A Guide to Aid in the Development of an Understanding of the Principles of Communicable Disease

Constance Joan Drumheller

University of Colorado Boulder

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A GUIDE TO AID IN THE DEVELOPMENT OF AN UNDERSTANDING OF THE PRINCIPLES OF COMMUNICABLE DISEASE

This Thesis for the M.S. degree by Constance Joan Drumheller, R.N., B.S., St. Joseph's Department of Nursing of Sacred Heart Dominican College, 1955

Underlying the study was the assumption that the principles of communicable disease could be applied to the nursing care of all patients, therefore it was necessary to identify these principles. From the principles of communicable disease, objectives were formulated for use in the resource unit, or guide, and were stated in terms of student behavior.

All clinical content areas were represented in the guide, and were divided into three levels of experience which were presumed to represent three clinical years.
Drumheller, Constance Joan (M.S., Nursing)

Learning experiences were planned for each of the objectives, in each clinical area, in the guide and were organized to meet the criteria of continuity, sequence, and integration. Learning materials were selected for each.

Thesis directed by Assistant Professor Patricia VanderLeeest and a bibliography.

This Thesis for the M.S. degree by

Constance Joan Drumheller

has been approved for the

Department of Nursing

This abstract of about two pages is approved as to form and content. It was believed that such a study would present one way of dealing with the current problem of inadequate learning experiences in the area of communicable disease in nursing care of all patients, therefore it was necessary to identify these principles. From the principles of communicable disease, objectives were formulated for use in the resource unit, or guide, and were stated in terms of student behavior.

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Drumheller, Constance Joan (M. S., Nursing)

A Guide to Aid in the Development of an Understanding of the Principles of Communicable Disease

Thesis directed by Assistant Professor Patricia VanderLeest

The purposes of the study were to develop a guide which would provide the nursing instructor with a list of materials from which to select learning experiences that would aid the nursing student to develop an understanding of the principles of communicable disease, and to illustrate how these learning experiences could be organized. It was believed that such a study would present one way of dealing with the current problem of inadequate learning experiences in the area of communicable disease in nursing curriculums.

Underlying the study was the assumption that the principles of communicable disease could be applied to the nursing care of all patients, therefore it was necessary to identify these principles. From the principles of communicable disease, objectives were formulated for use in the resource unit, or guide, and were stated in terms of student behavior.

All clinical content areas were represented in the guide, and were divided into three levels of experience which were presumed to represent three clinical years.
Learning experiences were planned for each of the objectives, in each clinical area, in the guide and were organized to meet the criteria of continuity, sequence, and integration. Teaching materials were selected for each learning experience, methods of evaluation were suggested, and a bibliography was compiled for the guide.

It was recommended that the guide be used and evaluated by nursing instructors, and that a follow-up study be made to determine the usefulness of the guide.

This abstract of about 240 words is approved as to form and content. I recommend its publication.

Signed  

Instructor in charge of dissertation

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The count, encouragement, and patience acknowledged.
The counsel, encouragement, and patience of the Thesis Committee is gratefully acknowledged.
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Man has undoubtedly been subjected to illness since the beginning of time, and certainly long before recorded history mentioned such events as outbreaks and epidemics. Diseases which affected large numbers of people were recorded and described many generations prior to the time bound recourses to the present care administered by persons of Christ, and these records indicated that many of the widespread illnesses were communicable diseases.

The approach to the treatment of communicable diseases depended upon the prevailing concept of the nature of illness—ideas which ranged from a belief that evil spirits caused the disease to the era during which disease was regarded as punishment from an angry God. Each of these phases included a particular treatment for communicable diseases: the evil spirits were coaxed, or chased, from the sick person or the wrath of God was appeased by repentance.

Since the recognition and acceptance of the germ theory, presented by Pasteur almost one hundred years ago, tremendous advances have been made in the conquest of communicable diseases. From mere observation and records of the number of patients affected the availability of clinical


\[2\text{Ibid., p. 3.}\]
CHAPTER I

INTRODUCTION

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Since the recognition and acceptance of the germ theory, presented by Pasteur almost one hundred years ago, tremendous advances have been made in the conquest of communicable diseases. From mere observation and recording, the management of communicable diseases has progressed to the current approach of determining the etiology, diagnosis, and treating, with emphasis on prevention and control. The development of vaccines and sera, with increasing emphasis on immunology, has been another major factor in the decline of communicable diseases, or social ill health.

The nursing care of the patient with communicable diseases evolved from that care given by workhouse recruits to the present care administered by prepared nurses. Today the nursing care of the patient who has a communicable disease is based on sound principles, with definite objectives, and is, for the most part, carried out by personnel who have at least been introduced to a modern concept of communicable disease.


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Continued scientific and medical research, consistent education of the public, and frequent, critical evaluation of nursing curricula must be maintained to promulgate further advances in the prevention and treatment of communicable diseases, and the nursing care of patients with communicable diseases could be applied to the nursing care of all patients. The decline in incidence of communicable diseases has been accompanied by a marked decrease in the number of patients with these conditions admitted to hospitals. New York: The Macmillan Company, 1950), p. 134. This, of course, has affected the availability of clinical
experiences in this area for nursing students. Changing concepts of communicable disease have also influenced revisions in methods of teaching in schools of nursing. The nurse educator is confronted with the problem of correlating theory and practice in an area which no longer lends itself easily to this type of teaching. As Muse wrote, "... the only way to perfect a skill (whether it is motor, technical, intellectual, managerial, or social) is by adequate direct experience ..."\textsuperscript{3} Vicarious experience alone will not suffice--nursing students must have some opportunities to care for patients with communicable diseases, or opportunities to practice the application of the principles of communicable disease to the nursing care of any patient.

Statement of the Problem

The problem of this study was to develop a guide, for the nursing instructor, that presented a list of materials from which learning experiences could be selected to help the basic nursing student develop an understanding of the principles of communicable disease, so that these principles could be applied to the nursing care of all patients.

Purposes of the Study

The purposes of the study were: (1) to develop a guide which would provide the nursing instructor with a list of materials from which to select learning experiences to aid the nursing student develop an understanding of the principles of communicable disease, and (2) to illustrate how these learning experiences could be organized for sequence, continuity, and integration.

Need for the Study

The marked advancements made in the area of prevention and control have resulted in a decline in the incidence and mortality rates of communicable diseases, particularly in the United States. The present incidence of communicable diseases in this country is 1,300,000 cases per year, with about 130,000 deaths yearly. These figures represent a very definite decrease, even from 1950 when over 1,700,000 cases were reported. This, of course, does not include the countless cases of communicable diseases which are never reported, nor does it take into account the millions

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5 Mary Elizabeth Pillsbury and Elizabeth Johanna Sachs, Nursing Care of Communicable Diseases (Philadelphia: J. B. Lippincott Company, 1952), Preface.
of disabilities and chronic conditions which have been produced by such diseases. The fact that one of every ten deaths in this country today is caused by a communicable disease serves as a reminder that this health problem has not been completely conquered, nor does it seem likely that it will ever be.

As the concepts of communicable disease changed and the incidence reduced, many schools of nursing found their approach to this area of nursing to be unrealistic and impractical. There are schools of nursing which have a course titled Communicable Disease Nursing, lasting from two to eight weeks, in which many hours are devoted to memorizing certain facts about diseases which the student in all probability will never have an opportunity to see. In other schools, attempts have been made to integrate communicable disease nursing throughout the curriculum, while still emphasizing the memorization of such things as incubation periods and symptoms. Some schools have achieved partial satisfaction in placing the study of communicable diseases in Pediatric Nursing or in Public Health Nursing. The problem of providing adequate learning experiences, however, still exists almost universally.

Relative to this problem, Carroll wrote,

It seems apparent then that more consideration must be given to reviewing nursing school curriculums; . . . to greater utilization of opportunities for providing
experience in the field . . .

The greater utilization of opportunities is of extreme significance. There have been periodic changes in basic nursing curricula to meet prevailing needs and, while some have been partially satisfactory others have been frankly unrealistic and inadequate. Although it was not a purpose of this study to explore the factors involved in curriculum shortcomings, some facts bear stating. Revisions in curricula cannot be based upon the assumption that communicable disease no longer belongs in the nursing curricula, nor can it be taken for granted that classroom theory is ever a substitute for actual practice. The assumption that communicable diseases will be with us forever appears to be a valid one.

In spite of the decline of communicable diseases, and subsequent hospital admissions of patients with communicable diseases, it is important to remember that certain principles still apply—principles that should be clearly defined and understood. If, then, the principles of communicable disease do still apply, the nursing curriculum should provide opportunity for the nursing student to develop an understanding of those principles and their practical application.

The medical and nursing literature for 1949-1959 indicated an acknowledgement of the need for study of ways and means of providing more adequate learning experiences in the area of communicable disease. Much has been written about the need for study but little has been done, which, without doubt, is a contributory factor in the persistence of the problem.

Definition of Terms

For the purposes of this study the following definitions were used:

Communicable disease. "An illness due to an infectious agent or its toxic products which is transmitted directly or indirectly to a well person from an infected person or animal, or through the agency of an intermediate animal host, vector, or the inanimate environment."  

Principles of communicable disease. These are the fundamental basic truths, or facts, which relate to the nature of communicable disease. (A detailed definition of these principles appears in Chapter II).

Learning experience. An interaction between the learner and his environment which is meaningful and which results in a change in behavior.

Scope and Limitations

The guide developed in this study was designed to present the basic nursing instructor with a list of materials from which to select and organize learning experiences. Such learning experiences should provide the nursing student with opportunities to develop the understandings necessary in the application of the principles of communicable disease to the nursing care of all patients.

The guide was developed in such a way that it could be used in any basic nursing curriculum that operated within the framework of a democratic philosophy of education. The organization of the resource unit illustrated that learning experiences could be planned to meet the criteria of sequence, continuity, and integration as defined by Tyler.®

In order to demonstrate that learning experiences could be provided for the application of the principles of communicable disease, all clinical areas were represented. These clinical content areas were grouped, rather arbitrarily, into three levels.

The limitations of the study were: (1) not all the possible learning experiences were included in the clinical content areas, and (2) the usefulness of the resource unit

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was not tested in an actual teaching situation. Use of the resource unit by instructors in a basic nursing program would have served as a means of evaluating the worth of the unit.

Methodology

A resource unit was developed in this study because it was believed that such a guide would present learning experiences which could be used in dealing with the current problem surrounding communicable disease in the nursing curriculum. The development of the resource unit was guided by a review of the literature of nursing and allied fields, which indicated the need for such a study. From this survey of literature, the principles of communicable disease were identified, and from these principles objectives were formulated to indicate the desired behavior.

After a tentative list of objectives was completed, each one was screened through a psychology of learning and philosophy of education developed in another study. In this way, final objectives were obtained which were designed to be in harmony with the philosophy of education and psychology of learning mentioned above. The goals of this philosophy were: (1) the development of nursing

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students into thinking, self-directed, interested, and in-
formed professional nurses, (2) student participation to
develop the individual's potentiality, practicality, and
idealism in meeting social and professional needs, and re-
sponsibility for helping to preserve, maintain, and pro-
mote community health services, and (3) the preparation of
graduates who should be able to function in any beginning
position in professional nursing.

The final list of objectives guided the selection
of the learning experiences in the resource unit. The
learning experiences were organized in such a way as to ef-
flect sequence, continuity, and integration. Teaching ma-
terials were selected, suggestions were included for pos-
sible techniques of evaluation, and a bibliography was com-
piled.

The form of the unit in this study was adapted from
that proposed by Draper, which called for two parallel
columns--one for suggested learning experiences and the
other for teaching materials. In this study, two hori-
zontal columns were added--one for the objective and the
other for the clinical area. The general form was as fol-
lows:

10 Edgar M. Draper and Gordon Gardner, "How to Con-
struct a Resource Unit," Clearing House, 26:267-270,
January, 1952.
OBJECTIVE:

CLINICAL
AREA:

LEARNING EXPERIENCE   TEACHING MATERIALS

Preview of the Remainder of the Study

Chapter II presents findings from the review of literature relative to the problem of this study. The steps in the development of the resource unit are described and explained in detail, and the final objectives for the resource unit are listed in Chapter III. Chapter IV contains the completed resource unit, and Chapter V contains a summary of the study with the recommendations made for further investigation.
A basic assumption of this study was that the principles of communicable disease, when known and understood, could be applied by the nursing student to the nursing care of all patients. Another assumption was that the application of these principles, coupled with the actual care of patients with communicable diseases when possible, could provide the basic nursing student with opportunities in which to develop an understanding of the principles of communicable disease.

The literature of nursing, medicine, and allied disciplines was studied to identify the principles of communicable disease and to discover current concepts and opinions relating to the problem of communicable disease in the basic nursing curriculum.

The American Journal of Nursing, Nursing Outlook, nursing texts, medical texts, public health texts, and the Journal of the American Medical Association were reviewed for the period 1949-1959.

A similar survey of literature was carried out for
the purpose of collecting information relative to resource units which would contribute to a better understanding of their development and implementation. Educational texts and journals and nursing literature were reviewed for this purpose.

The Evolution of Resource Units

With the evolution of the modern concepts of education came the realization that better methods of planning learning experiences must be devised. As a result, serious attention was given to discovering some way in which more comprehensive planning could be accomplished.

The resource unit was first introduced to literature as a "source book" for the purpose of aiding teachers to plan and execute their work. Pioneer efforts to develop resource units were made in 1938 at the Rocky Mountain Workshop of the Commission on the Relation of School and College of the Progressive Education Association. Prior to this, so-called "source units" had enjoyed rather scattered approval and utilization. The reluctance to develop and use these source units was due, in part, to the confusion among teachers and administrators as to what the unit actually was. The less flexible were loathe to forego the traditional subject-matter type of instruction for the new concept of experience-unit planning.

Many farsighted educators, however, did grasp the
implications and potential of the source unit—which soon came to be known as the resource unit. As early as 1939, Biddick, in recognition of the worth of the resource unit, wrote:

A source unit is a record of exploration made by a teacher or a group of teachers of the needs of pupils within some broad area of living, of ways in which it is believed these needs might be appropriately met, and of ways for determining whether or not they have been met.¹

This description of the resource unit is essentially the same as that of later definitions. Included in Biddick's definition are: (1) cooperative planning, (2) study of student needs, (3) experiences planned to meet the needs, and (4) evaluation.

Another group of educators who were among early supporters of the resource unit were Jones, Grizzell, and Grinstead. In writing of resource units and their construction, these authors said,

after the desired goal has been set up and accepted, the next thing of importance is the selection of the activities or experiences that will, if engaged in, result in the attainment of this desired goal.²

Here again the initial steps are outlined: formulation of objectives and planned learning experiences in which the


objectives are attained.

For some time, in the early days of resource units, there remained a degree of confusion and skepticism—even resistance—in the minds of many educators. Many educators continued, as some do today, to adhere to the conventional subject-matter unit. Others began a sincere investigation of the resource unit, the experience unit, in an attempt to improve the curriculum and provide increased motivation and satisfaction within the student.

In 1941, at the insistence of a group of educators, the National Association of Secondary-School Principals appointed a committee, the Committee on Education for Democratic Citizenship, to study intensively the resource unit. One of the most basic, yet most helpful, actions of this committee was to define a resource unit. According to the committee, the unit included: (1) an analysis of the problem, (2) suggestions for additional reading, (3) teaching aims in terms of behavior, (4) pupil activities and teaching procedures, and (5) a guide to evaluation. 3 This definition of the content provided the exactness needed for better understanding of the resource unit.

The unit was still resisted by some to whom teaching aims—or objectives—in terms of behavior were too

dissimilar to their traditional methods of teaching. Gradually, however, the true worth of the resource unit became more generally recognized and many schools set about compiling these units for their own use.

Further study of the resource unit resulted in more refinements and increased use by educators. By 1944, the resource unit was much better understood and had met with a goodly amount of approval. In a work dealing with learning, and learning activities, Burton said that resource units are extensive collections of possible problems, materials, and experiences which can be organized by the teacher. He also said:

The contents are so extensive and varied that a teacher cannot possibly use the material as the basis for day-to-day teaching. She will use it instead as a handbook of guidance and assistance, as a reservoir of ideas and suggestions, and as a source of many teaching plans for individual units.4

This statement seems to make it clear that the resource unit is to be used as a guide rather than as a daily lesson plan. The richness and variety of the learning experiences in the unit can help the teacher observe the principles of learning in her selection and organization of the experiences. Another aspect of the resource unit as implied by Burton's statement is that it can be used as a guide in the development of many individual units. This

broadened view of the resource unit opened countless possibilities for its use.

Another favorable characteristic of the resource unit is its facility for promoting teacher-student planning. This sort of cooperation has produced many useful units which have as their chief value the planning of learning experiences based directly on student needs and interests. In reference to this aspect of resource units, Miel described the unit as "a wealth of suggestions for possible use in guiding the study of a group of learners along some line of general interest and value." This is significant because, as implied earlier, the development of a resource unit is based on a study of student needs and interests, which is an important factor in motivation and learning.

Alberty supported Miel's statement when he said, "the resource unit is built upon the assumption that teachers and students ought to plan cooperatively for the development and evaluation of learning units." The construction and use of resource units was given a great deal of encouragement by Alberty, whose definition of the unit is:


... a systematic and comprehensive survey, analysis, and organization of the possible resources (e.g., problems, issues, activities, bibliographies, etc.) which a teacher might utilize in planning, developing, and evaluating a learning unit.\(^7\)

Again, the emphasis on comprehensiveness and organization is readily apparent.

It would seem that one of the most important and significant aspects of the resource unit is the assistance it offers the teacher in selecting and organizing learning experiences. Indeed, the typical resource unit runs the gamut from goal-setting to evaluation—a compact guide for any teacher. Alberty made the direction of the resource unit clear when he wrote,

\[\ldots\text{ the units have a two-fold purpose: (1) to provide the teacher with authentic and up-to-date information on a given unit, and (2) to suggest appropriate procedures for teaching and evaluating the unit.}\] \(^8\)

Of value to all educators were Alberty's criteria for the construction of resource units. Included in these was the advice that resource units explore community resources that may be utilized in developing the learning unit. Another criterion was that the student activities suggested in the unit be based upon sound principles of learning. Still another recommended that the resource unit

\(^7\text{Ibid., p. 250.}\)
\(^8\text{Ibid., pp. 250-251.}\)
be based upon a definite educational philosophy. These are all obviously important and should be observed in the development of any resource unit. With these guides to constructing resource units it can be seen that the proper use of the units can result in a much more satisfactory teaching-learning process involving many aspects of a given problem (or goal) and resulting in many learning outcomes.

In a study conducted to determine the results of using resource units, Klohr was able to draw some significant conclusions. Some of these were: (1) resource units may be used to enrich and vitalize teaching in subject-matter fields as well as to guide the development of learning experiences that cut across traditional subject lines, (2) a series of resource units may serve effectively as a structure outlining the scope of a core curriculum or a general education or common learnings area of the curriculum, and (3) the most effective resource units tend to be those developed cooperatively by groups of teachers and administrators for their own use in their own schools.  

Klohr's conclusions substantiate the fact that resource units can be of value in the implementation of a core curriculum.

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9 Ibid., pp. 273-276.
Other findings have aided in the identification of the resource unit as a major tool in the attainment of the goals of democratic education. As Krug wrote, the resource unit is designed to be used by the teacher only—it is her guide to pre-planning in both the skill and the content areas. He also said,

Good use of resource units therefore provides a means of introducing flexibility and strength into the curriculum development program as a whole and a means of motivating teaching practices consistent with the principles of education professed.

One of the leading authorities on the development and use of resource units, Draper, wrote that they are characterized by comprehensiveness, flexibility, correlation, and community resources. The resource unit, in which learning experiences, teaching materials, and procedures are organized around a problem to be solved, helps avoid departmentalization, isolation, and dissatisfaction in the learning unit. This, then, is the real value of the resource unit—its facility for promoting integration by the student.

As for form, the resource unit may vary considerably. Draper used two vertical columns—one for learning

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experiences and one for teaching materials, with the problem or objectives placed above horizontally.\textsuperscript{14} This form has been used as it is, and with variations, in units from various fields.

Methods of evaluation are applied to the value of the learning experiences and not the resource unit itself. These methods include observation, testing, anecdotal records, and the establishment of definite criteria against which outcomes can be measured.

A resource unit should be constructed in such a way that it meets the needs of all levels and illustrates the connection between the educational philosophy and the area covered by the unit. It then can, and should be, implemented to the advantage of student and teacher alike.

Although various forms were suggested for the resource unit, it was generally agreed that it includes:

1. a title, 2. the overall aims and values and the specific unit objectives, 3. suggested learning activities, 4. suggested techniques and tools of evaluation, and 5. a bibliography.\textsuperscript{15}

Communicable Disease in the Nursing Curriculum

Some of the problems which have arisen as a result

\textsuperscript{14}\textit{Ibid.}, p. 269.

of the decline in communicable diseases were introduced in Chapter I. The aspect with which this study was most concerned is the effect of the decrease on basic nursing curriculums, with particular reference to the availability of learning experiences in the area of communicable disease.

It was stated earlier that the principles of communicable disease could be applied to the nursing care of any patient, and much was found in the literature to support this. Some background information was presented here, before considering communicable disease principles, to give an overall picture of the current problem and the attempts which have been made to cope with it.

It was found that some schools of nursing still have a course titled Communicable Disease Nursing, while others have partially or completely eliminated this as a specialty. It would seem that, in view of the current deficiency in this area, to retain the care of patients with communicable disease as a specialty would be both unrealistic and impractical—in some cases even impossible. The implication, then, is that the nursing of communicable diseases be regarded as no different than the nursing care of any other condition. In regard to this, there are some who still maintain the opposite: "The nursing of communicable diseases is so different in many aspects from general
nursing that it is justifiable to call it a specialty." 16 What these authors wrote was true when experience in the nursing care of patients with communicable diseases was readily available. With the marked decrease in hospital patients who have a communicable disease it is obvious that experience in this area is limited—even a specialist needs material with which to work. Greenberg and Matz, among many others, feel that "nursing in communicable disease is essentially the same as nursing in other diseases." 17 This latter appears to be a more appropriate statement than the one which describes the care of patients with communicable diseases as a nursing specialty.

With divergent views on what should be in the nursing curriculum relative to communicable disease it is not surprising to see the existence of so many problems. A recent editorial in a nursing publication, written in regard to a specific communicable disease, asked this question: "What about nursing? Are the courses in the curriculum of our schools adequate?" 18 Indications are that they are not.


18 "Why Venereal Disease in Out of Control," Nursing Outlook, June, 1959, p. 329.
The early National League for Nursing Education recommendations regarding communicable disease in the nursing curriculum considered three months of practice necessary, which at that time was realistic. Later, the NLNE revised this and recommended six weeks of clinical practice, preferably in the second year. With the passage of time and the changing concepts of communicable disease, the time devoted to this area has varied considerably.

In one school of nursing, communicable disease was integrated throughout the curriculum in addition to an eight-week course in communicable diseases. This was an attempt to overcome the lack of clinical material. The retention of a special course in communicable disease nursing would, currently, present even greater problems because the shortage of patients is even more marked.

In 1949, the Minneapolis General Hospital School of Nursing realized that a separate teaching program in communicable disease was no longer practicable. Their efforts to cope with the problem involved combining

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Communicable Disease Nursing and Pediatric Nursing—a sixteen-week experience. Although this arrangement proved more satisfactory, it appears doubtful that, today, adequate experiences are to be found even in the Pediatric area. As Dunn wrote,

"... communicable disease must be carefully woven into all activities so it will eventually be an integral part of the thinking and practice of each member of the school of nursing."

Several attempts, as recorded in the literature, have been made to replace experience in the care of patients with communicable diseases with experience in Tuberculosis Nursing. While tuberculosis is still an important communicable disease, it alone cannot replace all the other important conditions which are different in varying degrees and call for adaptations in nursing care. Certainly tuberculosis has a definite place in the nursing curriculum, but here again the problem of diminishing hospital admissions arises—so that this area can no longer be depended upon too heavily.


As for the nursing care of patients who have tuberculosis, it too is a communicable disease and the same principles apply so that this area need not be set apart as an isolated block of experience. According to Dunn, "tuberculosis is a common respiratory disease and should not be taught as a specialty." She further indicated that communicable disease as a specialty can justly be dropped from the curriculum.

A particularly significant assertion of Dunn's is that very definite experiences in the area of communicable disease are available in obstetrics, surgical wards, psychiatry, and other clinical areas.

In summary, the current opinions regarding communicable disease in the nursing curriculum are: (1) communicable disease must remain in the curriculum, and (2) communicable disease can no longer realistically be considered a nursing specialty. The major problems, as revealed by the literature, are: (1) lack of clinical material for adequate learning experiences, and (2) inadequate methods of utilizing the materials that are available.

26 Ibid.
27 Ibid., p. 171.
The Current Status of Communicable Disease

With the current problem of Staphylococcal infections, sporadic outbreaks of such illnesses as mosquito-borne encephalitis, full-blown epidemics such as the Asian influenza—with the possibility of new diseases and new epidemics—it can be stated that communicable diseases are still a major health problem. In addition to the above diseases, many of the older communicable diseases are still with us—the "common cold" is certainly still prevalent. In fact, the cold is an excellent example of an instance where all the principles of communicable disease can be applied. According to Bauer, "perhaps the greatest concern at the present is the viral diseases problem." The viral diseases include such conditions as pneumonia, colds, and many other illnesses.

As a warning against complacency, Schuman wrote that there is no reason to believe that cyclic occurrences of epidemics and pandemics have ceased to occur. The current problem of "hospital infections" has revealed to some degree the consequences of complacency toward communicable diseases. The indiscriminate use of drugs


(particularly antibiotics), the relaxation of techniques, and the failure to apply principles have combined with other, less important, factors to constitute a national medical problem. 30, 31

Another important aspect, which is particularly meaningful to the approach of this study, is the number of patients who have undetected communicable diseases and who are admitted to hospitals for entirely different conditions. Shetland wrote:

... the prevalence of undiagnosed cases and carriers of many diseases makes it necessary for the nurse to care for every patient in a way that lessens the possibility of the transmission of organisms from one person to another. 32

This statement makes it clear that the application of communicable disease principles to the nursing care of all patients is not only feasible but highly desirable.

Another threat has arisen with the increased incidence of such diseases as epidemic puerperal breast abscess. In an article regarding this, Carrington said,

... in recent years an appalling increase in the occurrence of puerperal breast abscess has been


31 LaVerne Thompson, "Staphylococcus Aureus," The American Journal of Nursing, August, 1958, p. 1100.

encountered in this country and abroad. These outbreaks have been of a distinctly epidemic nature.\textsuperscript{33}

Tuberculosis is not the menace it once was, but false security must be avoided because:

\ldots the best statistical estimate as to prevalence of tuberculosis reactors (those who react to the Tuberculin Test) in the United States is that about one-third of our population, roughly fifty million people, are reactors. In other words, about fifty million people harbor virulent tubercle bacilli which probably will produce active disease at the rate of probably well over 100 new active cases per 100,000 reactors per year.\textsuperscript{34}

It is apparent, then, from these and similar statements, that communicable disease is still very much a problem and one which is likely to persist. The current decline in the incidence of communicable diseases is not a valid criterion for eliminating this area from nursing curriculums.

Understanding Communicable Disease Principles

Prior to the identification of the principles of communicable disease, some pertinent opinions regarding the importance of principles as guides to action were considered. Tyler wrote that a distinguishing characteristic

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of a profession is the basing of its techniques of operation upon principles rather than rule-of-thumb procedures.

For an occupation to be a profession it should involve complex tasks which are performed by artistic application of major principles and concepts rather than by routine operations or skills.35

The importance of understanding communicable disease, and the principles of communicable disease, was given emphasis in Lynch's statement:

The hospital and the Public Health fields, with their unlimited range of activity in social hygiene, parent education and guidance, school, industrial, and other forms of preventive nursing offer many opportunities to the nurse. In each of these fields an understanding of communicable disease is essential.36

Thus, it seems that, irrespective of the field the nurse chooses to work in, she will need a knowledge and understanding of communicable disease— and particularly the principles. It has been deemed essential that the beginning Public Health Nurse know the basic facts and concepts relative to communicable disease,37 and it is the responsibility of the basic nursing curriculum to provide this knowledge.


It is important that the Public Health Nurse, as well as all other nurses, have an understanding of communicable disease. Boeke wrote: "the nurse shares the responsibility for disseminating knowledge about communicable diseases with other members of the medical team." This implies that the nurse has a teaching role and this role is dependent upon sufficient knowledge and understanding. The health-teaching role of the nurse is one upon which much of the success of prevention and control of communicable disease is contingent.

The nurse utilizes her knowledge of communicable disease principles in her participation in the improvement of procedures and techniques in the hospital, the agency, the home, the school, and the community. A study made in 1949 indicated that many procedures in the hospital and Public Health fields, in regard to the care of patients with communicable diseases, were archaic. The study also demonstrated a need for adequate and simple facilities for the hospitalization of communicable diseases in general hospitals. In situations such as this the nurse could be an important contributor—if she has the necessary

38 Boeke, op. cit., p. 374.

understandings and skills.

The principles of communicable disease are so closely related to the principles of immunology, microbiology, ecology, and epidemiology that they cannot be isolated from one another. It has been said that, knowingly or not, every nurse is an epidemiologist, for as she takes a patient's admission history, observes him and records and reports her observations, she is sharing in the research and progress in the conquest of disease of all kinds. This implies that a good understanding of the principles of communicable disease equips the nurse to function intelligently in those areas which are, in fact, part of communicable disease.

The changing role of the nurse, in relation to the changing picture of communicable disease, has been aptly described by Carroll:

When communicable diseases headed the list of major causes of morbidity and mortality in the United States, the nurse's chief responsibility was to provide bedside nursing care. The nurse was primarily concerned with knowing the cause of the clinical illness, how to perform the necessary treatment procedures, and how to develop and use techniques which would protect the patient and prevent the spread of infection.

Carroll further stated that if the nurse is to be effective

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in communicable disease control activities, she must shift her emphasis from the treatment aspects to the ecologic aspects of the problems which arise in a community. To do this, the nurse needs to extend her knowledge to include an understanding of the multiple causes and processes of communicable diseases, and of epidemiologic principles and methods. This admonition to put less emphasis on the "whats" and more on the "whys" is encouraging. The nurse's ability to understand the complete picture of communicable diseases will be a giant step toward true integration—that is, student integration—of facts and concepts.

In an article in which students' abilities and understandings regarding the application of principles learned in microbiology were discussed, Thompson said:

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. . . too much emphasis is placed on specific, detailed information, too little emphasis is placed on the acquiring of skills, and the material appears (to the student) to be unrelated to her interests and needs. If the understanding of principles is stressed, the memorization of specific detailed information—such as the exact incubation period of each communicable disease—will become less important and the desired understandings will be more easily attained. Learning experiences based
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42 Ibid.

43 LaVerne Thompson, "Microbiology—More Than a Study of Microorganisms," Nursing Outlook, June, 1959, p. 331.
on student needs as well as patient needs are more realistic and offer more possibilities than those selected merely for the convenience of the instructor.

There can be no doubt as to the need for experience in the care of patients with communicable diseases, when possible. Likewise, as has been shown here, there is no doubt that learning experiences which give the nursing student opportunity to apply the principles of communicable disease are necessary and attainable.

In writing of the importance of the principles of immunology and bacteriology, Leavell and Thompson said, "the nurse who is to function effectively must turn to science for the basic principles needed." They also said, "each successive experience of the nursing curriculum should provide experience in relating action to principles and objectives."

One of the most relevant statements was made by Morse, Frobisher, and Sommermeyer. They said that the nurse must learn to apply the principles relative to communicable disease to the daily care of patients.

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Principles of Communicable Disease

Although much has been written about communicable disease principles, little was found in the literature which defined, one by one, these principles. It was necessary, therefore, to identify the principles through the study of several sources.

Anderson and Arnstein wrote that infection represents the invasion of the body by some other form of life. Without the growth and multiplication of this invader, infectious disease cannot develop.47

According to Greenberg and Matz, "in the modern concept, communicable disease is a result of the interaction of three factors—the agent, the host, and the environment."48 These authors also emphasized the importance of understanding how pathogenic organisms enter and leave the body.49

Another principle of communicable disease was referred to by Bower, Pilant, and Craft when they stressed the necessity of knowing how long a person may transmit a

49 Ibid., p. 85.
communicable disease. In other words, it is necessary to understand that a communicable disease can be spread by a person for a certain period of time only.

The foregoing were examples of the type of information that was found in the literature. As mentioned before, the principles of communicable disease are derived from the fields of microbiology, immunology, epidemiology, and ecology. Principles, according to the definition given in Chapter I, are basic truths, or facts. The principles of communicable disease, then, are those facts relative to the nature of communicable disease.

These principles of communicable disease were identified through the review of literature:

The body must be invaded by a disease-producing organism before a communicable disease can occur. The ways in which organisms enter the body have been classified as follows:

Respiratory group—the infective agent is carried to the respiratory tract by droplets or by other nose and throat discharges.

Alimentary group—the infective agent leaves the body through urine, feces, and other discharges and produces disease through the alimentary tract.

Inoculation group—the infective agent is insect-borne and transmitted through insect bites.

Contact group—the infective agent is spread directly through contact with infected persons or animals, or with infected material.

The reaction of the body to the organism varies from person to person. It is important to understand that the reactions of individuals vary. Because some persons develop a disease, and others do not, one must understand that some diseases confer immunity in the individual and some do not. This understanding aids prevention and control.

There is a lapse of time from the invasion of the body by an infective agent to the onset of symptoms. This is called the incubation period. It is important to understand that this lapse of time exists and varies from one disease to another.

There is a period of time during which the disease is communicable. The period of communicability varies with all diseases. It is important to understand that the infected person is infectious for a period of time. It is also important to understand that organisms may be stored in certain parts of the body and they may leave the body by way of several routes.

There are several ways in which organisms can be spread. The modes of transmission of infective agents vary and it is important to understand this. This principle is closely related to the first and fourth ones.

Some persons are susceptible and some are resistant to infective agents. It is important to understand that some persons are not susceptible to a given disease, while others are. This involves an understanding of immunity and how it is conferred.

The environment plays a role in communicable disease. It is important to understand that environment enters into the picture of communicable disease. From the standpoint of prevention and control, it is necessary to understand how the environment may be related to a given disease and how the environment can be changed.

These principles were formulated from the many references to them (in rather indefinite terminology) found
All the principles of communicable disease are of equal importance, one dependent upon the other and having a strand of prevention and control interwoven into each one. Each principle has endless ramifications and provides the basis for countless objectives in terms of understandings.

It was assumed that these principles—understanding them and being able to apply them—were of greater importance than the memorization of less essential and less meaningful facts. In regard to this, Thompson and Leavell wrote:

Both method and content need to be directed toward mastery of certain facts, the formulation of principles, and the use of these principles in planning nursing care.52

These principles of communicable disease then served as a basis for the formulation of the objectives. The objectives, in like manner, guided the development of the

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Philosophy of Education

A philosophy of education is the most important part of the foundation upon which a basic nursing curriculum is built. It is this philosophy which guides the formulation of objectives, dictates the type of educational practices to be implemented, and determines, for the most part, the type of learning outcomes.

The resource unit developed in this study was so constructed as to be used in any nursing program that operated within the framework of a democratic philosophy of education. A true democratic philosophy of education places value upon the individual—the "total person"—and the right of the individual to dignity. Tyler listed a group of values as embodied in a democratic philosophy of education:

... (1) the recognition of the importance of every individual human being as a human being regardless of his race, national, social, or economic status; (2) opportunity for wide participation in all phases of activities in the social groups in the society; (3) encouragement of variability rather than demanding a single type of personality, and (4) faith in intelligence as a method of dealing with important problems rather than depending upon the authority of an autocratic or aristocratic group.\(^\text{53}\)

Whatever the values stated in a philosophy of

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education, the implication is that they are the ones to be aimed for in an educational program. In the formulation of objectives for an educational program, the philosophy of education must be a guide in their acceptance or rejection—either the objectives are consistent with the values of the philosophy or they are not.

The objectives selected as a basis for the learning experiences in this study were designed to be consistent with a philosophy of education developed in another study. As stated on page 10 in Chapter I, the goals (values) of the philosophy used in that study were: (1) the development of students into thinking, self-directed, interested, and informed professional nurses, (2) student participation to develop the individual's potentiality, practicality, and idealism in meeting social and professional needs, and responsibility for helping to preserve, maintain, and promote community health services, and (3) the preparation of graduates who should be able to function in any beginning position in professional nursing.

This philosophy of education, then, served as a standard in the selection of objectives in this study.

For a statement of philosophy to serve most helpfully as a set of standards or a screen in selecting

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objectives it needs to be stated clearly and for the main points the implications for educational objectives may need to be spelled out. Such a clear and analytical statement can then be used by examining every proposed objective and noting whether the objective is in harmony with one or more main points in the philosophy, is in opposition or is unrelated to any of these points. Those in harmony with the philosophy will be identified as important objectives.\textsuperscript{55}

The philosophy of Education used in this study is found in Appendix A.

Psychology of Learning

The beliefs an educational program holds regarding the processes of learning constitute another important building block in the structure of a curriculum. A psychology of learning must be used if the educational aims, objectives, and learning activities are to be realistic, practical, and attainable.

The psychology of learning used in the development of the resource unit in this study was developed as part of a project by Drumheller and others.\textsuperscript{56} The basic premise of this psychology of learning was that learning is a process which brings about a change in behavior that persists. The principles of learning as stated in that study were:

\textsuperscript{55}Tyler, \textit{op. cit.}, p. 24.

\textsuperscript{56}Drumheller, and others, \textit{op. cit.}, pp. 7-8.
Individual differences affect learning. The individual's learning is influenced by her innate abilities and past experiences.

Readiness is essential to learning. Learning is enhanced and takes place to the extent that the learner is physically and psychologically ready to learn.

Motivation is an essential component of learning because it initiates, directs and sustains learning activities.

Self-activity is essential to learning. The student learns what she actively does.

Satisfaction contributes to learning because the student learns more effectively in situations from which she derives satisfaction.

Perception is an important factor in learning. What the student learns depends upon how she interprets a situation in light of previous experiences.

Transfer is a necessary component of learning. When the student recognizes similarities and dissimilarities between the past and present experiences, transfer of learning is facilitated.

Inter-personal relationships are an important aspect of learning since the inter-personal relations involved affects the mode and extent of learning.

Evaluation is essential in determining outcomes of learning. This is a continuous appraisal of changes in behavior; when carried out by the instructor and the student together it indicates achievement of goals of learning and gives direction for further learning.

According to Burton:

A good learning situation consists of a rich and varied series of learning experiences unified around a vigorous purpose, aimed at a number of different learning products, and carried on in interaction with a rich, varied, and provocative environment.57

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This view is echoed by the statement:

... all effective learning is the result of activity of the learner directed toward the attainment of some educational objective that is felt by the learner to be worth while. 58

In connection with this, Herrick and Tyler wrote:
"... every learning situation must include a learner, a purpose, a content, and a process..."59

The use of a psychology of learning as another screen for educational objectives (ends) was described in this way by Tyler: "unless these ends are in conformity with conditions intrinsic in learning they are worthless as educational goals."60 It has been shown, then, that a psychology of learning is a valuable aid in the selection of desirable and attainable objectives--objectives that are based on the principles of learning. The psychology of learning used in this study appears in Appendix B.

Summary

The usefulness of the resource unit was explored,


with suggestions for its construction and use taken from the literature. From the literature of nursing and allied fields, current facts and opinions relative to the problem of this study were found and reproduced here.

The principles of communicable disease were identified and enlarged upon—with emphasis on the importance of the ability to apply these principles. The necessity of retaining communicable disease in the basic nursing curriculum was established.

The role of a philosophy of education was discussed and emphasized. Lastly, a psychology of learning was presented after an explanation of the role of the psychology of learning.
CHAPTER III

DEVELOPMENT OF THE RESOURCE UNIT

Introduction

The resource unit in this study was developed for the purpose of providing the basic nursing instructor with a list of materials from which to select learning experiences that would aid the nursing student to develop an understanding of the principles of communicable diseases. The steps in the development of the guide were: (1) identification of communicable disease principles, (2) formulation of objectives, (3) screening of objectives, (4) selection of clinical areas, (5) selection of learning experiences, (6) organization of learning experiences, (7) selection of teaching materials, (8) suggestions for evaluating learning experiences, and (9) compilation of a bibliography.

Identification of Principles

The identification of communicable disease principles was accomplished through an extensive review of literature. From these principles objectives were derived, for use in the guide. The principles of communicable
disease as identified were:

The body must be invaded by a disease-producing organism before a communicable disease can occur.

The reaction of the body to the organism varies from person to person.

There is a lapse of time from the invasion of the body by an infective agent to the onset of symptoms.

There is a period of time during which the disease is communicable.

There are several ways in which organisms can be spread.

Some persons are susceptible and some are resistant to infective agents.

The environment plays a role in communicable disease.

Formulation of Objectives

Essential to the adequacy and validity of objectives is the way in which the objectives are stated. The objectives developed in this study were stated in terms of student-aims rather than instructor aims. This was done after the manner of Tyler,¹ who suggested that objectives are educational ends, and if they are to describe what the student is expected to learn or achieve then they should be

stated in terms of student-behavior. Tyler also said:

The most useful form for stating objectives is to express them in terms which identify both the kind of behavior to be developed in the student and the content or area of life in which this behavior is to operate.²

Thus, the objectives formulated in this study had two dimensions—behavioral aspect and content aspect. All of the objectives were stated in terms of one behavior, understanding. A single behavior was used because the purpose of the study was to develop a guide that would aid the nursing student in developing an understanding of the principles of communicable disease. Before the application of the principles can be made to all nursing situations, an understanding of the principles must be attained. In this study, understanding is defined as: the identification of relationships which link facts together, with a knowledge of how and when to use them; the capacity to comprehend and exercise reason in making judgments.

Also important in the process of developing objectives is the use of a guide, or set of criteria, as well as conformance with a philosophy of education and a psychology of learning. In other words, before objectives can be formulated, the formulator must have a philosophy of education and a theory of learning—and must keep these in mind at all times.

²Ibid., p. 30.
Screening of Objectives

Objectives designed for use in a democratic philosophy of education should be dynamic, desirable, achievable, developmental, varied yet sufficiently limited, and evaluable. The objectives here, then, followed these criteria and were in conformity with the philosophy of education and the psychology of learning which appear in the Appendices.

In addition to screening the objectives through the philosophy of education and psychology of learning, each one was examined in terms of the two dimensions it included. That is, both the behavioral aspect and the content aspect of each objective was screened according to the criteria of (1) feasibility, (2) consistency with other objectives, (3) placement, (4) time needed for attainment, and (5) scope.

The final objectives selected for use in this study were:

Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop.

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4 Appendix A.
5 Appendix B.
Understanding of the various routes by which infective agents enter the body.

Understanding of the different routes by which organisms leave the body.

Understanding of susceptibility and immunity and the ways in which immunity is conferred.

Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms.

Understanding that there is a period of time during which each communicable disease can be transmitted.

Understanding of the role of the environment in communicable disease.

Selection of Clinical Areas

In keeping with the basic assumption of this study (that the principles of communicable disease can be applied to the nursing care of any patient), all clinical content areas were represented. Included were: Fundamentals of Nursing, Medical-Surgical Nursing I, II, and III, Maternity Nursing, Nursing of Children, Public Health Nursing, Psychiatric Nursing, and the Senior experience area of Team Nursing—Ward Management.

To organize the learning experiences planned to attain the above objectives, three levels of experience were derived from the clinical areas. These levels were presumed to represent three clinical years. They were:
In this way, the objectives were attained by planning learning experiences for each of the three levels.

The first objective, understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop, was carried through the first level only. It was believed that this understanding would be attained at the completion of the first level experiences. That is, it was not believed necessary to provide additional opportunities for the attainment of this objective. Learning experiences were then planned for each of the remaining objectives in all of the clinical content areas.

Selection of Learning Experiences

The meaning of the term learning experience as used in this study was: an interaction between the learner and his environment which is meaningful and which results in a change in behavior.

The selection of learning experiences was determined
by the nature of the objectives and by the nature and needs of the learner, as recommended by Jones and others.\(^6\) Learning experiences, then, are selected on the basis of whether or not they are likely to attain the stated objective, and whether or not they are likely to meet the student's needs. In this study, learning experiences were selected on the above basis, and were also in accordance with the principles of selection as set forth by Tyler.\(^7\) These principles provided for student-satisfaction, opportunities to practice the behaviors desired, and the use of several experiences to produce the same outcome.

The learning experiences selected for the guide in this study were designed to be in harmony with the aforementioned psychology of learning. They were designed also to meet the objectives of each of the clinical content areas.

Organization of Learning Experiences

The rationale which guided the organization of learning experiences was based on Tyler's criteria for effective organization: continuity, sequence, and

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\(^7\) Ralph W. Tyler, *op. cit.*, pp. 42-44.
Herrick and Tyler stated, "without organization, learning experiences are isolated, chaotic, and haphazard." The importance of organization cannot be over-emphasized since this, to a great extent, influences the degree to which learning takes place.

Continuity in the organization of learning experiences alludes to the vertical repetition of major curriculum areas. In other words, continued reinforcement or repeated opportunities to achieve a given goal must be provided. Whatever the objective, continuity is a major element of effective organization.

Sequence in organization means that each succeeding experience is built upon the preceding one. With each and every learning experience the level of attainment reaches a higher plane—there is increasing breadth and depth with each learning experience in sequential planning. According to Alberty,

The sequence of activities is determined primarily, not by the internal logic of a field of knowledge, but rather by maturational levels, integration of personality, growth processes, extension of problems, and

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8 Ibid., pp. 55 et seq.

Integration in organizing learning experiences refers to the horizontal relationship of experiences. Since true integration is strictly a student process, experiences were organized in this study in such a way that the student would be assisted in attaining a unified view of the material. When the student draws together the entire picture and incorporates it into his behavior, integration has been accomplished.

Selection and Organization of Teaching Materials

The teaching materials for use in the resource unit were selected on the same bases as the learning experiences. Since a wide range and variety of teaching materials is necessary to the enrichment and full implementation of learning experiences, more than one was included for each of the planned experiences.

Texts, periodical and other (professional and non-professional) articles, filmstrips and motion pictures, various community resources, and selected resource persons were included in the teaching materials selected for the guide in this study.

The selection of teaching materials was based on the

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degree to which they enhanced the learning situations, and on their accuracy and worth. It was believed that the discriminating selection of teaching materials would be of great value in replacing routine assignments lacking relevancy and continuity.

Teaching materials were selected in such a way that more than one opinion, or view, was presented, and the availability of the teaching materials to all schools of nursing determined their inclusion. Simpson indicated that teaching materials should be selected critically and thoughtfully, and they should be used in a purposeful fashion, particularly from the viewpoint of the learner. These criteria guided the selection of the teaching materials included in the guide.

Suggestions for Evaluating Learning Experiences

One of the most essential phases in the development of a resource unit is the inclusion of suggested techniques of evaluation. Evaluation must be a continuous process in any type of education--for evaluation determines the worth of any objective, learning experience, or entire curriculum. The steps in evaluation, as defined by Tyler, include: (1) definition of objectives, (2) identification of

situations which will provide students with opportunities to express the behavior implied in the objectives, and (3) selection of the procedure which can best be used to evaluate the behaviors desired.  

Techniques of evaluation suggested for use in this study were: paper and pencil tests, observations, interviews, and conferences with students and those concerned with their education. In reality, as Tyler stated, "any way of obtaining valid data regarding the change in behavior or learning, accomplished through objectives is an appropriate evaluation procedure."  

As suggested by Alberty, the evaluative techniques should be, and were, based directly on the objectives. Learning outcomes were evaluated in terms of whether or not the educational objectives had been attained, and to what degree. In Tyler's words, "... the process of evaluation will involve identifying the strengths and weaknesses of the plans."

In addition to the requisite that evaluation techniques be objective, reliable, and valid, it must be added that the results of evaluation must be utilized if the

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12 Tyler, op. cit., pp. 72 et seqq.
13 Ibid., pp. 70-71.
14 Alberty, op. cit., p. 279.
15 Tyler, op. cit., pp. 68-69.
procedure is to be of any value. Lastly, evaluation should be a cooperative effort involving both the instructor and the student.

Compilation of a Bibliography

To be complete and really useful, a resource unit must contain a bibliography. Contained in the bibliography were all of the materials used in planning and executing learning experiences. It was a comprehensive listing of all books, articles, films, and other materials used, and the sources from which these materials could be obtained. In the bibliography, under the heading of Books and Other Publications, were listed all books, booklets, and pamphlets. Under the heading of Periodicals were listed all published articles, and films and other teaching aids were included under the heading of Audio-Visual Materials.
CHAPTER IV

A GUIDE TO AID IN THE DEVELOPMENT OF AN UNDERSTANDING OF THE PRINCIPLES OF COMMUNICABLE DISEASE

Introduction

The purpose of the resource unit in this study was to present suggested learning experiences and teaching materials that could (1) be used by the nursing instructor in planning learning experiences, and (2) help the nursing student develop an understanding of the principles of communicable disease. It was believed that the attainment of this purpose would facilitate the application of the principles of communicable disease to the nursing care of all patients.

Overview of the Resource Unit

The resource unit was designed in such a way that it could be used by any basic nursing program which operates within the framework of a democratic philosophy of education. Objectives derived from the principles of communicable disease guided the planning of learning experiences and the selection of teaching materials.

Seven final objectives were accepted for the
resource unit, after having been screened through the philosophy of education\(^1\) and the psychology of learning\(^2\) used in this study. The objectives were stated in terms of student-aims as suggested by Tyler,\(^3\) and had two dimensions—behavioral aspect and content aspect. All of the objectives were stated in terms of one behavior, understanding. This behavior was used because a purpose of this study was to develop a guide that would aid the nursing student develop an understanding of the principles of communicable disease. To apply these principles to all nursing situations, it is necessary first to understand them. In this study, understanding means: the identification of relationships which link facts together, with a knowledge of how and when to use them; the capacity to comprehend and exercise reason in making judgments.

The content area of the objectives was derived directly from the principles of communicable disease as identified in Chapter II. These principles were:

The body must be invaded by a disease-producing organism before a communicable disease can occur.

The reaction of the body to the organism varies from

\(^1\)Appendix A.

\(^2\)Appendix B.

\(^3\)Ralph W. Tyler, Basic Principles of Curriculum and Instruction (Chicago: The University of Chicago Press, 1950), p. 28.
There is a lapse of time from the invasion of the body by an infective agent to the onset of symptoms.

There is a period of time during which the disease is communicable.

There are several ways in which organisms can be spread.

Some persons are susceptible and some are resistant to infective agents.

The environment plays a role in communicable disease.

To illustrate that the principles of communicable disease could be applied to the nursing care of any patient, all clinical content areas were represented in the guide. The clinical content areas were divided into three levels of experience which were presumed to represent three clinical years. They were:

**First Level**
- Fundamentals of Nursing
- Medical-Surgical Nursing I
- Maternity Nursing

**Second Level**
- Medical-Surgical Nursing II
- Nursing of Children

**Third Level**
- Medical-Surgical Nursing III
- Public Health Nursing
- Psychiatric Nursing

Learning experiences were planned for each clinical content area in each of the three levels.
The first objective, understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop, was carried through the first level clinical areas only. It was believed that this understanding would be attained at the completion of the first level experiences.

Objectives of the Resource Unit

The objectives for this resource unit were:

Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop.

Understanding of the various routes by which infective agents enter the body.

Understanding of the different routes by which organisms leave the body.

Understanding of susceptibility and immunity and the ways in which immunity is conferred.

Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms.

Understanding that there is a period of time during which each communicable disease can be transmitted.

Understanding of the role of the environment in communicable disease.
The meaning of the term learning experience as used in this study was: an interaction between the learner and his environment which is meaningful and which results in a change in behavior. The selection of learning experiences was determined by the nature of the objectives and by the nature and needs of the learner, and were in accordance with the principles of selection as suggested by Tyler. These principles provided for student-satisfaction, opportunities to practice the behaviors desired, and the use of several experiences to produce the same outcome. The learning experiences were also planned to meet the objectives of each of the clinical content areas.

Guiding the organization of the learning experiences was the rationale based on the criteria of effective organization as set forth by Tyler: continuity, sequence, and integration. Continuity in the organization of learning experiences refers to the vertical repetition of major curriculum areas. Sequence in organization means that each succeeding experience is built upon the preceding one. With each learning experience the level of attainment reaches a higher plane--there is increasing breadth and

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4 Ralph W. Tyler, *op. cit.*, pp. 42-44.
5 Ibid., pp. 55 et seqq.
depth with each experience. Integration in organizing learning experiences refers to the horizontal relationship of experiences and is a student process.

The teaching materials used in the guide were selected on the same bases as the learning experiences. A wide range and variety of teaching materials were selected to enrich and enhance the learning experiences.

A bibliography was compiled which contained all books, pamphlets, films, and other teaching materials used in planning the learning experiences.
OBJECTIVE: Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

Prior to class, each student is asked by the instructor to bring a bar of soap to the classroom laboratory. In the classroom laboratory, the instructor explains that one very important way of preventing disease-producing organisms from entering the body is to remove them by handwashing. She states that in any nursing situation handwashing is an essential part of patient care, and an understanding of this must begin in the Fundamentals of Nursing course. Each student is asked to recall the approximate number of times she washed her hands on the previous day and to state why she washed them. It is then pointed out by the instructor that cleanliness is only one of the reasons for handwashing, the major purpose being to remove organisms so that they will not enter the body. The instructor explains handwashing technique, emphasizing the fact that this is not a new procedure in nursing, and that its value has long been recognized. The instructor then demonstrates the proper technique for handwashing, explaining the value of soap, water, and friction.

Immediately following this, the students are asked to return the demonstration. The instructor observes them and again stresses the fact that by handwashing, organisms are removed, which prevents disease since organisms must be present in the body before a communicable disease can occur.

Emphasizes the importance of handwashing and describes the proper technique. Soap, water, and friction are the bases of good handwashing technique in the home and in the hospital according to this article. Handwashing is regarded as necessary to the prevention of infections.


Section on handwashing technique, including some of the cleansing agents that may be used. Explains that handwashing is the most important technique for preventing the spread of disease.


An early plea for nursing students to observe handwashing as a means of preventing infections and cross-infections.

Margaret E. Benson, "Handwashing—an important part of medical asepsis," The American Journal of Nursing, September, 1957, pp. 1136-1139.

Describes handwashing as one of the oldest and most effective methods of preventing the spread of infective agents from person to person. Points out that the hands should be washed before and after each and every patient contact.
OBJECTIVE: Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

In the classroom on a surgical ward, prior to the clinical practice period, the instructor and students discuss the reasons for changing surgical dressings and procedure involved. The instructor explains that surgical dressings must be changed to prevent the accumulation of exudate which may serve as a medium for the growth of disease-producing organisms. The presence of such organisms in the surgical wound, she states, predisposes to wound infection. It is pointed out by the instructor that dressings must be changed under aseptic conditions to prevent contamination of the dressings and the wound with disease-producing organisms. She stresses the fact that infections cannot develop in the absence of organisms and this is the major underlying reason for aseptic technique in changing dressings.

The instructor has selected a patient on the ward who has an abdominal dressing to be changed, and she explains to the students that she will now demonstrate the dressing change. While the instructor changes the dressing, she explains her reasons for using pick-up forceps to handle sterile dressings, and for wrapping the soiled dressings in several thicknesses of newspaper for disposal. After changing the dressing, the instructor disposes of the contaminated materials and washes her hands thoroughly, asking the students to explain why she is washing them.

The instructor selects post-operative patients for the students to return the demonstration during the ensuing clinical practice period. She observes the students for handwashing before and after the procedure, and observes the technique they use in order to determine their understanding that a disease cannot develop in the absence of organisms in the body.

Stresses the importance of aseptic technique, particularly during dressing changes, in preventing infections and the spread of infections.


A discussion of the techniques for changing surgical dressings, including the importance of aseptic technique to prevent contamination and consequent infection.

Eldridge L. Eliason, L. Kraeer Ferguson, and Lillian A. Sholtis, Surgical Nursing, 1955, pp. 118-125.

Describes the procedure of changing surgical dressings. Discusses the responsibility of the nurse in preventing contamination of sterile articles and the surgical wound as essential to the prevention of infection.
OBJECTIVE: Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the classroom, the instructor explains to the students the reasons underlying perineal care. She states that since the mucous membrane of the external genitalia is continuous with the lining of the uterus and, through the Fallopian tubes, the peritoneum, organisms can spread directly from the perineum to the abdominal cavity. Because of this, the instructor, points out, perineal care is essential since it is a means of preventing organisms from entering the body and causing disease. She further explains that perineal care also promotes healing of episiotomies and reduces patient discomfort, and that it is carried out on all patients on the postpartum ward unless otherwise ordered. The procedure of giving perineal care is described by the instructor, with emphasis on the importance of drying the perineum well after each external douche or washing in order to promote healing and discourage the growth of organisms in the area. The instructor again stresses the fact that if organisms are removed from the perineum they cannot enter the body and produce infection. To illustrate this, the instructor briefly describes the efforts of Semmelweis in the prevention of puerperal infections—pointing out that his endeavor was centered around handwashing as a means of preventing the introduction of organisms into the body and subsequent infection.

The instructor demonstrates perineal care on a patient on the maternity ward and then selects another patient for the student's return demonstration. The instructor observes the student during the procedure, her technique, and whether or not she washes her hands before and after the procedure. To test the student's understanding that disease cannot occur unless the body is invaded by organisms, the instructor asks this question: How does perineal care aid in the prevention of infection?
OBJECTIVE: Understanding that the body must be invaded by a disease-producing organism if a communicable disease is to develop

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the classroom, the instructor explains to the students the reasons underlying perineal care. She states that since the mucous membrane of the external genitalia is continuous with the lining of the uterus and, through the Fallopian tubes, the peritoneum, organisms can spread directly from the perineum to the abdominal cavity. Because of this, the instructor, points out, perineal care is essential since it is a means of preventing organisms from entering the body and causing disease. She further explains that perineal care also promotes healing of episiotomies and reduces patient discomfort, and that it is carried out on all patients on the postpartum ward unless otherwise ordered. The procedure of giving perineal care is described by the instructor, with emphasis on the importance of drying the perineum well after each external douche or washing in order to promote healing and discourage the growth of organisms in the area. The instructor again stresses the fact that if organisms are removed from the perineum they cannot enter the body and produce infection. To illustrate this, the instructor briefly describes the efforts of Semmelweis in the prevention of puerperal infections--pointing out that his endeavor was centered around handwashing as a means of preventing the introduction of organisms into the body and subsequent infection.

The instructor demonstrates perineal care on a patient on the maternity ward and then selects another patient for the student's return demonstration. The instructor observes the student during the procedure, her technique, and whether or not she washes her hands before and after the procedure. To test the student's understanding that disease cannot occur unless the body is invaded by organisms, the instructor asks this question: How does perineal care aid in the prevention of infection?

Describes the technique involved in giving perineal care, stressing its importance as a means of preventing infection since organisms can gain entry into the body via the vaginal tract.


Detailed discussion of the procedure of perineal care. Stresses the importance of care of the perineum in preventing infections, particularly puerperal sepsis.


Discusses puerperal infection and briefly describes the work of Semmelweis.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

In the classroom laboratory the instructor discusses with the students the ways in which organisms enter the body. She explains that organisms can enter the body by way of the respiratory and alimentary tracts, by direct contact, through cuts and breaks in the skin, or by inoculation. Since the students are currently learning to take temperatures, the instructor points out that organisms can enter the body through the use of contaminated thermometers. Because of this, she states, thermometers must be properly cleansed and disinfected after each use to prevent the transfer of organisms from person to person. The instructor demonstrates the procedure of washing a thermometer with soap and water, and then places it in a disinfecting solution. She explains that hot water must not be used since it may break the thermometer, and she emphasizes the importance of making certain that thermometers are clean and have been disinfected before using them. The students are reminded that handwashing is necessary before and after each temperature reading and thermometer cleansing.

Later in the same day, the students are assigned afternoon temperatures on a medical ward. The instructor observes the students to see if they wash their hands before and after taking each temperature, and she observes them securing and caring for thermometers to see if they use clean ones and properly cleanse them after their use. The instructor also observes the students taking temperatures and their accuracy in reading the thermometer. To determine how well the students understand that the proper cleansing of thermometers is necessary to prevent organisms from entering the body by way of the mouth and alimentary tract, the instructor asks each of them to explain how cleansing and disinfesting thermometers prevents infections and cross-infections.
Teaching Materials


Briefly discusses the care of thermometers, stating that they must be disinfected between patients to avoid cross-infections.


An excellent description of the routes by which organisms enter the body (modes of transmission).
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

In the classroom laboratory, the instructor explains the procedure of catheterization, emphasizing the necessity of maintaining sterile technique during the procedure. The instructor points out that insertion of a catheter may cause some trauma to mucous membranes, and that this can be a predisposing factor to infection if organisms are introduced with the catheter. Here, the instructor points out that, in spite of the best technique, some organisms may be introduced into the urethra and bladder with catheters. She also states that unsterile or contaminated sterile equipment and improper cleansing of the meatus may very likely cause infection, since organisms are certain to be introduced into the body in large quantities. The instructor describes the necessary articles in catheterization and unwraps a sterile catheterization set so that the students can see and discuss its contents.

On the surgical ward, the instructor demonstrates the procedure of catheterization, choosing a patient (female) who is being catheterized for residual urine. As she goes through the procedure, the instructor explains what she is doing and why. After this demonstration, the instructor and student review the steps in the procedure and the necessity of maintaining sterile technique. Following this discussion, the student returns the demonstration, on a different patient, and the instructor observes the procedure to see if the student washes her hands before and after the procedure, how well she carries out the catheterization, and to see if the student maintains sterile technique. While the student is cleaning the equipment in the utility room after the procedure, the instructor, to test her understanding of how organisms may enter the body, asks the student to explain why it is important to cleanse the meatus prior to catheterization. She also asks the student why the meatus is cleansed outward from the urethral orifice.
Teaching Materials


Detailed discussion of catheterization with emphasis on sterile technique and equipment to prevent the introduction of organisms into the body.


Describes catheterization procedure, and discusses the importance of using sterile equipment, and the importance of thorough cleansing of the meatus to prevent the introduction of organisms into the bladder.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the classroom, the instructor discusses with the students the preparation of patients for delivery which is part of the admission procedure. The instructor stresses the importance of the perineal shave as a means of preventing possible infection, and as a measure which allows for better inspection of the area. It is explained by the instructor that a good perineal shave helps prevent infection in the mother since pubic hair contains bacteria which may easily be transferred to perineal lacerations and thus predispose to infection. The students are reminded that, because of the continuous mucous membrane from the external genitalia to the peritoneal cavity, the reasons for carefully shaving the perineum are similar to the reasons for giving perineal care. The procedure for admission of patients to the labor ward is described by the instructor, with particular emphasis on the shaving technique. The instructor also stresses the importance of avoiding razor cuts since these may become infected and possibly lead to infection within the body. To re-emphasize the necessity of preventing organisms from entering the body, the instructor explains that the perineum is shaved from above downward and away from the vaginal opening. (She points out that this is done for the same purpose as cleansing the meatus in the same direction prior to catheterization).

On the labor ward, the instructor demonstrates the perineal shave and the other aspects of the admission procedure on a patient. After she completes the admission, the instructor selects a patient for the student to shave and carry out the admission procedure on. The instructor tests the student's understanding of how organisms enter the body by asking her to explain why the unshaved perineum predisposes to infection.

Briefly describes the procedure of shaving the perineum.


Discusses the preparation of the patient for delivery with particular emphasis on the perineal shave as a means of preventing contamination and infection.


Briefly discusses perineal shave, including the advisability of shaving the perineum immediately after delivery if it was not done before. Emphasizes necessity of precautions to prevent infection in such a case.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

In the classroom laboratory, the instructor explains to the students that to fully understand how organisms are spread, it is necessary to understand not only how they enter the body but also how they leave the body. She points out that organisms leave the body by way of nose and throat secretions, via discharges from the ears (in some instances), and by way of urine and stools. The instructor explains that, because of this, collecting specimens requires careful handling and strict observance of handwashing technique. She discusses the collection of urine, sputum, and stool specimens and shows the students the containers used for each type of specimen. The instructor stresses the fact that the outer surfaces of the containers must not be contaminated since the specimens are likely to contain organisms which could easily be spread to others. Here, the instructor also explains the necessity for accurate and legible labeling of the containers. She then explains that, before collecting a specimen, the students should ascertain the patient's diagnosis, so that they will be aware of the probable means by which organisms leave the body of that patient. She further explains that this can help the students to protect themselves and others against the spread of organisms—if they know what body discharges the organisms are likely to be in.

Following this class period, the students go to the ward where they are given opportunities to collect urine, sputum, and stool specimens from various patients. The instructor observes to see if the students wash their hands before and after collecting the specimens, how they handle the containers, and whether or not they take care to avoid contaminating the outer surfaces of the containers. To determine how well the students understand the different routes by which organisms leave the body, the instructor asks them why it is necessary to exercise caution in collecting specimens of any kind.

Describes the procedures for collecting urine, sputum, and stool specimens. Cites the importance of avoiding contamination of the outsides of containers.


A discussion of the routes by which organisms leave the body.


Briefly explains how organisms leave the body.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

In the classroom, the instructor discusses the face mask as a protective device against the spread of organisms from the respiratory tract via nose and throat discharges. She explains that the students will be wearing face masks in the operating room and that they should understand the values and limitations of masks in preventing organisms from entering the body of the patient undergoing surgery. The instructor shows the students the various types of masks used, including those made of gauze, paper, muslin, and plastic, and she explains their relative effectiveness. The students are asked to name possible instances when a mask might be indicated, other than surgery, such as in the nursery, in the delivery room, and perhaps in certain types of isolation. The instructor points out that masks do have a certain value in preventing the spread of organisms, but she also emphasizes the importance of avoiding false security in mask-wearing. She further points out that some masks, such as ones made of heavy or too closely woven gauze, can be more hazardous than ones which are less resistant, since organisms escape from around the edges of very resistant masks. It is also pointed out by the instructor that if organisms are leaving the body of a particular patient by way of his alimentary tract or urinary tract, having him wear a mask will not provide protection for others. The instructor then explains that a moist mask looses much of its efficiency because organisms pass through moisture easily, so that such a mask would not offer much protection to a patient undergoing surgery.

To help the students view the face mask realistically, to prepare them for their experience in the operating room, the instructor then asks several of the students to put on face masks and hold a culture plate six inches from the mouth for respective periods of three, five, ten, and fifteen minutes. The instructor stores the culture plates and explains to the students that twenty-four and forty-eight hours afterwards they will examine them for bacteria growth. Later, the instructor shows the students the culture plates and asks them to discuss possible consequences if, instead of culture plates, these had been open wounds.
Teaching Materials


Discusses face masks and their uses. Points out that, at present, a mask is the most effective barrier to prevent the spread of infective organisms from the respiratory passages.


Cites the mask as the most commonly used defense against airborne infection, but points out that its real value is questionable under certain conditions.


A discussion of the use of masks to prevent the spread of organisms and presents the findings of studies which indicate that masks may not be as safe as is generally thought.

"New Mask Reduced Threat of Wound Contamination," *Hospitals*, May 16, 1959, p. 44.

Describes a new polyvinyl mask with removable air filter.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the classroom, the instructor and students discuss the immediate care of the newborn infant in the delivery room. The instructor explains that one very important aspect of this care is the administration of prophylactic eye drops. She further explains that some organisms are contained in various body secretions and can be spread through contamination with such secretions. She points out that an example of this is gonorrheal conjunctivitis (ophthalmia neonatorum) which can occur in the newborn as a result of contamination of the eyes during delivery from an infected mother. The instructor explains that because of this it has become almost universally mandatory to install silver nitrate or penicillin eye drops, which will kill the organisms, into the eyes of the newborn immediately after delivery. She stresses the importance of this procedure in the prevention of blindness, which will occur if the baby's eyes are contaminated with infected secretions in the mother's birth canal. It is pointed out by the instructor that, although the gonorrhea organisms do not actually leave the mother's body to infect the infant, vaginal drainage containing these organisms does occur many times, so that other persons could become infected unless the indicated precautions were taken. The instructor explains that the prophylactic eye drops are instilled into the eyes of all newborns because very often the mother has undetected gonorrhea.

The student is assigned the care of a newborn in the delivery room following the class period. The instructor observes to see if the student washes her hands well before entering the delivery room and she observes the student's care of the infant, including care of the cord, foot-printing, attachment of identification bracelet, and instillation of the prophylactic eye drops. To test the student's understanding that one way in which organisms leave the body is through vaginal secretions (and drainage), the instructor asks her why the eye drops must be administered immediately after delivery, rather than at a later date.

Describes the technique of instilling prophylactic eye drops in the newborn. A brief discussion of gonorrheal conjunctivitis and how it is acquired.


A description of ophthalmia neonatorum and the reasons for the use of silver nitrate eye drops in the newborn.


Discusses the prevention of gonorrheal infection in the eyes of the newborn, with emphasis on the use of prophylactic eye drops.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

In the classroom, the instructor explains that not all persons who are exposed to a communicable disease contract it. She points out that individuals react differently to communicable diseases in terms of their susceptibility or immunity. The instructor then describes immunity as a body defense against disease, stressing the fact that this is why some persons do not develop communicable diseases. She explains that there are different types of immunity, and that these are produced in a number of ways. She points out that immunity is either natural or acquired, and that acquired immunity occurs either as a result of having a disease or of receiving an immunizing agent against it. The instructor asks the students to discuss the immunizations they received upon entrance to the nursing program. With the students, the instructor discusses their immunizations, describing each one in terms of how it confers immunity. The smallpox vaccination is described by the instructor as an active immunization, since the vaccine contains living virus which stimulate the body to produce its own antibodies. She helps the students to understand this by asking them to remember what their last smallpox "take" looked like, pointing out that the reaction was the result of live organisms causing a minute manifestation of smallpox. The instructor also describes typhoid vaccine as producing active immunity, but through the activity of dead organisms which cause the body to produce antibodies. The instructor points out that passive immunization is less desirable than active because the former type of serum contains antibodies, rather than organisms, and produces only temporary immunity. She states, however, that this type of immunization can be, and frequently is, used in emergencies. The instructor explains that immunity to a given disease means that the individual is not susceptible to that disease. The students are asked to write a paper comparing susceptibility and immunity, and the types of immunizing agents, so that the instructor can determine their beginning understanding of susceptibility and the different types of immunity.

A description of the types of immunity and the ways in which they are conferred, with examples.


Discusses passive and active immunization, with examples of conditions prevented by each type.


Shows how immunity is achieved within the body and discusses the types of immunity.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

In the classroom, the instructor asks the students to begin the period by briefly reviewing susceptibility and immunity. After the discussion, the instructor explains that many patients admitted to the hospital for medical "observation" or diagnostic tests receive skin tests in the course of their hospital stay. She further explains that, by skin-testing an individual, his level of immunity or susceptibility to certain diseases can be determined. It is pointed out by the instructor that such skin tests are of value as diagnostic aids, but should be used in conjunction with other diagnostic procedures. The instructor asks the students to present the material they were assigned, prior to the class, for group discussion. The students discuss and describe the Schick test (diphtheria), the Dick test (scarlet fever), and the tuberculin skin tests. The instructor points out that the three most commonly used tuberculin skin tests are the Mantoux, the Old Tuberculin (OT), and the Purified Protein Derivative (PPD). She enlarges upon the students' discussion of these tests by describing the appearance of both negative and positive reactions to them, pointing out the significance of both types of reactions in terms of immunity and susceptibility. The instructor then explains the procedures for administering and reading skin tests, pointing out that it is important that they be read on schedule for greater accuracy.

Later in the same day, the students assist in the administration of skin tests on the medical ward. They have been asked to keep notes on the types of skin tests given so that they can discuss them in a later class period. After the clinical practice period during which the students observed and assisted with the administration of the skin tests, a ward class is held for the purpose of discussing the tests. The instructor asks the students to explain when each type of skin test should be read and what they should look like if negative or positive. They are also asked to explain what each type of reaction indicates in terms of susceptibility or immunity. The instructor asks why a negative tuberculin test does not necessarily mean that the patient does not have tuberculosis and why a positive reaction does not
necessarily indicate tuberculosis. The students read the
different tests on the date due.

Teaching Materials

Amy Frances Brown, Medical and Surgical Nursing II, 1959,
pp. 819-820.

Describes the various types of skin tests and their
value in determining susceptibility or immunity.

Charles F. Carter and Alice Lorraine Smith, Principles

Discusses the types of immunity. A section on
tuberculin tests on p. 427.

Jean South, Tuberculosis Handbook for Public Health

Briefly discusses tuberculin tests and their inter-
pretation.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

During a class period, the instructor and students discuss the health teaching program for prenatal clinic patients, in which the students participate. The instructor explains that the health teaching includes instructions regarding diet, rest, clothing (constricting articles such as garters should not be worn during pregnancy), and other points. The instructor states that one important aspect of the program is helping expectant mothers understand that their health must be protected, during pregnancy, for their benefit as well as for the safety of their unborn babies. The instructor explains that the prenatal patient should be asked early (at the time of her first clinic visit) to recall whether or not she has had German measles. If she cannot remember, the instructor continues, the patient should be instructed to avoid exposure to this kind of measles (or any kind, since three-day and German measles are often confused), at least during the first trimester of pregnancy. It is pointed out by the instructor that the patient should be instructed to contact the clinic immediately if she is exposed to this type of measles during the first three months. The instructor explains that the reason for avoiding exposure to German measles, and the reason for immediate reporting of exposure, is to prevent damage to the fetus. She points out that this type of measles passes the placental barrier and can cause numerous defects in the fetus during the first trimester. If a woman is exposed to German measles during this crucial period, the instructor explains, she should receive gamma globulin immediately in order to prevent or modify her measles and thereby protect the fetus. The instructor points out that the immunity, or protection, produced by gamma globulin is temporary, but useful for immediate protection.

At the end of the class, the students are asked to develop a teaching plan that might be used in teaching prenatal patients, in preparation for the student's teaching assignment in the clinic. The instructor evaluates the plan in terms of the general health teaching included, as well as in terms of whether or not the
students indicate an understanding of the significance of susceptibility or immunity to German measles and how immunity can be produced.

Teaching Materials


Discusses the health teaching necessary for prenatal patients, including diet, rest, hygiene, clothing, and medical care.

Amy Frances Brown, *Medical and Surgical Nursing II*, 1959, pp. 11-12.

Describes German measles and briefly mentions its effects on the fetus.


A discussion of gamma globulin and its usefulness in preventing or modifying such diseases as hepatitis and German measles. Stresses that the protection it produces is only temporary.


Discusses the possible consequents of German measles during the first trimester of pregnancy, in terms of fetal damage.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

During a class period concerning symptomatology and the observation of symptoms in patients, the instructor states that a person whose body is invaded by an infective agent does not develop symptoms of the disease immediately. She points out that this period of time from invasion of the body to the onset of symptoms is called the incubation period, the time when the organisms are growing and multiplying. It is further explained by the instructor that it is important to understand that a lapse of time exists in order to prevent unnecessary isolation of the individual, or to take steps to give the exposed person temporary protection by administering an antitoxin or similar immunizing agent. The instructor explains that incubation periods vary from hours to weeks, and sometimes months, so that memorization of the incubation periods given in textbooks is not practical. She points out that, with the exception of the common cold (coryza), most communicable diseases cannot be transmitted during the incubation period. In this connection, she states, it is important to understand that the incubation period differs from the prodromal period, the latter being the time just prior to the onset of the disease symptoms, and usually highly communicable. The instructor further points out that there are some symptoms during the prodromal period (aches and pains, generally) which distinguishes it from the incubation period.

The students are asked, during the class, to discuss communicable diseases (such as measles and other more common conditions) that they have had and compare their approximate incubation periods. By these comparisons the students can begin to understand that a lapse of time does exist and that incubation periods vary from person to person and from one disease to another.
Very briefly defines the incubation period, pointing out its variability.

Lengthy discussion of symptoms, and their observation and recording, with emphasis on the cardinal symptoms.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

As part of the unit dealing with medical asepsis, a classroom discussion centers around the significance of the incubation period. The instructor explains that, often, a patient will be admitted to the hospital after exposure to a disease and before the onset of symptoms, for treatment of an entirely different condition. The students are reminded that incubation periods vary a great deal, and that many persons are unaware of having been exposed to a communicable disease. Since this latter is true, the instructor explains, it is often very difficult, or impossible, to estimate when the onset of symptoms will occur. The instructor points out, however, that it is important to understand that a lapse of time exists so that when a person is knowingly exposed to a given disease, the incubation period can be determined (from a textbook or other source), and the approximate date on which symptoms will occur can be estimated. The instructor explains that this is important if the necessary precautions are to be taken to prevent spread of the disease. Referring to medical asepsis, the instructor states that once symptoms of a disease do occur handwashing and other preventive measures become even more important aspects of patient care.

That same day, the students are assigned the care of patients on the medical ward with various types of infections. As part of their assignments, the students are asked to determine, insofar as possible, when their patients were exposed to the infective agents and when their first symptoms appeared. Later, in a ward conference, during which the students discuss their patients, the instructor asks them to compare the approximate incubation periods their patients passed through before developing symptoms. In this way, the instructor is able to evaluate the students' understanding that there is much variability in the length of time between exposure and onset of symptoms.

Points out that the same precautions should be taken on all patients, whether or not they have a recognized communicable disease, since some patients may be admitted to the hospital who have or are developing a communicable disease.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the classroom, the instructor and students discuss the nursing care of postpartum patients with mastitis or breast abscess. The instructor explains that, of late, there has been an increase in puerperal breast abscess and that this is probably due to the evolution of highly resistant organisms, particularly staphylococcus organisms. The instructor has previously assigned the presentation of the etiology, symptoms, treatment, nursing care, and preventive aspects of breast abscess and mastitis by the students. She now asks them to present their material for discussion. After the discussion, the instructor points out that, because there is a lapse of time between invasion of the body and onset of symptoms, the postpartum patient who develops a breast abscess may be ready for discharge, or already home from the hospital, when the symptoms occur. The instructor further explains that the patient who develops symptoms of a breast abscess just as she is ready to be discharged needs, in addition to special preventive nursing care, help in adjusting to the prolonged hospital stay. The instructor also explains that patients should be instructed what to do if they develop symptoms of breast abscess after they leave the hospital. Here, the instructor points out that all postpartum patients should be instructed in breast care, to prevent possible infections. Another aspect of caring for patients with breast abscess is explained by the instructor as being the prevention of further complications after the patient has been discharged from the hospital. To reinforce the students' discussion of breast abscess, the instructor lists some of the preventive measures as being strict aseptic technique, control of personnel in maternity and nursery units, and isolation of infected infants.

Later that day, on the maternity ward, the student is assigned the care of a postpartum patient. As part of her care, the student is held responsible for instructing the mother in breast care and advising her to report any soreness in the breast after discharge. From the way in which
the student instructs the mother, the instructor is able to evaluate her understanding that there is an incubation period, and her understanding of the importance of good breast care.

Teaching Materials


Discusses recent outbreaks of epidemic puerperal breast abscess, with emphasis on prevention.


Discusses the nurses' responsibilities in caring for the mother with puerperal breast abscess, including patient teaching.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

In a classroom discussion of medical asepsis, the instructor explains to the students that in each communicable disease there is a period of time during which it can be spread from one person to another. She points out that the period of communicability differs with each disease, and often varies from person to person—as in the case of individuals who become carriers of a disease, as opposed to those who do not. Here, the instructor cites the case of "Typhoid Mary" as an example of how long a disease can remain communicable and how difficult it may be to trace carriers. The instructor emphasizes that communicable diseases are not transmittable during the entire course of the disease, reminding the students of the non-communicability of the incubation period. She explains that it is important to understand this since it affects the nursing care of patients with communicable diseases, and influences the duration of special precautions to prevent spread, such as isolation technique.

At this point in the class, the instructor asks the student to review, in outline form on the chalkboard, what they already understand about communicable disease. The instructor looks for such points as the invasion of the body by an infective organism to cause a communicable disease, how organisms enter and leave the body, and the asymptomatic period during which the organisms are multiplying within the body. After the student has outlined the information requested, the instructor points out that the period of communicability (in most instances) begins with the onset of symptoms. She reminds the students that some symptoms may occur during the prodromal period, which immediately precedes the onset of the specific disease symptoms. The instructor explains that, in general, diseases can be transmitted for as long as the organisms remain alive and present in the body. To evaluate the students' understanding that there is a period of communicability, the instructor asks them to speculate as to whether there would be a higher incidence of communicable diseases if they were infectious during the entire course of the disease.

Discusses general medical asepsis and aseptic practices.


Discusses quarantine, or isolation, during the period of communicability, hidden and missed cases (undetected carriers, for example), and the infectiousness of the prodromal period.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

In the ward classroom, the instructor and students discuss the nursing care of patients with respiratory infections caused by viruses. The instructor reminds the students of the ways in which the spread of such infections can be prevented (handwashing, for example). It is pointed out by the instructor that, since antibiotics and other drugs do not affect viruses, the communicable period of diseases caused by them is not shortened by the administration of such medications. She states that, because there is no way of killing the virus once it invades the body, it is important to understand that the conditions they produce are communicable for periods of time which cannot be controlled. The instructor further explains that by understanding this, the special precautions in nursing care can be adjusted to cover the communicable period. The instructor then points out that the common cold is communicable for three to five days after the onset of symptoms, and that virus, or atypical, pneumonia is probably not communicable after the fever and chills subside. Here, the instructor stresses that the exact period of communicability is not known for many viral diseases, but it is likely that they are not communicable after the remission of symptoms.

At the end of the ward class, the instructor tells the students that they have been assigned patients with viral infections of the respiratory tract. The instructor asks the students to briefly discuss the way in which organisms will leave these patients' bodies. The instructor then asks the students to develop nursing care plans for their patients, discussing with the students the steps in making a nursing care plan. After the students develop their plans, on the ward, the instructor looks at them and discusses them with the students. She asks the students how their plan will be affected by the length of time the patient has been ill, or how long he has been symptom-free, and how the plan for communicable patients will differ from the plan for non-communicable patients. In this way, the instructor evaluates their understanding that there is a period of communicability.
Teaching Materials

Amy Frances Brown, *Medical and Surgical Nursing II*, 1959, pp. 7-8.

The characteristics of viruses, and the diseases produced by them, are discussed.

*Control of Communicable Diseases in Man*, The American Public Health Association, 1955, pp. 130-137.

Outlines data regarding the pneumonias and their periods of communicability.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

During a classroom discussion of postpartum complications, the instructor and students review some of the infectious conditions the postpartum patient may develop. They discuss puerperal sepsis, vaginitis caused by Saccharomyces albicans (which can cause Thrush in the baby), and urinary tract infections in terms of their effects on the patient and how they can be prevented. The instructor explains that, since all of these can be transmitted to the newborn baby, it is important to know how to prevent their spread, and it is necessary to understand that each is communicable for a certain period of time. She further explains that this latter understanding can both protect the infant and prevent unnecessarily long separation of the infant from his mother. The students are asked to discuss ways in which these conditions can be prevented from spreading, including the instructions regarding cleanliness necessary for the mother. The instructor then points out that the use of drugs (antibiotics and fungicides) can cure these infections in the mother, thereby shortening the communicable period. It is stressed by the instructor that strict cleanliness is essential, in conjunction with treatment for these infections. She points out that if it is understood that after the organisms are killed and are no longer present, and that after the remission of all symptoms, the condition is no longer communicable, the mother can be better reassured of the baby's safety and her own as well.

The following morning, on the postpartum ward, the student is assigned the care of a patient with one of the infections mentioned in class. The student is observed by the instructor in her care of the patient, particularly in carrying out preventive measures and helping the patient to understand that, although the condition can be spread to the baby, with the proper precautions it will not be, and that there will be no danger of spread once the communicable period is over. The instructor also observes to see if the student washes her hands and instructs the mother in the importance of handwashing and other measures of cleanliness.

Discussions of puerperal sepsis, urinary tract infections, and thrush, and how they are caused and spread.


Describes and discusses some of the post-partum complications that may occur.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Fundamentals of Nursing

First Level Learning Experience

As a part of their orientation to the hospital and its various departments and functions, the students are taken on a tour of the hospital housekeeping department and the disposal plant, where the functions of each department are explained in terms of how they control the environment. It is explained that this is accomplished by preventing the accumulation and growth of organisms in halls, laundry and refuse chutes, patients rooms, and other places in the hospital. It is also explained that a function of the housekeeping department is to prevent the collection of dust and other possible media in which organisms might thrive. The students are shown how refuse is disposed of, another aspect of environmental control. During a tour of the hospital wards, the instructor points out to the students that the nurse can help control the environment by keeping utility rooms and other areas as clean as possible.

Immediately following the tour the students and instructor return to the classroom, where the instructor explains that environment plays a major role in communicable disease. She discusses some of the environmental factors which predispose to, or encourage, communicable disease, including inadequate sanitation facilities, poor housing, inadequate control programs, and the existence of areas (refuse heaps and stagnant ponds, for example) which may serve as breeding sites for disease organisms and carriers (mosquitoes and flies). The instructor points out that there are many more environmental factors conducive to the occurrence of communicable disease, and that they vary from place to place. She explains this by stating that some European and Asian countries have extremely high rates of communicable disease, largely because of uncontrolled environment, while others have reduced the incidence by altering or controlling the environment, reminding the students of the reasons for handwashing and explaining that environmental control is the rationale on which tidying up rooms, immediate removing of spilled liquids, and washing beds and other furniture between patients is based.
Emily C. Deming, "Don't issue Staph when You collect Linen," Modern Hospital, August, 1958, p. 110.

Discusses the proper handling of hospital linen as one means of preventing the spread of infective organisms.


A discussion of the various aspects of a hospital housekeeping program, including the training of housekeeping personnel. Focuses more on the administrative aspects of housekeeping.


This film uses a case history to illustrate the ways in which staphylococci spread from one patient throughout the hospital. It demonstrates that mops, the air conditioning system, bars of soap, the outsides of surgical dressings, and shaking of linen all contributed to the spread of infective organisms.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Medical-Surgical Nursing I

First Level Learning Experience

The students are assigned, for a period of two days, to the hospital diet kitchen, where they observe the preparation of the various types of diets and the sanitary measures practiced. After this experience, the dietetics instructor asks the students to discuss, in the classroom, the experience in terms of how environmental factors were controlled in the preparation of food. The instructor points out that control of the environment through proper preparation and preservation of foods is a very important part of communicable disease control.

The next day, the students visit the local offices of the Food and Drug Administration, where they are told of the standards set by the Administration for preparing and preserving foods, and of the functions of the Food and Drug Administration in testing foods. It is pointed out that these standards are set and maintained in an effort to prevent disease. The dietetics instructor has also arranged a field trip to a local meat processing plant, for the afternoon of that same day. At the meat plant, the procedures of meat inspection are described and demonstrated for the students. They are told that a reason for meat inspection is to prevent disease in humans, which can be caused by diseased or improperly processed meat.

In the classroom, the day following the field trips, the dietetics instructor explains to the students that many conditions that are communicable can be prevented by the manipulation of the environment, such as they saw in the diet kitchen, the Food and Drug Administration office, and the meat plant. She states, as examples, that improperly prepared and/or preserved foods may cause such communicable diseases as enteritis and botulism (which is not communicable from man to man but can cause mass illnesses). The instructor also explains that the body can be invaded by beef and pork worms (Taenia saginata and Taenia solium), as a result of improper preparation (undercooking). The students are asked to write critiques of the three experiences and discuss how communicable diseases are prevented by control of the environment in food preparation.
Marie V. Krause, Nutrition and Diet Therapy, 1957, pp. 136-150.

Discusses food-borne diseases, food poisoning, and food sanitation. Stresses food sanitation as a means of preventing the spread of disease. Describes state and federal laws regarding the handling and inspection of foods.


Specific food-borne diseases are described. Includes diseases transmitted through infected meat and the methods of control of food-borne diseases.


A good discussion of water and food-borne diseases, the ways in which they are spread to humans, and their control.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Maternity Nursing

First Level Learning Experience

In the ward classroom, the instructor and students discuss the preparations necessary in the home for newborn infants. The instructor asks the students to discuss and compare term babies and premature infants. After the discussion, the instructor points out that, because of the premature's increased susceptibility to infection and disease special preparations are necessary to insure the safety of the infant in the home. The instructor explains that, often, the mother needs instructions regarding what to do to provide this safety for the premature. She stresses the necessity of window screens to prevent entrance of flies and other disease-carrying insects, rearrangement of furniture (if necessary) to provide adequate space for the premature's bed, the removal of any potential breeding sites for organisms in and around the house, strict adherence to the principles of terminal sterilization in preparing formulas, and other measures which control the environment and prevent disease. The instructor stresses the special importance of these preparations for the premature infant and points out that they may be difficult for the family to make, in which case the eligibility of the family for financial or other aid should be investigated—with the family's approval. The instructor also points out that the mother may be in need of instructions regarding bathing and other aspects of baby care.

The next day, on the maternity ward, the student is assigned the care of a patient who is to be discharged from the hospital before her premature infant. The instructor observes the student to see if she, in the course of caring for this patient, determines what instructions the mother needs and then gives them, remembering the importance of safety precautions for the infant and the ways in which the home environment can be controlled to prevent accidents and infections. The instructor also observes to see if the student includes the other aspects of caring for the premature at home that were discussed in the classroom.

Describes some of the ways in which the environment should be controlled for the safety of the infant and child.


Outlines the basic requirements of good housing for physical, physiological, and psychological health, and accident prevention.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

During a class on medical asepsis, in the classroom laboratory, the instructor explains isolation technique. She states that the primary objective of isolation and isolation technique is the prevention of spread of disease organisms. The students are asked to discuss ways in which organisms can be prevented from entering the body and the instructor listens to see if they include handwashing and other aspects of aseptic technique. The instructor then points out that, since infective agents can enter the body through direct contact with infected persons and articles, isolation technique protects the students and others, including the patient in the isolation unit. The instructor describes isolation technique and then demonstrates the setting up of an isolation unit in the classroom laboratory. She demonstrates, also, gowning and handwashing, and how to take in and remove articles from the unit. It is pointed out by the instructor that, once in an isolation unit, the danger of self-infection can be minimized by the student if she avoids touching her face and hair and removes all rings and other jewelry that might be contaminated.

After the instructor completes the demonstration, she asks the students to practice the procedure. One student acts as the patient in the isolation unit and another carries out the procedure of entering the unit, gowning, handwashing and removing the gown, and removing "contaminated" articles from the unit. Each student is given an opportunity to return the demonstration. The instructor then evaluates the students' understanding of how organisms may enter the body through direct contact by asking them to discuss reasons why long-sleeved gowns are used in the isolation unit rather than short-sleeved ones.
Discussions of isolation procedures. Describes technique and stresses the necessity of preventing self-infection and spread of organisms to others by way of direct contact.

A brief discussion of isolation precautions, emphasizing strict observance of technique to prevent infections in self and/or disseminating organisms to others who may then become infected.

Detailed discussion and description of isolation procedures. States the purposes of isolation technique as prevention of spread of infection to the nurse and other patients, and prevention of the spread of other organisms to the isolated patient.

A discussion of the aspects of isolation technique.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

In the classroom, the instructor and students discuss the characteristics of newborn infants, with emphasis on their susceptibility to infection. The instructor asks the student to enumerate the different ways in which organisms can enter the body. After their discussion, the instructor focuses their attention on the alimentary tract (ingestion) as one route by which infective agents can enter the body. The instructor explains that one effective way of preventing organisms from entering the body in this way is by the sterilization of formulas. The process of preparing and sterilizing formulas is described by the instructor, who points out that contaminated formula may result in an infection of one infant or an entire nursery. She explains that clean technique is observed during the preparation of the formulas since terminal sterilization makes aseptic technique unnecessary. The instructor points out that, here, terminal sterilization is preferred over the concurrent sterilization used in isolation technique.

The students are assigned, during the days following this class, to the formula room for a period of two days, during which they observe and assist in preparing (mixing) and sterilizing formulas. As part of their assignment, they keep notes on the different types of formulas made and the method of terminal sterilization. After this experience has been completed, the students are asked by the instructor to write a critique of the experience—including in the paper an explanation of why contaminated formula may produce infection in infants. The instructor evaluates the written papers to determine the students' understanding of the alimentary tract as one route by which organisms enter the body.

Discusses the technique necessary in the preparation of formulas, the equipment needed, and the sterilization procedures. Points out the need for aseptic technique and sterilization since contaminated formula may be the source of infection in newborn infants.


Discusses formula making in the home and in the hospital. Since milk is an ideal medium for the transmission of disease, sterilization must be carried out to reduce possibility of infections in infants.


A discussion of how adequacy of terminal sterilization can be determined by cultures.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

In the classroom, the instructor asks the students to discuss aseptic technique. She listens for such points as handwashing, proper care of contaminated articles, and maintaining the sterility of sterile articles. The instructor then explains aseptic technique as carried out in the operating room. She points out that the surgical scrub and the use of sterile gowns and gloves, as well as the wearing of caps and face masks, help protect the patient from organisms that may be on or in the personnel in the operating room. The instructor reminds the students of the values and limitations of the face mask, pointing out that, since it is the most effective method we have at present to prevent the spread of organisms from the nose and mouth, it is essential in the operating room. She further points out that, since organisms may very easily enter open wounds during surgical procedures, it is extremely important to minimize the chances of spreading organisms. The instructor describes and explains the scrub technique and the procedure of setting up an operating room. To illustrate the latter, the students are shown the film "Setting up an Operating Room." After seeing the film, the instructor asks the students to discuss it in terms of the way it demonstrated aseptic technique and illustrated the mechanics of setting up for surgery.

In the afternoon of the same day, in the operating unit, the students practice scrubbing, then set up, under sterile conditions, an operating room. During the procedure, the instructor observes to see if the students maintain sterile technique. After the practice sessions, the instructor determines how well the students understand the ways in which organisms leave the body by asking them to discuss what should be done if a sterile glove should be accidentally contaminated during surgery. The students are also asked to explain why, even with a face mask, sneezing and coughing directly over a sterile field or the patient undergoing surgery may result in a wound infection.

Describes surgical asepsis, stressing the importance of observing this technique during surgery to prevent infection. Points out that masks are worn (covering the mouth and the nose) to prevent bacteria from the respiratory tract from entering the wound.


The preoperative scrub is discussed as being very important to the prevention of infection since most superficial organisms can be scrubbed away.


Describes new types of masks which are thought to be more effective than gauze or muslin. Cites sources of infective organisms which may enter the body of the patient as being exhalations from the personnel attending the patient, or contamination of the wound from the hands and clothing of the personnel.

"Setting up an Operating Room," film. Color, sound, 20 minutes. Available from Surgical Film Library, Surgical Products Division, American Cyanamid Company, 1 Casper Street, Danbury, Connecticut.

Shows application of aseptic principles in setting up a room for surgery and the duties of the nurse.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

In the ward classroom, the instructor and students discuss the nursing care of infants with diarrhea. The instructor explains that some infants with this condition are isolated, while others are not. She states, however, that it is very important that the stools of such infants always be isolated, whether or not they are in an isolation unit. The instructor explains that special diaper containers should be labeled and placed in the infant's room, near his bed, and they should be used exclusively for that particular baby. She further explains that, since organisms leave the body by way of alimentary discharges, and particularly in diarrheal stools, such excretions must be isolated to avoid spread of the causative organisms. The instructor then explains the importance of sending all diapers that are used by infants with diarrhea to the laundry in specially marked bags, apart from the other laundry. The students are reminded of their tour of the laundry and the preventive measures they observed there. The instructor points out that, by sending diarrheal diapers in special bags, the personnel in the laundry are protected as well as the personnel and infants on the pediatric ward. The students are reminded that handwashing is necessary after each diaper change on all babies, especially those with diarrhea.

That same day, on the pediatric ward, the students are assigned the care of infants with diarrhea both in isolation and on the open ward. The instructor observes to see if the student caring for the infant in isolation carries out proper isolation technique including care of soiled diapers. The instructor observes the student caring for the infant not in isolation to see if she secures, labels, and uses a special receptacle for the baby's diapers. After the clinical practice period, the students discuss, in the ward classroom, their patients and the differences in their care. The instructor asks them to explain why the care of the diapers is the same for both the isolated and the non-isolated infants.

Stresses the necessity for strict isolation of diarrheal stools because of the abundance of infective organisms they contain. Cites the importance of disposal of stools and diapers in appropriate containers, and the importance of handwashing to prevent spread.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

In the classroom, the instructor discusses the nursing care of patients with lacerations and wounds such as those incurred in automobile and other accidents. She points out that, as part of the care of such patients, it is important to remember that they must be protected against infections and complications such as tetanus. The instructor has previously assigned a group of students to prepare a discussion of tetanus, its causes, treatment and nursing care, and its prevention. The students are now asked to present their discussion, after which the instructor focuses their attention on the preventive aspect. She explains that active immunity to tetanus can be produced by administering a toxoid, two doses three months apart, which produces immunity of a fairly temporary nature. It is for this reason, she points out, that yearly "booster" doses of tetanus toxoid are necessary, reminding the students that this is the type of immunizing agent against tetanus that they received before entering the nursing program. The instructor explains that a person not previously immunized with tetanus toxoid should be given tetanus antitoxin for immediate protection, after skin-testing for sensitivity to the antitoxin. She also explains that the treatment of any wound, particularly puncture wounds, should include either tetanus antitoxin or a toxoid booster. Here, the instructor stresses the importance of keeping immunizations up-to-date, so that in emergency situations protection is already present within the body. As a review, the instructor asks the students to explain how antitoxins and toxoids produce immunity. She listens to see if they discuss a toxoid as stimulating the body to make its own antitoxin, while an antitoxin neutralizes toxins but does not affect bacteria.

The next day, on the surgical ward, the student is assigned the care of a newly-admitted patient who has been in an auto accident. While discussing the patient with the student, the instructor asks her if she thinks the patient should receive a tetanus immunization and, if so, which type and why. If the patient has already received the immunizing agent, the instructor asks the student to explain why the type he received was given rather than the other.

Discusses tetanus in terms of how it may be contracted. Stresses immunization and treatment of injuries as the two best means of protection against tetanus. Describes immunization procedures.

Amy Frances Brown, Medical and Surgical Nursing II, 1959, pp. 220-224.

A description of tetanus, how it is transmitted, and the way in which it can be prevented. Includes a discussion of both passive and active tetanus immunizations.


An explanation of the types of tetanus immunizing agents and their actions.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

In the classroom, the instructor asks the students to review the general characteristics of the newborn infant. She listens for the students to include in their discussion the newborn's greater susceptibility to many conditions and his immunity to some communicable diseases. After the discussion, the instructor points out that the newborn's immunity to certain conditions lasts for the first few months of life, approximately six, after which he is susceptible to them. She explains that some of these conditions are measles, smallpox, and diphtheria, and that immunity to them is transferred from the mother through the placenta only if the mother is immune to the diseases. The students are reminded that this type of immunity is passively acquired. The instructor further explains that, because the immunity of the newborn does not extend beyond about the sixth month of life, it is important that immunizations be started at this age, or earlier. She states that diphtheria, pertussis, and tetanus (DPT immunization) are usually the first immunizing agents administered to infants, although poliomyelitis and other vaccinations are sometimes started at or near the same time. The instructor describes the DPT immunization and asks the students to briefly discuss how it produces immunity and how long the immunity lasts.

The next day, in the pediatric clinic, the students are given the responsibility of assisting with the administration of immunizing agents to infants. They have been asked to keep a record of the different immunizations given. The students have also been requested to turn in, on the following day, a paper describing and comparing the immunizations given in the clinic, including explanations of the types of immunity that were conferred by the immunizing agents. From these papers, the instructor can evaluate the students' understanding of susceptibility and immunity and how immunity is conferred.

Stresses the importance of starting immunizations before, or not later than, the sixth month of life. Diphtheria, tetanus, pertussis, smallpox, and poliomyelitis immunizations are listed as the ones most usually given during the first year of life.


Describes the combined diphtheria, tetanus, and pertussis immunization and its actions and effectiveness.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

During a class period, the instructor and students discuss postoperative complications, such as abscesses and wound infections, and how they may be prevented. The students are asked to review aseptic technique (in the operating room and on the surgical ward) and how it helps prevent infections. After a brief discussion, the instructor points out that such complications do occur and, since they do, it is important to understand that a period of time will pass before any symptoms appear. It is further pointed out by the instructor that often, particularly in the case of minor surgery (such as a tissue biopsy), the patient may be almost ready for discharge from the hospital when he suddenly develops the symptoms of an abscess or wound infection. In this case, she states, the incubation period, or lapse of time, results in a delay in treatment and a prolonged hospital stay for the patient. The instructor points out that, in the case of major surgery, the development of a wound infection or an abscess may cause the patient much discomfort and seriously interfere with the healing process. She states that, in addition to good nursing and medical care (and isolation), such a patient needs help in adjusting to his prolonged hospital stay as well as to his delayed recuperation.

Following the class, the students visit the hospital laboratory, where they are shown cultures of organisms from infected surgical wounds. It is pointed out to the students that varying periods of time lapsed before the patients from which the cultures were taken developed symptoms, and that varying incubation periods passed before the organisms grew on the culture media.

The next day, the students are assigned the care of the patients whose cultures they saw in the laboratory, in order to better understand how the infections affect the patient, as well as to gain a broader understanding of the fact that there is an incubation period and that it varies. The instructor also observes the students' technique (handwashing and other procedures) while they are caring for the patients.

Briefly describes wound infections, pointing out that they produce symptoms, usually, from three to six days after surgery.


Points out measures that can, if taken, help prevent infection of wounds in the operating room and on the surgical ward during dressing changes. Includes a discussion of handwashing procedure.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

In a classroom discussion, the instructor explains the well-child program in the out-patient department to the students. She points out that the students will each be responsible for one of the teaching sessions in which the parents are instructed regarding various aspects of child care. The instructor explains that an important part of the teaching are those instructions regarding childhood diseases and the care of children during them. The instructor asks the students to discuss those points they think should be included in the class dealing with childhood diseases. She listens to the discussion that follows to see if the students include such points as telling the parents that, because there is a lapse of time from invasion of the body to the onset of symptoms, it is not necessary to keep the child who has been exposed to measles or mumps away from school until ten or twelve days have passed, or until the child develops prodromal symptoms. She also listens for the students to indicate that they remember that, when prodromal symptoms do occur, the child should be kept at home because he is probably highly communicable and because his health should be protected by keeping him in bed. The instructor listens for mention of the fact that the child must be kept at home, and in bed, during the time he presents the disease symptoms, so as to prevent spreading the condition to others. After the discussion, the instructor adds that parents should be advised that children should not be deliberately exposed to a communicable disease just so that he can "get it over with", pointing out that this may be hazardous. She briefly cites the case of "Willie", who was forcibly exposed to "measles"—and during Willie's incubation period the other child's measles turned out to be diphtheria.

The next day, the student is observed conducting the class on childhood diseases for parents in the well-child clinic. To evaluate her understanding that there is a lapse of time, the instructor observes to see if the student instructs the parents to let their exposed children go to school, and play with others, until about ten days after exposure—or until the child develops prodromal symptoms.
How to Prevent Diseases of Children, pamphlet, 1948, 14 pages. Available from Cutter Laboratories, Berkeley 1, California.

Useful for students and parents. Tells the story of "Willie", who was forcibly exposed to "measles" which turned out to be diphtheria. Also discusses diphtheria, whooping cough, and smallpox, and the immunizations against them.


Describes measles, chicken pox, and mumps, and gives the incubation periods of each. Includes the approximate periods of time each should be isolated.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

The students have been assigned the care of patients with varied enteric illnesses which are communicable. In the ward classroom, the instructor discusses with the students such conditions as dysentery (both amebic and bacillary), diarrhea, typhoid, and paratyphoid. The students are asked to recall the ways in which the spread of organisms can be prevented, with the reminder from the instructor that the way in which the organisms leave the body determines the kind of preventive precautions necessary in caring for the patient and disposing of his body discharges. After a review of the routes by which organisms leave the body, the instructor explains that it is important to understand that the diseases under discussion have periods of communicability and that they vary in duration as in other conditions. The instructor also points out that the period of communicability of these enteric conditions lasts for as long as the organisms are in the body (and in the patient's stools). It is further explained by the instructor that many persons become carriers of these and similar diseases, in which state the organisms remain in the body and are present in the stools, and there are usually no symptoms of the disease. The students are reminded that, by understanding that there is a period of communicability, the management of preventive measures can be more efficient during that period. The instructor points out that, often, patients with these enteric diseases are isolated, and asks the students to briefly review isolation technique.

Later that day, as part of their care of the patients to whom they have been assigned, the students collect stool specimens for cultures. The instructor observes the student's handling of the specimen and whether or not she washes her hands before and after collecting the specimen. Later in the week, in another ward class, the students are asked to discuss the results of the stool cultures from their patients. The instructor asks them to explain what the results mean in terms of communicability or non-communicability.

Includes several questions that must be asked when a case of typhoid is found regarding epidemiology, transmission, prevention, and control.

"Major Causes of Acute Diarrhea," Therapeutic Notes, Parke, Davis & Company, June, 1957, pp. 139-143.

Discusses such causes of diarrhea as bacillary dysentery and food poisoning. Outlines the management of acute diarrheas, including isolation during the communicable period.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

In the classroom, the instructor and students discuss some of the communicable diseases which may be seen on the pediatric ward, such as measles, whooping cough (pertussis), and poliomyelitis. The instructor points out that, although children with measles are not often hospitalized, some are. She also points out that, while pertussis and poliomyelitis have been reduced in incidence by immunizations, they are still seen. Here, the instructor asks the students to review the types of immunizations used to prevent these two communicable diseases. The instructor then explains that, in measles, the period of communicability begins with the early catarrhal (prodromal) stage and ends with the disappearance of the rash, if not before. She describes the period of communicability of pertussis as extending from the catarrhal stage to the remission of all symptoms. The instructor then explains that poliomyelitis is usually considered at least potentially communicable until after the acute stage has passed. It is re-emphasized by the instructor that there is a period of time during which such diseases can be transmitted and an understanding of this is of value in developing a nursing care plan.

The next day, on the pediatric ward, the student is assigned the care of a child with one of these three conditions. She is observed carrying out isolation technique during the time the child is isolated, by the instructor. When the physician orders that the child be moved to the open ward, the instructor asks the student why the child no longer needs to be in isolation. The instructor also observes to see if the student, in moving the child out of the isolation unit, properly disposes of contaminated articles and cleans the room. She asks the student to explain what care is necessary for the child's toys that were in the isolation unit.
Teaching Materials


Discusses poliomyelitis and pertussis, and gives the approximate length of time each requires isolation because of communicability.


Describes measles and whooping cough, including their periods of communicability. A discussion of poliomyelitis also included.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Medical-Surgical Nursing II

Second Level Learning Experience

In the classroom, the instructor and students discuss venereal diseases and the environmental factors which contribute to their incidence. The instructor asks the students to briefly review the types of venereal diseases and how they are spread. She then asks them to speculate as to why venereal disease rates are so high. She listens for the students to identify inadequate or inaccurate sex education and the reluctance of many victims of venereal disease to seek treatment (so that they continue to spread the disease) as being major factors in the high incidence of these diseases. After the discussion, the instructor points out that prostitution is another important environmental factor. She explains that prostitution, although illegal in all but a few places in this country, is still a flourishing business, and until it is brought under control (along with the other contributing factors), there will be no great decrease in venereal disease rates. Here, the instructor describes the work of the venereal disease case worker and epidemiologist as most important in the control of the environment, particularly where prostitution is concerned.

The instructor has planned a field trip, for the next day, to the Venereal Disease Control Center. At the Center, the case worker and the epidemiologist discuss the program and how it attempts to alter the environmental factors involved in venereal disease. A selected tape-recording is played for the students which illustrates case-finding, through the interview technique, as an important part of environmental control. After the field trip, the students are asked to write a critique of the experience, including an explanation of how environmental factors contribute to the incidence of venereal diseases.
"Why Venereal Disease is Out of Control," Nursing Outlook, June, 1959, p. 329.

Points to complacency and lessened control measures as major factors in the high incidence of venereal disease.


Traces history of syphilis, contrasting early attitudes and treatments with today's approach. The need for public education is stressed.


Excellent discussions of case finding through interviews and serologic blood tests, and (Chapter 7) the role of prostitution in impeding venereal disease control.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Nursing of Children

Second Level Learning Experience

The students have been instructed to prepare for class, as a group, a discussion of encephalitis and psittacosis, two diseases more common to children than adults. In the classroom, the instructor asks the students to present their material. She listens for such points as etiology, incubation periods, symptoms and duration of infectious periods, treatment and nursing care, and prevention and control. After the discussion, the instructor points out that, since both these diseases are transmitted by vectors common to man they can be prevented by adequate control of the environment and environmental factors. She explains that psittacosis is transmitted by infected birds of the parrot family, and that this disease has become a problem because of the large number of parakeets imported into this country for sale as pets. The instructor explains that controlling this disease has become increasingly difficult, in spite of rigid customs inspection, because of the black market business in this country which has evolved from the great public demand for parakeets as pets. The instructor further explains that prevention of encephalitis, through control of the environment, depends upon the extermination of the insects and animals (such as mosquitos, bats, and flies) that are known to carry the disease.

To further illustrate that psittacosis is a problem and that it can be controlled only through strict adherence to the law and the sale of birds that are not sick, the instructor plans a visit to a local pet shop where parakeets are sold. At the pet shop, the owner explains his role in the prevention of psittacosis and describes the laws regarding importation of the birds which also helps to prevent the disease. The symptoms of psittacosis in the parakeet are described by the owner of the shop, so that the students can better understand the role of the bird in the spread of the disease. After this field trip, the instructor asks the students to write a brief paper explaining what they would advise parents to do when buying a pet, and why they would advise parents to be particularly cautious in the purchase of a parakeet.

Describes encephalitis and names some of the insects which carry and transmit the disease.


Outlines the cause, mode of transmission, and the method of prevention of psittacosis. Points out that one aspect of prevention is education of the community regarding the danger of pets belonging to the parrot family.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL
AREA: Medical-Surgical Nursing III

Third Level Learning Experience

The instructor and students, in the classroom, discuss the responsibilities of the nurse in the health teaching of diabetic patients. The instructor points out that an important part of this health teaching is concerned with the prevention of infections. She further points out that diabetics are very susceptible to infections of all kinds and have much slower healing processes than non-diabetics, emphasizing the necessity of the diabetic's awareness of these points and his understanding how to prevent infections. The instructor explains some of the aspects of the preventive health teaching necessary for diabetics, including skin care, avoidance of exposure to infectious conditions, and the technique for self-injection of insulin and rotation of sites of injection. The instructor further explains that skin care involves avoidance of going barefoot (to minimize chances of cutting the feet, which may lead to infection), immediate treatment of cuts, scratches, and abrasions, and careful trimming of nails. It is stressed by the instructor that all of these are important because they can prevent the occurrence of infections in the diabetic. The instructor explains also the importance of instructing diabetic patients to avoid undue exposure to the elements as well as to infections, particularly respiratory infections, because of their increased susceptibility. The students are reminded that the diabetic must be taught how to sterilize his syringe and needles. The instructor describes and demonstrates, in the classroom, ways in which the patient can be taught to handle and care for his insulin syringes and needles, and give himself injections. The students are told that they will each be responsible for the health teaching of a diabetic patient.

The next day, on the medical ward, the student is assigned the health teaching of a diabetic who has not previously been instructed. The instructor asks the student to outline what she plans to tell the diabetic and the equipment she will teach him to use. The instructor observes the student during the teaching to see if she includes all the necessary points (this may take several
sessions) and to see how well the student helps the patient understand the ways in which he can prevent organisms from entering his body and causing infection.

Teaching Materials


Discusses the various aspects of diabetic health teaching. Includes skin care and care of equipment as important to the prevention of infections.


Describes diabetic health education, stressing the dangers of infection and the ways in which infections may occur.


A handbook for the diabetic. Includes care of skin and feet and general hygienic measures. Contains a section on the care of equipment for injections. Emphasizes the importance of preventing infections.


Discusses how infections can be prevented, naming the most common sites of infections as being the respiratory and digestive tracts, and the skin.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

During a class period, the instructor and students discuss rabies and how it is transmitted from animals to man. The instructor points out that, in rabies, the infective agents enter the body by way of the bites of infected dogs, or inoculation. The instructor explains that other animals can transmit rabies, but that the dog is the most common source because dog bites are more common than bites from other animals. The symptoms of rabies in the dog are described by the instructor, who points out that conclusive evidence of rabies is found with the identification of Negri bodies in the brain of the suspect dog. The instructor explains that, because of the potential danger of every dog bite, the Public Health Department is deeply concerned with tracing victims and dogs to prevent rabies in humans.

After the class period, the students visit the rabies control center of the Public Health Department where the control officer explains their program to combat rabies and the responsibility of the Department in tracing and observing dogs that have bitten humans. He explains that this is necessary since the dog may be rabid and since the mortality rate of rabies is extremely high unless prophylactic treatment is instituted within a few days. Here, it is explained that the nearer the head the bite is, the sooner the Pasteur treatment, or hyperimmune serum, should be given. The control officer explains also that if the dog which inflicted the bite cannot be found, prophylactic treatment is often given anyway, in order to prevent possible rabies.

In a classroom discussion, following this visit, the instructor asks the students to discuss why it is so important to catch and observe a dog which has inflicted a bite on a human for a period of, generally, twelve days. She also asks them to explain why the public is urged to report all dog (and other animal) bites at once. By asking these questions, the instructor can evaluate the students' understanding of inoculation as one way in which organisms can enter the body, and their understanding of rabies and its effects in humans.

Describes rabies in dogs and in man. Stresses the importance of reporting bites incurred by strange-acting dogs, since rabies can be transmitted through bites of infected dogs.

*Control of Communicable Diseases in Man*, The American Public Health Association, 1955, pp. 140-144.

Describes rabies and rat-bite fever, two good examples of how organisms are spread through bites of infected animals.


Describes rabies as it occurs in dogs and other animals, and how it is transmitted to man.


A discussion of rabies as it occurs in man, including treatment.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

The instructor, during a class period, describes the general behavior of the manic patient. She points out that one typical characteristic of these patients is their frequent suicidal attempts, or self-mutilatory acts, such as wrist-slashing and other cuts and wounds. It is explained by the instructor that, because of the neglect of the patient in the area of cleanliness and because of his generally lowered resistance, due to poor nutrition and inadequate rest, the possibility of infection is ever-present. The instructor points out that infective agents may be present in large quantities on the patient's hands and other parts of his body, and that these organisms may gain entry into the body through cuts and breaks in the skin. The instructor states that, while the area of interpersonal relationships is a major aspect of the care of such patients, the prevention of infection is also important. The instructor and students then discuss ways in which self-inflicted wounds can be prevented or minimized, by careful observation of patients, and how such potential avenues of infection can be kept as clean as possible.

The next day, on the psychiatric ward, the students are observed in their care of, and interactions with, manic patients. Their understanding of the needs of the manic patient is evaluated as well as their understanding of how organisms enter the body, as evidenced by their efforts to prevent or protect any wounds or abrasions.

Describes the behavior of manic-depressive patients. Stress that the manic patient is easy prey to any kind of infection because of injuries and poor hygiene and nutrition.


Discusses manic behavior, dynamics and treatment. Points out the need for protecting the patient from self-inflicted cuts, burns, etc., since they predispose to infections.


Discusses the nursing management of the manic patient, pointing out that greatly disturbed patients often sustain abrasions which may become infected unless cleaned and protected.
OBJECTIVE: Understanding of the various routes by which infective agents enter the body

CLINICAL AREA: Team Nursing-Ward Management

Third Level Learning Experience

During a class in which the responsibilities of the team leader in the team conference are under discussion, the instructor presents the following situation to the students: Mr. J. B., age 42, has just been admitted to the surgical ward with second and third degree burns covering approximately forty-five percent of his body surface. The burned area was debrided in the emergency room, and the open method (burns not wrapped) of treatment has been decided upon. The patient has been placed in a bed with sterile linen and appears to be responding to treatment for shock. This is the information given the students. The instructor has planned the situation in order to give the students an opportunity to practice, in the classroom, the nursing team conference in the identification of nursing care problems and development of a plan of care. The instructor asks for volunteers to act as team leader and team members, and explains to the students that they should act as they would in the actual situation in arriving at a plan of care for this patient, with the team leader guiding the discussion.

As the students discuss the patient and his nursing needs, the instructor listens to see if they identify the immediate problem as the treatment of shock, with the second most important part of the plan of care the prevention of infection; if they realize and point out that because of the extent of the area burned, and the patient's susceptibility to infection, sterile linen must be used to help prevent organisms from coming in contact with the denuded areas and setting up infectious processes. The instructor also listens for the students to point out aseptic measures that must be employed in caring for this patient to prevent infection and thereby promote healing and more rapid regeneration of tissue. The instructor also evaluates the students' discussion in terms of the other aspects of care they include in the nursing care plan—diet, muscle exercises to prevent contractures, careful turning of the patient, and close cooperation among the members of the team to insure the best care possible for him.
Teaching Materials


A thorough discussion of the general care of the patient with burns. Includes a section on the importance of preventing the introduction of infective agents into the burned area. The open method of treatment and measures for preventing infection are also discussed.


Discusses care of the burned patient, emphasizing the necessity of preventing infection and how this can be accomplished.


The care of patients with burns is described at length. The author regards the prevention of infection secondary only to treatment of shock, emphasizing asepsis in caring for the patient.


Stresses the importance of using sterile linen and observing handwashing to prevent organisms from invading the burned area.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Medical-Surgical Nursing III

Third Level Learning Experience

In the classroom, the instructor and students discuss the nursing care of the patient with pulmonary tuberculosis. The instructor emphasizes two major aspects of care as being prevention of the spread of tubercle bacilli and the promotion of interpersonal relationships with the patient. She explains that the nurse must impress upon the patient the necessity of covering his mouth when coughing, using tissues for expectoration, and avoiding kissing and other close contacts with his family and others. The instructor points out that the patient must understand that the reason he does these things is to prevent the spread of organisms. The students are advised that, for these instructions to be better understood and accepted by the patient, they should be given in a sincere, calm, and interested manner. The instructor further explains that, by gaining the confidence and cooperation of the patient, the nurse can better help him understand his condition and how its spread can be prevented—that is, how the organisms leave his body. The instructor explains the other aspects of the nursing care of this patient, including rest, diet, good hygiene, and the fostering of an optimistic outlook on the part of the patient.

To prepare the students for their role in teaching patients with tuberculosis, as part of their care, the instructor and a student role-play a situation in which the instructor acts as the patient who is in need of instructions, and the student plays the role of the nurse. As the patient, the instructor asks such questions as, "When my family visits me tomorrow, can I hold my baby?", and, "Why can't I be up all day, like some of the other patients?" From the answers given by the student, and from the instructions she gives regarding preventive measures, the instructor is able to evaluate how well she understands that the respiratory tract is one route by which organisms leave the body. She can also evaluate the student's understanding of the nursing needs of the patient with tuberculosis and how he should be helped to accept his disease.

A discussion of the role of the nurse in helping the patient with tuberculosis accept his illness. Includes protective measures for the nurse and others.


Explains the nursing care of the patient with tuberculosis, including the ways by which the spread of organisms can be prevented.


Briefly describes the instructions necessary for patients who have tuberculosis regarding the prevention of spread of organisms through coughing.


Describes the patient teaching program at Valley Forge Army Hospital.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

In the classroom, the instructor explains to the students the responsibilities of the Public Health Nurse in the home care of the patient with tuberculosis. She points out that the patient and his family must be instructed in the measures of preventing spread of the disease, as well as in the actual care of the patient. It is further explained by the instructor that, for better understanding and cooperation, as many members of the family as possible should be included in the instruction periods in the home. The role of the Public Health Nurse is stressed by the instructor as being important in helping the family adjust to the care of the patient in the home, by working with them to provide the desired environment for the benefit of the patient and the family. The instructor asks the students to review the aspects of health teaching given tuberculosis patients in the hospital. After this, the instructor discusses some of the similarities between home care and hospital care, including the following points: the patient should have a separate bed if at all possible, both to safeguard his rest and to protect other members of the family from organisms from his respiratory tract; the patient must be instructed to cover his mouth and nose with tissues or similar material when coughing or sneezing, and to use tissues for expectoration since this reduces the number of organisms disseminated in the air; the patient and family must be impressed with, and understand, the importance of adequate rest, diet, restriction of visitors, and other points, including care of the patient's linen and dishes.

The next day, in the field, the student accompanies the Public Health Nurse on a home visit to a recently-diagnosed patient. The student is held responsible for instructing the patient and the family in preventive measures and the importance of rest for the patient. After the visit, the instructor asks the Public Health Nurse to evaluate the student's understanding (based on her instructions to the patient and family) of how organisms leave the body, and her understanding of the home care of the tuberculosis patient.

Excellent discussions of the Public Health Nurse's role in helping the family to understand and employ precautionary measures to prevent the spread of organisms through contamination by respiratory discharge.


Explains the home care of the patient with tuberculosis, pointing out the precautions necessary to prevent the spread of organisms through coughing, sneezing, etc.


The case histories present typical problems faced by tuberculosis home patients with a commentary on their guidance needs.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

During a classroom discussion of the psychopathic patient, the instructor presents the students with the following situation: An eighteen year old female has been admitted to the open psychiatric ward from the local detention hall after having been arrested for vagrancy and "peculiar, inappropriate" behavior. Upon admission, she received a physical examination which revealed nothing apparently abnormal except for a small lesion on her lower lip. Because the lesion was indurated and was suspected of possibly being a syphilitic chancre, the examining physician ordered a dark-field examination of fluid taken from the lesion. The fluid was found to contain multitudes of spirochetes, establishing the fact that the patient has fairly recently contracted syphilis. Penicillin was ordered to be started immediately and the patient was brought to the ward. A preliminary interview with a staff psychiatrist produces information suggesting a psychopathic personality.

Having presented this information to the students, the instructor asks them to break up into small groups with each group developing a tentative plan of care for this patient and identifying immediate psychological and physical needs. After a fifteen minute buzz session, the students are asked to present their plans of care and compare them in terms of how well they meet the needs of the patient. During the ensuing discussion the instructor listens for the students' identification of both physical and psychological needs, the former in light of the patient's diagnosis of first-stage syphilis, and the latter in view of the patient's psychiatric diagnosis. The instructor listens to see if the students recommend that, although syphilis is almost always transmitted through sexual contact, the location of this patient's lesion indicates precautions such as protecting open cuts, and thorough handwashing after each patient contact. The instructor listens for mention of ways in which the students suggest establishing rapport with the patient. After the discussion the instructor asks why isolation is not necessary for this patient, and how her behavior might influence the manner in which interpersonal relationships are initiated.

Discusses and describes how syphilis is transmitted. First-stage syphilis is described in terms of symptoms.


Discusses the sociopathic personality, including sexual promiscuity as one type of behavior exhibited.


A discussion of syphilis and how it is spread.
OBJECTIVE: Understanding of the different routes by which organisms leave the body

CLINICAL
AREA: Team Nursing-Ward Management

Third Level Learning Experience

During a classroom discussion of the responsibilities of the head nurse, the instructor presents the following structured role-playing situation to the students: the head nurse on a surgical ward is confronted with the problem of two nurse aides who are ill, yet continue to report to duty. One of the aides complains of a sore throat and has a history of frequent throat infections; the other aide has been complaining of moderate diarrhea. The head nurse is faced with the task of helping these workers understand that they are endangering the safety of the patients, and others, by remaining on the ward, as well as threatening their own health. This is the information given to the students.

The students are asked to volunteer to role-play the head nurse and the nurse aides, and arrive at some solution to the problem. The instructor evaluates the students' understanding of the responsibilities of the head nurse and their understanding of the different routes by which organisms leave the body by listening for the following points in their role-playing; the identification of the head nurse's problem as that of helping the nurse aides to understand that, because organisms leave the body by way of respiratory and alimentary tract discharges, their conditions can be spread to others; the head nurse is responsible for impressing upon her staff the importance of staying at home, and receiving medical attention, when they are ill; and other points which indicate an understanding of how organisms leave the body, as well as an understanding of some of the responsibilities of the head nurse.
Teaching Materials


A discussion of the common cold, how it is spread, and the nurse's health teaching responsibilities regarding prevention of spread.


Discusses colds and how their spread can be prevented.


A section concerned with health service, recreation, and safety programs for personnel. Points out that persons in supervisory positions have the opportunity of detecting fatigue and illness in personnel and the obligation to give attention to them. Gives some examples of personnel's disregard for health programs and good health habits.


Stresses the economic importance of colds, in loss of wages and manpower, cost of drugs, etc. Discusses how the spread of colds can be prevented, and how colds are treated.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Medical-Surgical Nursing III

Third Level Learning Experience

As part of the unit on fungus diseases, the students have been asked to prepare, for class presentation, a discussion of histoplasmosis and coccidioidomycosis. In the classroom, the students are asked to present their data. During the discussion, the instructor listens for the students to point out that histoplasmosis is caused by a fungus, that it is often asymptomatic, although pulmonary lesions may develop, that there is no specific treatment, and that the disease is very prevalent in the central regions of the United States. The instructor also listens for the students to explain that coccidioidomycosis, also caused by a fungus, may be asymptomatic or may produce acute, febrile symptoms, that there is no specific treatment, and that this disease is very common (endemic) in the American Southwest. After the students complete their discussion, the instructor explains that nursing care of patients with either disease who has symptoms consists largely of supportive care, and preventing spread if the patient has open, draining ulcerations. The instructor points out that many patients with chronic complaints (cough or erythema, for example) are skin-tested for both of these diseases as part of the diagnostic work-up. The instructor then asks the students to review and discuss skin tests and their usefulness in demonstrating susceptibility or immunity. She listens for the students to explain that, in some cases, a positive reaction to a skin test indicates susceptibility, and no infection present (Schick test), while in other instances, a positive reaction indicates past or present infection (tuberculin test), and that negative skin tests may be obtained as the result of desensitization, from past infection, to the skin test material. The instructor then points out that in coccidioidomycosis solid immunity is conferred by an infection, and that it is believed likely that histoplasmosis confers immunity. She also states that there are no immunizing agents for either disease, and that positive skin tests indicate infection.

The next day, on the medical ward, the student is assigned the care of an acutely ill patient who has been skin-tested for both diseases. The instructor observes the
nursing measures employed by the student in caring for the patient, and asks the student to explain the significance of the patient's reactions to the tests in terms of his susceptibility or infection.

Teaching Materials


Thorough descriptions of coccidioidomycosis and histoplasmosis, their etiology, treatment, communicability, susceptibility and immunity, diagnosis, and prevention and control measures.

Charles F. Carter and Alice Lorraine Smith, Principles of Microbiology, 1957, pp. 517-518.

Discussion of coccidioidomycosis and histoplasmosis.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

In the classroom, the instructor describes the Public Health Department's immunization program. She discusses the types of immunizations given (DPT, smallpox, Salk, and others), and then asks the students to explain whether each is active or passive. The instructor points out that mass poliomyelitis immunizations are given by the Department in schools and in clinics. The students are asked to discuss the Salk vaccine and how it gives protection against poliomyelitis. The instructor reminds them of the role of this vaccine in reducing the incidence and crippling effects of polio.

In the afternoon of the same day, the students accompany the instructor on a field trip to the Rehabilitation Center, where they see the various phases in the rehabilitation of poliomyelitis victims and some of the handicapping effects of the disease. The instructor points out to the students that these individuals are ones who contracted polio before the vaccine was discovered, or who did not receive the vaccine when it was made available. After the field trip, the instructor and students discuss some of the aspects of rehabilitation that were observed at the Center.

On the following day, the students observe and assist with the administration of poliomyelitis vaccine at a school, where several hundred children are immunized. After this experience, on the same day, the instructor asks the students, during a class period, to discuss their trip to the Rehabilitation Center and their participation in the immunizations. The instructor asks them how the field trip influenced their appreciation of the immunization program. From their discussion and answers the instructor is able to evaluate their understanding of susceptibility and immunity.

Discusses poliomyelitis, emphasizing the importance of immunization as a preventive measure.


A discussion of the types of poliomyelitis viruses and the Salk vaccine as an immunizing agent. States when and how the vaccine should be given, and to whom, and discusses the effectiveness of the Salk vaccine.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

During a classroom discussion of mental retardation, the instructor explains that there are many known, and unknown, etiological factors involved in mental deficiency. The instructor reminds the students of the hereditary metabolic defects responsible for such conditions as Hurler's Syndrome and Phenylketonuria. She describes the characteristics of these conditions, emphasizing the mental deficiency that is a major feature. The instructor further explains that other types of mental retardation are caused by damage to the fetus as the result of some disease in the mother during the first trimester (such as German measles, influenza, and possibly many other diseases), and cites mongolism as an example of this. The students are asked to name other types of mental deficiency which may be due to hereditary factors, or to damage to the fetus. She listens for them to include mention of microcephaly, kernicterus, amaurotic familial idiocy, and other conditions that were included in their reading assignment. The instructor then explains that, although mentally deficient individuals comprise a small percentage of the patients in mental hospitals, the incidence of mental deficiency is fairly high. She points out that a great many of these people are cared for in special institutions, while others remain in the home. The instructor reminds the students of the extreme susceptibility of all mentally deficient persons, regardless of the type. She also states that when such persons do contract communicable diseases, they are more acutely ill than normal persons. The students are asked to discuss how the mentally deficient can be protected from disease and infection. The instructor points out that mental deficient in institutions are not exposed to communicable diseases as commonly as are those who remain in the home. She also states that the control of diseases is easier in institutions because of uniform immunizations and less exposure. The instructor re-emphasizes the necessity of immunizations for these people, pointing out that many of them do not reach adulthood because of death due to a communicable disease.

In the psychiatric clinic, the students observe the psychological and medical evaluation of a mentally deficient child, and the emphasis that is given to his protection by immunizations.

A lengthy discussion of the types of mental deficiency, with a brief section on prevention.


Discussions of mongolism, mental deficiency, and hereditary disorders involving mental deficiency.
OBJECTIVE: Understanding of susceptibility and immunity and the ways in which immunity is conferred

CLINICAL AREA: Team Nursing-Ward Management

Third Level Learning Experience

In the classroom, the instructor and students discuss the responsibilities of the team in caring for patients with infectious hepatitis. The instructor asks the students to discuss the ways in which infectious hepatitis can be spread. She listens to their discussion to see if they point out that the disease can be transmitted through the use of contaminated needles, or by accidental pricking with such a needle (inoculation), and by way of blood transfusions. The instructor points out that most patients with infectious hepatitis are isolated, and that each member of the team must understand and practice isolation technique, and aseptic technique, to help minimize the danger of spread of the disease. The students are asked to discuss some of the precautions necessary in handling body discharges from patients with infectious hepatitis and needles used on the patients. After their discussion, the instructor points out that it is important that each member of the nursing team understand that hepatitis can be transmitted through the use of contaminated needles to protect themselves as well as others. She further explains that if a member of the team should inadvertently prick a finger with a needle used on the patient with hepatitis, it should be reported at once to the team leader, who must in turn report the incident to the head nurse or supervisor. The reason for this, the instructor continues, is so that the person can be protected by the administration of immune serum globulin. The instructor reminds the students that immune serum globulin can prevent hepatitis if it is given before the appearance of symptoms.

On the medical ward the student, during her assignment as team leader, is observed leading a team conference in which she explains to the members of her team the necessity of strict aseptic technique in caring for their patient who has hepatitis. The instructor also observes to see if the student explains to her team that they should report any accidental self-contamination, such as pricking with a needle used on the patient, so that they can be given immune serum globulin to protect them from
the disease. From these observations, the instructor can determine the student's understanding of the functions of the team leader as well as her understanding that immunity can be conferred, for immediate protection, by the administration of serum globulin.

Teaching Materials


Describes viral hepatitis and the protection against it provided by gamma globulin.


Discusses infectious hepatitis and the way in which it can be prevented. States that immune serum globulin can provide protection against the disease for a period of 6-8 weeks after immunization.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Medical-Surgical Nursing III

Third Level Learning Experience

In the classroom, the instructor and students discuss the nursing care of patients with gunshot and other wounds. The instructor explains that the care of the gunshot wound is essentially the same as in other wounds, the major difference being that shock and infection, including gas gangrene, are more likely to occur in gunshot wounds. The instructor points out that, because the incubation period of the gas bacillus is of short duration, it is important that such wounds be treated as soon as possible. She then asks the students to discuss other precautions that should be taken to prevent infection. She listens for the students to mention that tetanus antitoxin or tetanus toxoid must be administered to patients with any kind of wound. After the discussion, the instructor states that the gas gangrene antitoxin should be given to the patient as soon as possible, pointing out that, if more than eight hours have passed since the wound was incurred (because of the short incubation of the gas bacillus), the wound should be left open since the gas bacilli grow only in the absence of oxygen. The students are then asked to describe the effects of gas gangrene, basing their discussion on the information obtained from their reading assignment of the previous day. After this, the instructor points out that gas gangrene is not too common in civilian life due largely to the use of the antitoxin and extensive, and early, cleaning of wounds. The instructor then states that gas gangrene spreads very rapidly and is highly communicable. She asks the students to outline preventive measures (handwashing, aseptic technique, and isolation of the patient) that should be employed to prevent the spread of the disease. The instructor listens for the above points in the students' discussion.

As part of their experience in the emergency room, the students are held responsible for the administration of gas gangrene antitoxin and tetanus antitoxin or toxoid to patients with gunshot and other traumatic wounds. To evaluate their understanding that there is a lapse of time (short) from invasion of the body to onset of symptoms in gas gangrene, the instructor asks the students to explain why it is so important that gas gangrene antitoxin be given immediately.

A discussion of gas gangrene. Incubation period given as 12-36 hours.


Describes the causes, symptoms, treatment, and nursing care of gas gangrene.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

The students accompany a health officer from the Public Health Department on a visit of several restaurants. The officer explains to the students that the reason for his inspection of the establishments is to insure that they are employing adequate sanitation procedures, and to check on the health status of food handlers. He points out that, since many diseases are transmitted by carriers, the Health Department must make frequent checks to see that known carriers are not employed as food handlers, and to see that the proper sanitary techniques are observed by all food handlers, since many carriers are not recognized as such.

That afternoon, following the field trip, the students and the health officer discuss amebiasis and its control, in a class period. (The students have previously been instructed to review amebiasis). In the classroom, the health officer explains that the Public Health Department plays a major role in the control of amebiasis. He points out that chronic amebiasis is more common than the acute form and is probably responsible for more poor health than acute amebiasis. From the public health standpoint, he explains, the most important single source of infection is the food handler with chronic amebiasis, especially the one concerned with the preparation of uncooked foods. It is also pointed out by the officer that drinking water contaminated with sewage, and vegetables fertilized with human excreta are other important sources of amebiasis. He then explains that it is important to understand that carriers often continue to handle food, because the incubation period is symptom-free, and because chronic amebiasis often has no symptoms. He further explains that, because there is an incubation period, an acute case may be difficult to trace to its source and thereby delay treatment or removal of the source. To illustrate this, he cites the example of a person who becomes ill with acute amebiasis after completing a two-thousand mile auto trip—in which case tracing the source of infection would be difficult since the victim had eaten and drunk in so many places, and
since the incubation period delayed the onset of symptoms until after the end of the trip. The students are, after this class, asked to write a critique of the field trip and the class in terms of how they helped them understand that an incubation period exists.

Teaching Materials

Describes amebiasis in terms of epidemiology, symptomatology, and treatment. Also discusses methods of prevention and control.

Gaylord W. Anderson and Margaret G. Arnstein, Communicable Disease Control, 1956, pp. 188-190.
Discusses amebiasis and its prevention and control through control of food handlers who may be carriers. Stresses the importance of strict sanitation in all food-handling establishments.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

In the classroom, the instructor explains that there is a small percentage of patients in psychiatric hospitals today because of dangerous behavior due to severe brain damage caused by a communicable disease such as epidemic encephalitis. The instructor points out, that although the number of such patients in hospitals is fairly small, it is worthwhile to discuss the effects of brain damage. She also stresses that it is important to understand that the way in which a person reacts to a communicable disease, such as epidemic encephalitis, depends not only upon the disease itself, but also on the general ability of the individual to withstand organic stress. The instructor explains that some patients may react to this disease with a variety of neurotic or psychotic patterns which require treatment. In the case of children, she explains, the disease may result in extremely hostile, aggressive, and even homicidal behavior. The instructor further explains that the brain damage incurred by epidemic encephalitis is irreparable, which accounts for the institutionalization of those persons who suffer neurological damage. The instructor then asks the students to discuss and describe epidemic encephalitis, based on their understanding of their reading assignment. During the discussion, the instructor listens for the students to point out that the disease has a variable incubation period, as well as mention of its effects on the brain. After the discussion, the instructor points out that brain damage may be prevented by killing the infective agents during the incubation period, or at the very first symptom. She also points out, however, that unless exposure to the disease is known, treatment may be delayed too long to prevent brain damage with subsequent behavior disorders necessitating hospitalization.

On the psychiatric ward, the student is assigned the care of a patient with brain damage from this (or another) disease. After caring for the patient several days, the student is asked to report to the class regarding his behavior and nursing needs, and to explain whether or not the patient's condition could be the result of delayed treatment because of the absence of symptoms during the incubation period.

Describes epidemic encephalitis and its effects on the brain, and behavior pathology due to this type of encephalitis.


Discusses encephalitis, its effects, and the measures of control.
OBJECTIVE: Understanding that there is a lapse of time from invasion of the body by an infective agent to the onset of symptoms

CLINICAL AREA: Team Nursing-Ward Management

Third Level Learning Experience

During a classroom discussion of the purposes and organization of inservice education programs, the instructor asks the students to discuss and list the important facts regarding the nursing care of patients with communicable diseases that they feel should be included in an inservice education class. The students break up into small groups to discuss what they think should be included in the class, and then rejoin to present their data. During their discussion, the instructor listens for such points as: a disease-producing organism must invade the body if a communicable disease is to develop; infective organisms enter and leave the body by way of several routes; some persons contract a communicable disease because they have no immunity to it; and, there is a period of time from invasion of the body to the onset of symptoms which varies, and which is usually non-communicable. The instructor also listens for the students to point out that some few diseases are communicable before symptoms appear, and that many are communicable during the prodromal period. A final point which the instructor listens for is that the incubation period affords the opportunity for administering materials that can prevent or modify certain diseases, before the onset of symptoms. After the discussion, the instructor tells the students that they will be responsible for planning and teaching a class, covering these points, for non-professional personnel.

Later in the week, the students present an outline of the class they are to present for the instructor's approval. The next day, the students conduct the class and are observed by the instructor. The instructor evaluates their understanding of the purposes of inservice education and their understanding that incubation periods exist, and vary, from their presentation of the material in the class.

Discusses the incubation period in relation to isolation and quarantine procedures.

Helen Murphy Donovan, "Inservice Programs and Their Evaluation," *Nursing Outlook*, November, 1956, pp. 633-635.

Discusses the aims, organization, and evaluation of inservice education programs.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Medical-Surgical Nursing III

Third Level Learning Experience

In the classroom, the instructor explains to the students that they will be, as a group, responsible for one of the classes on the tuberculosis ward for patients. She further explains that one of the most important classes is the one held for patients who are soon to be discharged from the hospital. The instructor points out that the purpose of this class is to prepare the patients for their return to their homes, to instruct them in regard to their activity when discharged (including diet), and to impress upon them the importance of keeping their appointments for sputum examinations (for acid fast bacilli). The students are asked to review the way in which tuberculosis is spread and how the spread of organisms can be prevented. The instructor listens for them to include in their discussion such points as covering the mouth when coughing, and other preventive measures. The instructor then reminds the students that a period of communicability exists in tuberculosis, and that it is longer and may vary more than in many other diseases. The instructor stresses that, because sputum examinations afford the only indication of whether tubercle bacilli are still present in the individual, and because one or two negative sputum cultures are not infrequently followed by a positive culture, the patient must understand the importance of reporting for his sputum examinations as instructed. The students are asked to discuss other points that the patient should be made aware of before he leaves the hospital. The instructor listens for discussion of diet and rest, avoidance of over-exposure, and other points.

Later in the week, the students are assigned the class for soon-to-be discharged patients. The instructor observes to see if the students include explanations regarding the points that were discussed in class, and she evaluates the students' understanding that there is a period of communicability from the way in which they stress the necessity for sputum examinations after discharge.

Discusses the preparation of the tuberculosis patient for discharge from the hospital. Includes instructions regarding diet, rest, recreation, work, and precautionary measures to prevent possible spread of organisms.


Briefly discusses some of the aspects of preparing the tuberculosis patient for return to the home.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

In the classroom, the instructor explains that the Public Health Nurse frequently speaks to Parent-Teacher Associations and other groups regarding health and hygiene. It is pointed out by the instructor that it is important that parents and others know that communicable diseases are infectious for periods of time so that they can better protect themselves and others when they, or their children, contract such a disease. She explains that this is only a part of the education the public should receive, but a very important aspect of prevention of disease. The students are asked to discuss why it is important to understand that a period of communicability exists for every communicable disease. The instructor listens to their discussion to see if they explain that this understanding is necessary if the infected individual is to be isolated when he should be, to protect himself and prevent spread of the disease. After the discussion, the instructor states that many parents allow their children to go to school while they are still communicable (with upper respiratory infections and the childhood diseases, for example), and often the parents themselves expose others to their illnesses. The students are then asked to discuss points they would include in a talk to a group of parents. The instructor listens for the students to include such points as: children should be kept at home with such diseases as measles, mumps, chicken pox, colds, and other conditions until their symptoms (rash, fever, swelling, draining lesions, etc.) have disappeared so as not to spread their still-communicable condition, and for their own protection. After this, the instructor explains that the students will participate in a program for a Parent-Teacher Association to which the Public Health Department has been invited to send representatives for the purpose of health education.

Within the week, the students take part in the program. Their responsibility is to present a panel discussion of the points that were explored in the classroom. The instructor asks the Public Health Nurse to evaluate the students' understanding that there is a period of communicability in terms of the information given by them to the Parent-Teacher group.

Discusses the role of the public health nurse in community health education regarding communicable diseases. Points out that the public health nurse may organize community groups, such as parent groups, to study communicable diseases and their prevention.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

In the classroom, the instructor discusses with the students the necessity of isolating patients on the psychiatric ward who develop infectious conditions. The instructor points out that, because of the freedom of patients on the ward, one with a communicable disease could easily, and rapidly, infect many others. It is stressed by the instructor, however, that because of the psychological effects of isolation, it should be carried out only during the communicable period. She explains that there is an increased need for personal contact with patients who are isolated, emphasizing the importance of preventing the patient from feeling rejected or punished. Here, the instructor points out that staphylococcus infections are problems in the psychiatric hospital as well as in the general hospital, and the same treatment and care is indicated. The students are asked to discuss the care of patients with staphylococcal infections. The instructor listens to the discussion to see if the students include isolation, aseptic technique, and other measures that are involved in the care of such patients. The instructor then explains that, since there is a period of communicability, it must be understood that once it has passed there is no further need of isolating the patient. The instructor also explains that some infectious conditions, including some caused by the staphylococcus organism, antibiotics and/or other drugs can be administered to destroy the organisms and thereby shorten the communicable period. The instructor points out that, because of the high resistance of many staphylococci, it is important that preventive measures be employed before an infection occurs (handwashing particularly).

The student is assigned, on the next day, the care of a patient in isolation with a staphylococcal infection. The instructor observes the student to see if she helps the patient accept isolation and gives more time and attention to him. The instructor evaluates the student's understanding that there is a period of communicability by observing and listening to the explanation she gives the patient regarding the need for isolation, and the support and reassurance she offers the patient.

Although focused on the problems of the mental patient with tuberculosis, this is a good illustration of the effects of isolation. The patient with tuberculosis (or any communicable disease) is doubly isolated, which does not enhance the maintenance of good interpersonal relationships.
OBJECTIVE: Understanding that there is a period of time during which each communicable disease can be transmitted

CLINICAL AREA: Team Nursing-Ward Management

Third Level Learning Experience

During a classroom discussion of the functions of the team and the team conference in caring for patients with infectious conditions, the instructor points out that understanding that there is a period of communicability is as important as understanding the other aspects of communicable disease. She reminds the students that, because nursing care during the communicable period differs from the care given after this period (in terms of isolation precautions), the nursing care plan is affected, and it must be adapted to meet the needs of the patient. The instructor points out that the team conference should be utilized for planning the patient's care, and for making changes in the plan of care as indicated by the cessation of communicability. She also states that the physician is the one, usually, who pronounces the disease no longer communicable, and that the team can assist him in arriving at this decision by making and recording observations of symptoms, and by keeping themselves informed of latest specimen cultures and tests. The instructor states that a responsibility of the team leader is to help her team members understand that communicable diseases have periods of communicability, before and after which the disease cannot be transmitted. The students are asked to discuss all the points that should be considered by the team in planning the care of patients with communicable diseases. The instructor listens for the students to discuss modes of entry and exit of organisms from the body, isolation procedures, and preventive and protective measures as important considerations.

The student, during her assignment as team leader which begins the next day, is observed guiding a team conference in the development of a plan of care for a patient with a communicable disease. Her understanding that there is a period of communicability is evaluated by the instructor in terms of the way in which she points out to her team that this period plays an important part in the plan of care, since it necessitates special preventive measures. The instructor also observes the conference to evaluate the student's understanding of the role of the team leader in leading team conferences.

Defines the incubation period and discusses it in terms of its variability in different types of communicable diseases. Points out that the period of communicability in man is to be distinguished from the incubation period in arthropods.

"Six steps to Team Nursing," filmstrip. Color with sound, 14 minutes. Available on free loan from Nursing Education Program, Johnson & Johnson, 141 West Jackson Boulevard, Chicago 4, Illinois.

Illustrates the steps in developing the team, and the purposes of the nursing team.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Medical-Surgical Nursing III

Third Level Learning Experience

In a classroom discussion of some of the infectious conditions involving the gastrointestinal tract, and their prevention and control, the instructor explains to the students that there are many organizations concerned with controlling the environment as a means of preventing communicable diseases of all types. She discusses the work of the United States Public Health Service in preventing the immigration of communicable diseases from foreign countries and in controlling conditions in this country which predispose to communicable diseases. She also describes the work and goals of the World Health Organization in combating communicable diseases and other health problems through environmental control. The instructor points out that one of the reasons the United States is free of many communicable diseases, such as cholera, which are endemic in other countries is the strict quarantine regulations for persons entering this country from such areas. She states that another important reason is the generally good water sanitation in this country, which also prevents many enteric diseases (typhoid, for example). The instructor explains that the organizations concerned with controlling the environment set and maintain standards of sanitation and water purity. The students are reminded that many communicable diseases are water-borne, particularly those involving the gastrointestinal tract.

That afternoon, as a field trip, the students visit the water sanitation division of the Public Health Department, where they are shown the devices and methods for testing the city water supply. They are shown samples of water taken from various sources which have been pronounced pure, and samples which have been found to be impure. The treatment of impure water is explained by the sanitation officer, who points out the dangers of contaminated water supplies. After the trip, the students are asked by the instructor to explain why drinking from streams can be dangerous. If they explain that it may be dangerous because of water contamination, or pollution, which can cause a variety of communicable diseases, it indicates their understanding of the role of the environment in communicable disease.

Describes the World Health Organization war against malaria, emphasizing the treating of all infected persons and the cleaning up of mosquito-breeding sites.


Shows the relationship between rainfall and life and the sources of city water supplies, and water-borne diseases, and the methods of safeguarding water sources and distribution.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Public Health Nursing

Third Level Learning Experience

The students accompany the housing inspector of the Public Health Department on a dwelling survey. The inspector explains to them that the inspection and certification of new dwellings, and the inspection and condemnation of sub-standard houses, is a function of the health department. He further explains that such inspections are necessary to determine if plumbing, water supply, heating and electricity facilities, and provision for storage and disposal of refuse meet the required standards. It is pointed out that there are many other aspects of the dwelling survey, and that the major aim of the inspection is to find and eliminate, or remedy, health and safety hazards. The students observe the inspector as he surveys several dwellings, and points out hazards which endanger the occupants' health and safety.

The day after the field trip with the dwelling surveyor, in the classroom, the instructor asks the students to explain what they observed in terms of hazards that might predispose to the occurrence of communicable diseases. After the students' discussion, the instructor explains that many communicable diseases can be traced directly to such sources as inadequate plumbing and/or water supply, improperly constructed and situated privies, poor rodent control, and other environmental factors. She points out that these and many more hazards exist and that they must be removed if the incidence of communicable disease is to be further decreased. The students are asked to write a paper discussing some of the existing environmental factors which predispose to communicable disease with suggestions as to how they can be eliminated, and to explain in the paper why the hazards they mention are hazards. From their papers, the instructor can determine how well the students understand the role of the environment in communicable disease.

Lengthy but comprehensive discussion of housing and the required standards for health and safety. Includes a discussion of the responsibility of the health department in inspecting dwellings of all types.


Describes the role of the environment in communicable disease.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Psychiatric Nursing

Third Level Learning Experience

During a classroom discussion of the historical factors involved in neurotic anxiety states, the instructor explains that environment plays a major role in this and other forms of mental illness. The instructor points out that, as certain environmental factors are presumed to lead to certain kinds of mental illness, so also does the environment contribute to physical illness, including communicable diseases. She further points out that, in some cases, the same environmental factors may predispose to both mental and physical illness. To illustrate this, the instructor presents the following situation: This is an excerpt from the history of Nick M., age 35, who has been receiving treatment for a severe anxiety state of long standing. His history reveals that Nick was reared under extremely deprived economic conditions. His father, an unskilled laborer, was unable to find work much of the time, so that Nick's mother worked as a chambermaid to help support the family of six. The flat Nick's family lived in was small, dirty, and completely inadequate. According to Nick, he and the other children were "always sick with one thing or another, always catching something, and always hungry." Money and security became the most important things in life to Nick, neither of which he has ever been able to obtain. Nick has been working, since age 12, as an unskilled worker like his father was. His overt anxiety is easily related to his constant worry about finances, housing (he still supports his parents, in addition to his own family of three), and the uncertain future.

After having read the mimeographed copy of this case, the students are asked to discuss the information in terms of the environmental factors which contributed to the patient's mental illness, and then in terms of how the same environmental factors probably predisposed to the frequent illnesses of the patient and his siblings. The instructor evaluates the students' understanding of the role of the environment in communicable disease, and mental illness, from the way in which they identify environmental factors predisposing to both conditions.
Teaching Materials


Part of a study made in New Haven on interrelations between social stratification and mental illness. Chapter 7 presents material illustrating the problems of daily living in deprived environmental settings. The relationship between poverty and anxiety is discussed on pp. 222-230.
OBJECTIVE: Understanding of the role of the environment in communicable disease

CLINICAL AREA: Team Nursing-Ward Management

Third Level Learning Experience

Prior to class, each student is asked to prepare a discussion of the responsibilities of a different department in controlling the hospital environment. They are instructed to confer with the head of each department in order to obtain the information needed for class.

In the classroom, as part of a discussion concerning the coordination of administration and the various departments in the management of the hospital, the students are asked by the instructor to present their discussions. The departments included are the laundry and housekeeping units, X-ray and out-patient departments, the laboratory and operating rooms, and one student presents a discussion of the responsibilities of professional and non-professional personnel. A general discussion follows each individual presentation, in which all of the students participate. After the discussions, the instructor asks the students to explain how the efforts of the various departments and personnel in controlling the environment help to prevent infections and cross-infections in the hospital.

Later that day, during another class period, a member of the hospital infection committee speaks to the students about the purposes and responsibilities of the committee in preventing hospital infections. The students are reminded of the seriousness of the staphylococcal infection problem, and it is pointed out that many such infections are caused by either infected personnel (carriers), poor technique, and other factors within the hospital. The hospital infection committee program is outlined for the students, and the effectiveness of the program is discussed. At the end of the class period, the instructor asks the students to write a paper comparing the responsibilities of the various hospital departments, the nursing staff, and the infection committee and explain why control of the environment is the responsibility of so many persons. By reading the students' papers, the instructor is able to evaluate their understanding of the role of the environment in communicable disease.

Discusses environmental sanitation in the prevention of communicable diseases, including factors which may make environmental sanitation useless or difficult to apply.


Emphasizes the fact that each person on the nursing team must realize their responsibility in helping to prevent infections. Points out that the responsibility of administration is to initiate control programs.


Discusses three major sources of infection and their control.
Suggested Methods of Evaluation

The steps in evaluation, according to Tyler, include: (1) definition of objectives, (2) identification of situations which will provide students with opportunities to express the behavior implied in the objectives, and (3) selection of the procedure which can best be used to evaluate the behaviors desired. Any technique of evaluation can be used if it is a valid way of determining the attainment of objectives.

Techniques of evaluation used in this guide were: paper and pencil tests, observations, written papers, and interviews and conferences with students and those concerned with their education. These were used because it was believed they were best suited to evaluate the behavior desired.

The evaluative techniques were based directly on the objectives and the behavior implicit in them. Learning outcomes were evaluated in terms of whether or not the educational objectives had been attained, and the degree of attainment.

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BIBLIOGRAPHY FOR THE GUIDE

Books and Other Publications


Immunizing Biologicals. Indianapolis, Indiana: Eli Lilly and Company, (no date).


Periodicals


Benson, Margaret E. "Handwashing--an Important part of Medical Asepsis," The American Journal of Nursing, 57:1136-1139, September, 1957.


Deming, Emily C. "Don't issue Staph when you collect Linen," Modern Hospital, 91:110, August, 1958.


Kletzsch, Elizabeth S. "Problems in the Care of the Tuberculous Mentally Ill," Nursing Outlook, 3:533-536, October, 1955.


"Major Causes of Acute Diarrhea," Therapeutic Notes, 64:139-143, June, 1957.


"Why Venereal Disease is Out of Control," Nursing Outlook, 7:329, June, 1959.

Audio-Visual Materials


"Setting up an Operating Room," film, 1945. Twenty minutes. Motion Picture CS-2A, Surgical Film Library, Surgical Products Division, American Cyanamid Company, 1 Casper Street, Danbury, Connecticut.


CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

The purposes of this study were: (1) to develop a guide which would provide the nursing instructor with a list of materials from which to select learning experiences to aid the nursing student develop an understanding of the principles of communicable disease, and (2) to illustrate how these experiences could be organized for continuity, sequence, and integration.

The basic premise of the study was that the principles of communicable disease could be applied to the nursing care of all patients. The need for the study was established by exploring current trends in communicable disease and by demonstrating that curriculum revision is necessary if learning experiences in communicable disease are to be provided for the nursing student.

After an extensive review of literature from the fields of education, nursing, and allied disciplines, a resource unit, or guide, was developed for the purpose of presenting suggested learning experiences and teaching materials. The steps in the development of the resource unit
were: (1) identification of the principles of communicable disease, (2) formulation of objectives, (3) screening of objectives, (4) selection of clinical areas, (5) selection of learning experiences, (6) organization of learning experiences, (7) selection of teaching materials, (8) suggestions for evaluating learning experiences, and (9) compilation of a bibliography.

The objectives selected for the guide were derived from the principles of communicable disease, and were stated in terms of student behavior. Each objective had two dimensions, behavioral aspect and content aspect, and understanding was the behavior implicit in each one.

In keeping with the assumption that the principles of communicable disease can be applied to the nursing care of all patients, all clinical content areas were represented in the guide. They were divided into three levels of experience, and learning experiences were planned for each one. Not all the possible learning experiences were planned and organized in the guide, the intent being to present a suggested experience for each objective in each clinical area.

The learning experiences were organized for continuity, sequence, and integration, providing both horizontal and vertical relationships. The learning experiences were planned to attain the stated objectives as well as the objectives of the clinical content areas.
Recommendations

A limitation of this study was that the usefulness of the resource unit was not tested in an actual teaching situation. Pursuant to the testing of the guide, and as a result of this study, the following recommendations are made:

1) That the usefulness of the guide be tested by nursing instructors in the actual teaching situation.

2) That additional tools of evaluation be developed by nursing instructors so that the value of the guide, when used, can be determined.

3) That further investigation, in the form of a follow-up study, be made to analyze and act upon the outcomes of evaluation of the guide.

4) That the development of resource units be continued by groups of nurse educators as a means of enriching and strengthening the nursing curriculum.
BIBLIOGRAPHY

Books, Booklets, and Pamphlets


Periodicals


"Why Venereal Disease is Out of Control," Nursing Outlook, 7:329, June, 1959.

Unpublished Materials

APPENDIX B

Psychology of Learning

We, the faculty of the School of Nursing, believe that learning is a dynamic process which brings about a change in behavior which persists. We as a faculty are interested in those changes in behavior which are personally, professionally, and socially desirable.

Learning is affected by individual differences—the individual's learning is influenced by her innate abilities and past experiences.

Readiness is essential to learning—learning is enhanced and takes place to the extent that the learner is physically and psychologically ready to learn.

Motivation is an essential component of learning—because it initiates, directs, and sustains learning activities.

Self-activity is essential to learning—the student learns what she actively does.

Satisfaction contributes to learning—the student learns more effectively in situations from which she derives satisfaction.

Perception is an important factor in learning—what the student learns depends upon how she interprets a situation in light of her previous experiences.

Transfer is a necessary component of learning—when the student recognizes similarities and dissimilarities between past and present experiences, transfer of learning is facilitated.

Inter-personal relations are an important aspect of learning—the inter-personal relations involved in learning affects the mode and extent of learning.
APPENDIX A

Philosophy of Education

We, the faculty of the School of Nursing, in harmony with the democratic philosophy of the University of ................................, believe that our educational program should develop students into thinking, self-directed, interested, and informed professional nurses. This educational program emphasizes student participation to develop the individual's potentiality, practicality, as well as idealism in meeting changing social and professional needs, and responsibility for helping preserve, maintain, and promote community health services.

We recognize as essential the contributions of community agencies and other departments of the University to the educational growth of the student.

Upon completion of this program, the graduate should be prepared to function in any beginning position in professional nursing. She should be motivated to continue her professional and personal growth, and to contribute effectively as a professional person and as a citizen.¹

Evaluation is essential in determining outcomes of learning—a continuous appraisal of changes in behavior by student and teacher indicates achievement of goals of learning and gives direction for further learning.¹

¹Constance Drumheller, Anna Grezella, Adele Irwin, and Marjorie Robinette, "A Curriculum Project" (unpublished Nursing 656 project, the University of Colorado, Denver, June, 1959).