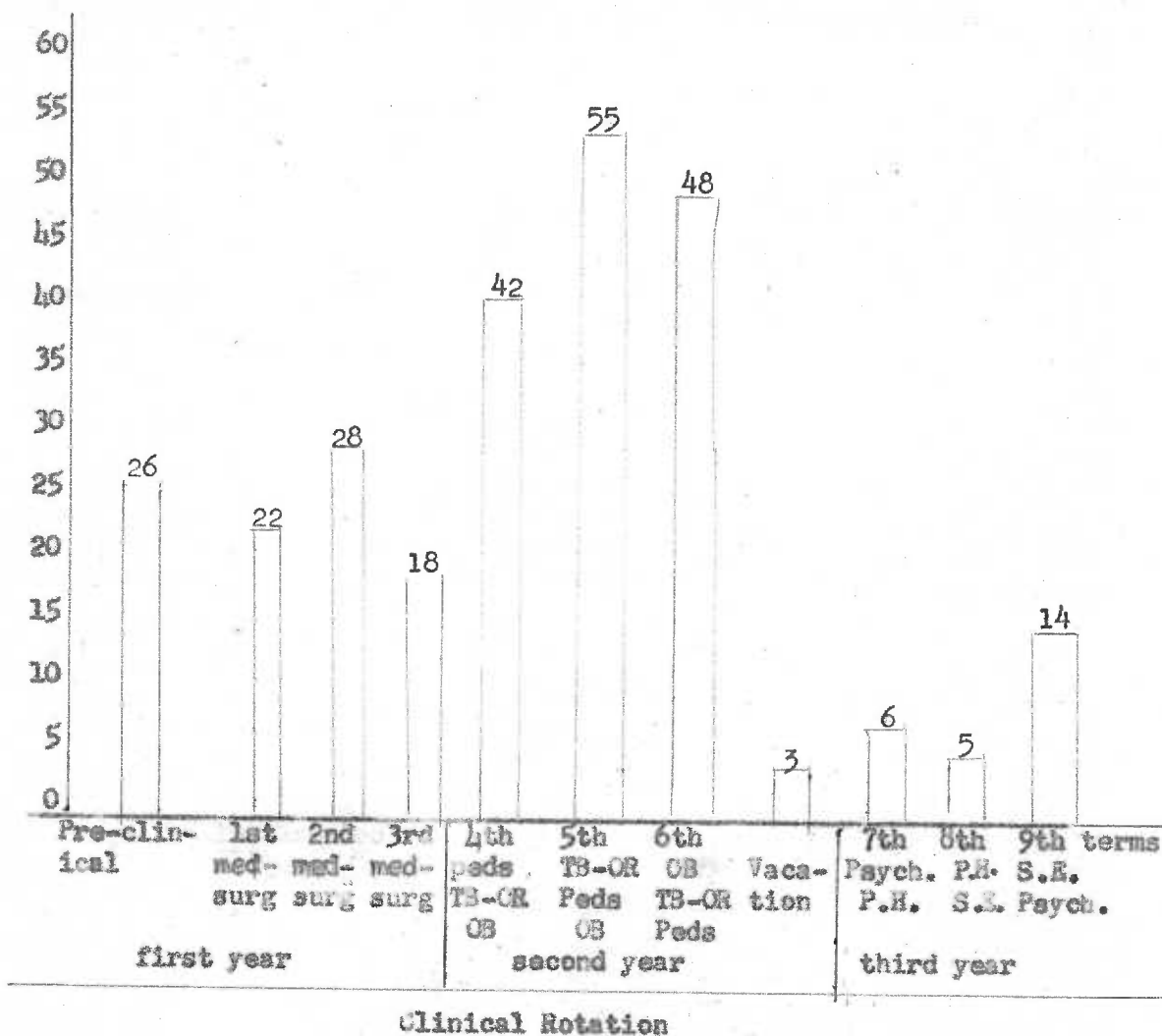


Figure 6. FREQUENCY DISTRIBUTION OF THE THREE PEAKS OF HEALTH SERVICE VISITS PER ROTATION FOR EIGHTY-NINE STUDENT NURSES.

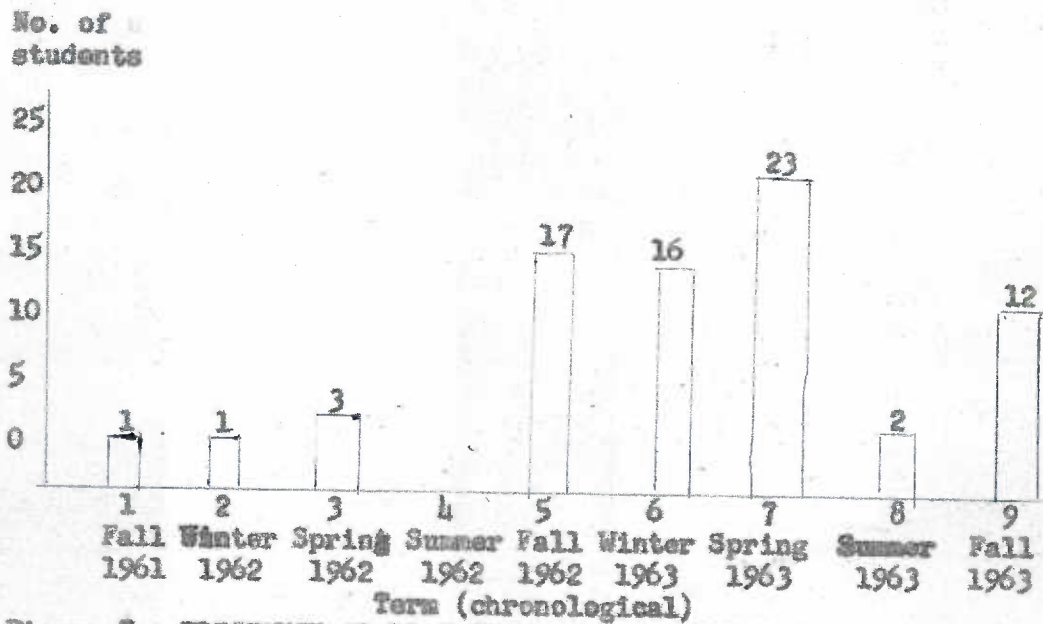


Figure 7. FREQUENCY OF PEAK TERM OF DAYS LOST DUE TO ILLNESS BY TERM FOR SEVENTY-FIVE STUDENT NURSES

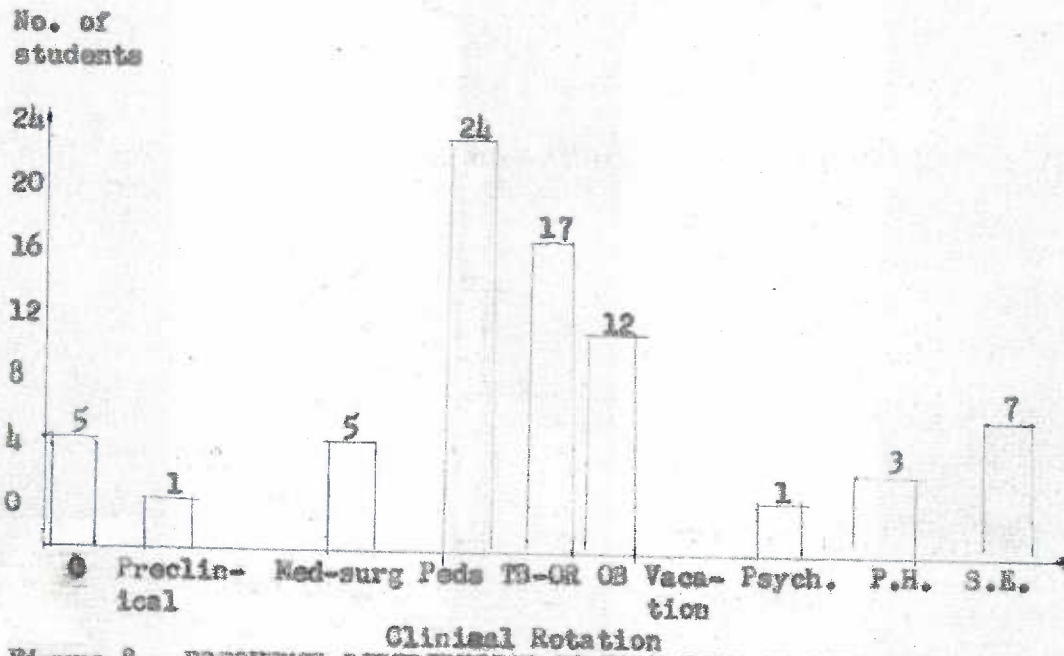


Figure 8. FREQUENCY DISTRIBUTION OF PEAK TERM OF DAYS LOST DUE TO ILLNESS BY CLINICAL ROTATION FOR SEVENTY-FIVE STUDENT NURSES

Sum total of
days lost due
to illness

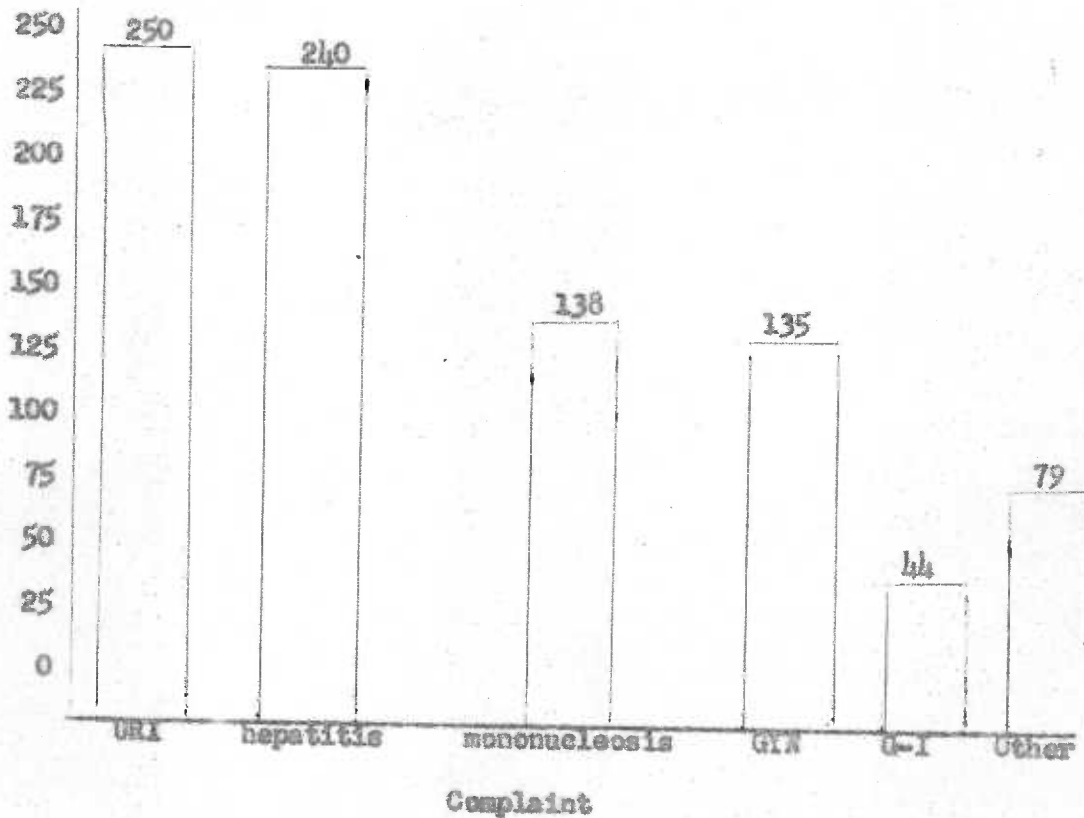


Figure 9. SUM TOTAL OF DAYS LOST FOR ILLNESS PER COMPLAINT BY SEVENTY-ONE CAUCASIAN STUDENT NURSES DURING NINE TERMS

Sum total of
Days lost due
to illness

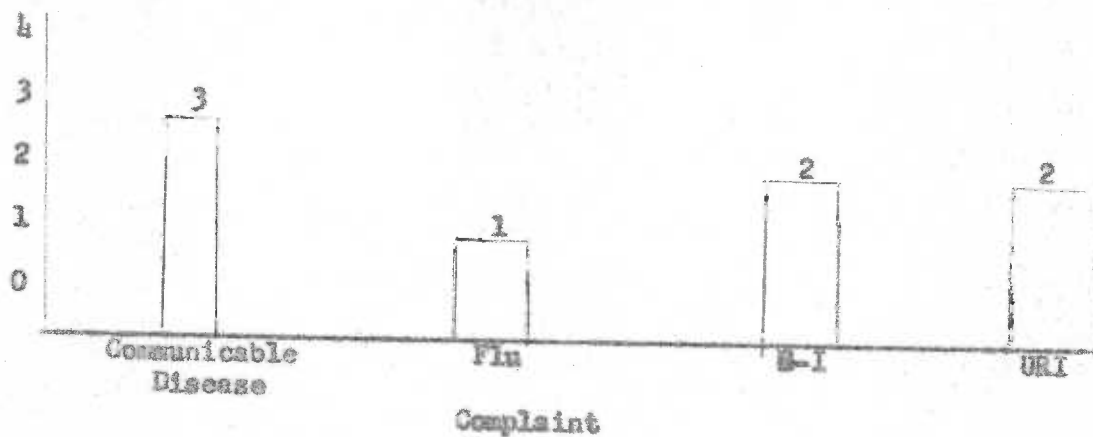


Figure 10. SUM TOTAL OF DAYS LOST PER COMPLAINT BY THREE ORIENTAL STUDENT NURSES DURING NINE TERMS