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The feasibility of using one selected problem-solving approach to learning nursing care in a pediatric affiliation.

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Boston University
BOSTON UNIVERSITY
SCHOOL OF NURSING

Thesis
THE FEASIBILITY OF USING ONE SELECTED
PROBLEM-SOLVING APPROACH TO LEARNING
NURSING CARE IN A PEDIATRIC AFFILIATION

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CHAPTER I
INTRODUCTION

"Nurse educators have long been seeking a way to bridge the gap between theory and practice." "The idea of integration, which is a corollary of the adjustment aim, means the bringing together of the various parts into a whole. It is generally agreed that there has been far too much splitting up of materials into compartments or subjects of study." The nursing profession has made great strides in recent years in an attempt to bridge this gap between theory and practice. Schools of nursing are critically evaluating their curricula and clinical experience being offered to students of nursing. Efforts are being made to integrate theory and practice in a more meaningful way for the student. One way this is being accomplished is by better clinical teaching which is completely patient centered. Students of nursing are learning to consider the patient as a social being, with many needs to be met, in addition to his obvious physical needs.

Burton says that compartmentalized subject matter will be minimized and lifelike situations increasingly used in teaching. Pupils will be made conscious of the interrelations of knowledge. Another method of achieving this goal in nursing education is the problem-solving approach to nursing care.

This approach was tried on an experimental basis at Boston University with four basic-professional students of nursing.

The results written in Greep's study were as follows:

1. It emphasizes the significance of good nursing care because it stresses the "why" of the various procedures.

2. It helps develop a more effective approach to future nursing care.

3. It created a feeling of responsibility for the patient's care.

4. It provides opportunity to practice nursing skills with satisfaction.

5. The method of assignment of patients provides adequate opportunity for observing the patient while still maintaining a normal nurse-patient relationship.

6. It promotes a cooperative and interested attitude on the part of the staff.

7. The nursing care plan facilitates continuity of nursing care. 4

This study serves as a basis for the present investigation.

The methodology of teaching in our diploma schools of nursing has tended to be quite traditional in style. It has finally been recognized that our approach to patient care must be better integrated for students of nursing, whether they are collegiate or hospital bred.

This investigation will test the feasibility of using problem-solving as an educational approach to nursing care at the Boston Floating Hospital, a pediatric affiliation, with students from diploma schools of nursing. The faculty at the Boston Floating Hospital have expressed a need for an improved guide for use in the development of a nursing care study.

Since there are several methods of problem-solving, for the purpose of this study, the basic steps in the problem-solving method as outlined in "Cancer Nursing in the Basic Professional Nursing Curriculum." will be followed. These basic steps in the problem-solving method include: analyzing, defining, and stating the problem; finding the facts; weighing the facts; proposing, testing, and applying the solution; and evaluating the outcome.

Statement of the Problem

In order to evaluate the feasibility of using one selected problem-solving approach to nursing care at the Boston Floating Hospital, the following sub-problems will have to be answered.

Sub-Problems:

1. Is the revised guide from Greep's study, with a few modifications in the area of parent-child relationships, suitable for use in a pediatric unit?

2. Is this a valuable learning situation from the student's point of view?

3. What are the reactions of the students to this method of approach to nursing care?
   a. Did they find it motivating and interesting?
   b. Did it provide for broader learning?
   c. Did they enjoy the experience?

4. Is it feasible and practical?
   a. Is it possible when the patient assignment is heavy?
   b. Is it too time consuming on the part of the student?
   c. Is it too time consuming on the part of the instructor?

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6 Ibid. pp.8.
5. Is two weeks an adequate period of time for the use of this method in a pediatric unit?

6. What are the reactions of the staff to this method of approach to nursing care?

7. Does this approach to nursing care result in better nursing care for the patient?

Scope and Limitations

This pilot study was done on one ward of the Boston Floating Hospital. This ward has a capacity of nineteen beds and cares for children of both sexes from two to fifteen years of age. Since the length of hospitalization of the average pediatric patient in this hospital is only about seven to eight days, an attempt was made to choose patients for this study who were expected to be hospitalized approximately two weeks or longer.

Because they were depended upon to meet the service needs, and because the availability of instructors was also limited, the students involved in the study were limited to three in number. These students were affiliating at this hospital for their pediatric experience from general hospitals of varying sizes. They were chosen at random without consideration of their background. The students represented three different schools of nursing. They worked a forty-four hour week and were taking classes in pediatrics, and child growth and development at the time of the study. They were not allotted extra time on duty for the study, but were permitted to make use of any free time they had on duty to pursue various areas of this problem-solving approach. These students were assigned to day duty during this two week period except for two days when Student A was assigned to the evening shift.

The investigator of this study was available on the wards to give the students guidance during the two weeks assigned to the study.
Method

The study patients were chosen by the investigator, head nurse and students. Each student was assigned to her study patient for a period of two weeks. The other patients assigned to her were within the same geographic area, if the situation permitted, unless circumstances made it necessary to assign her to patients in another part of the ward. This gave her an opportunity to observe her study patient as she cared for her other patients.

Before the study began, a conference was held with the three students involved, the pediatric instructor, and the investigator. At this time the students were given the guides to be used in developing the nursing care plans, and in using the problem-solving method of approach. Conferences were held on an individual basis on the ward when the need arose. A group conference was held at the end of the first week to discuss problems the students had in using this method, and individual conferences were held at the end of the second week to evaluate the two-weeks' study.

The students and the investigator kept a record of their time during the study in order to answer sub-problem #5.

At the end of the study period, the staff on the ward, and the pediatric and clinical instructors were interviewed to determine their reactions to the study.
Presentation

Chapter II includes the philosophy which justified the use of this method of teaching. Chapter III includes the presentation of data collected and an analysis of this data. Chapter IV includes the summary, conclusions, and recommendations.
CHAPTER II
PHILOSOPHY

"For several years a growing belief in the seemingly intangible elements of nursing has been in the process of development. When the nurse, student or graduate, begins to look beyond the routine nursing care to the individual needs of her patients, to observe them as varying personalities with problems, drives, and interests, and to make a plan for care and teaching for the patient and his family group, the results of good ward teaching are apparent."

If the nurse is to use this approach in caring for her patients, she must first develop insight, or keen perception and understanding of the problems presented by every patient she encounters. Burton defines an "understanding" as a "general concept" that results from organizing and interpreting the meanings of various aspects of a given situation.

"Insight into a patient's true needs presents a tremendous challenge to the real nurse. She sees where she may begin to function, where she needs the assistance of other hospital and community workers, where she may hardly dare hope to extend her scope." This quality is not developed overnight, but is acquired gradually as an understanding.


3 Taylor, op cit. p.207.
of human behavior and the effect of disease conditions and their treatment upon this behavior is increased. This knowledge and understanding is increased by constant practice and experience on the part of the student of nursing. Her daily contact with all types of patients and problem situations present rich opportunities for the teacher to guide her in the development of this insight.

"Insight helps her adjust to the patient's level, and if her judgment is well developed, to give sound health instruction. Insight into many patient's problems gives professional poise, for it carries with it an understanding of nursing functions."  "It is clear that the only way to be sure that the numerous and diverse learning products are achieved is to teach for them." Therefore, if we are to attempt to develop this insight as a recognized quality of a good nurse, we must stimulate her interest in her patients and help her to see and think of these patients as individual persons who may or may not have the same disease conditions, but who present varying and completely individual behavior responses to the same situations. She must realize the effect of these responses on the treatment and eventual recovery of the patient and must also realize how negative response may be an antagonist to both treatment and recovery.

"Educators are coming to see the value of permanent interests as a means of producing a vigorous attack upon learning and as a means of prolonging the period of learning. Perhaps the only service that can be guaranteed as of permanent value throughout the entire period of growth is that of building compelling interests which tend to produce activity and to direct

4 Taylor, op cit. p.207.
5 Burton, op cit. p.49.
its use. The result of teaching a number of small isolated parts of a subject without reference to some larger organizing factor, tends to dissipate interest in place of increasing it. Is it not better to select fewer and larger topics for study, to approach these from different angles and get below the surface in studying them? In this way students are likely not only to acquire a better understanding of subjects but to continue their interest and study after the period of basic preparation is over." 6

It is hoped that by the use of the problem-solving approach to nursing care stimulation of this interest in the student of nursing may occur in such a way that there will be permanent carry-over to all her nursing care in the future. She will develop the ability to think, analyze critically and evaluate situations. "The only way that students can learn to think and to reason is to have opportunity to practice these mental skills. They cannot be learned by merely reading about them." 7

"Educational thinkers are returning more and more frequently to the notion that the most fundamental function of education is the development of the ability to think creatively and to solve problems."

Are we developing this ability in the student of nursing, to think critically and to solve problems? The student of nursing is taught the basic principles of good nursing care in the classroom atmosphere.


All too frequently this theoretical aspect of nursing is left within the classroom walls. "Nurses tend to think of subject matter as "theory" and to identify it with the classroom, thus differentiating it sharply from the students' practical experience which is located in the wards or in other hospital departments." Nursing educators are trying to overcome this separation of theory from practice.

"One of the most significant developments in modern education has been its departure from the traditional approach to subject matter. Now we not only consider our bodies of knowledge to be only tentatively 'true' or exact, but we also realize that information learned in isolated fragments does not contribute to our understanding of the whole phenomenon, whether it is the social body or the human body."

Integration of subject matter within itself and with practical experience is becoming one of the primary goals of nursing education. "Integration as a teaching device is the process of unifying both the approach to and the results of learning." By better arrangement and presentation of subject matter the student should be able to see the relationships of the subject matter she is studying, or the work she is doing, to the whole unit. "The important thing in integration is what happens in the student's mind and how she is able to assimilate the materials and use them


11 Ibid. p.405.
in adjusting to the situations which face her in life."

"It is clear that in professional education we must do more than acquaint the student with facts, principles and existing procedures; we must, in so far as possible, teach him to use fundamental principles in dealing with situations that are new to him and also teach him how to continue to learn throughout his life from his professional activity."

The basic plan is to make the student do more of the work in the learning process and to have the teacher do less of his thinking for him, thus shifting the student's role in the direction from passive to active, on the principle that he learns from what he does, and only what he does. He learns to deal with new professional situations only by actually dealing with professional problems that are new to him and by dealing with them in a professional manner. He is taught to learn from his later professional experience by actually learning from situations while he is still a student through the use of what are termed instances."

The problem-solving approach to nursing care seems to fulfill the expectations of the aforementioned plan. "The nursing student is constantly faced with problems which she must recognize, define and solve without outside aids. She must test her results, judge the validity of her conclusions and face the consequences of her actions. This requires an attitude of critical inquiry, wide interests, and an appreciation of social values, opportunities and responsibilities. If she is successfully to meet such situations in her professional life, the nursing student must be given opportunities to solve problems in a scientific manner.

12 Stewart, op cit. p.569.


14 Education for Professional Responsibility, op cit. p.136-137.
Only in this way can she develop an attitude of intellectual honesty, courage, self-confidence and open-mindedness in the attack and solution of her problems."

In the field of pediatric nursing there are many problems which face the student of nursing in just one day's working period. One of the most challenging of these is the management and control of each individual child. Children, who are all still going through the process of learning to conform to the patterns of socially acceptable behavior, may be completely anti-social and non-conforming once they are admitted to the hospital. "For those who work primarily with children's bodies the chief application of the 'whole child' doctrine would lie in the recognition by these workers that children have personalities as well as bodies. In working with children's physical health the worker should never forget that mental health is of equal importance."

Therefore it is of utmost importance that students of nursing recognize their great responsibility to the small patients entrusted to their care. "Doctors, nurses and dentists must of necessity be associated with pain and terror. It is imperative that these workers learn how to do what must be done in a manner that will minimize fear, distrust and antagonism and that will win from children a maximum of cooperation and trust toward adults in general and toward their professions in particular."

15 Heiderken, op cit. p.449.
17 Ibid. p.32.
"Antagonism toward doctors, nurses or dentists may, for example, be set up with the result that the patient may thereafter avoid contacts with these professions or, if later contact proves unavoidable, may carry so uncooperative an attitude that successful treatment is difficult or impossible."

The student of nursing will be exposed to all possible types and degrees of behavior patterns during her pediatric experience. Only by attempting to understand the possible cause of this behavior will she have patience and understanding of the child. "In dealing with a refractory child, the nurse should think of him more as a child with a problem than as a problem child. An understanding of the child's background and home situation will probably present the key to proper handling. It is not the child's fault if he has been over-mothered, kept from developing self-dependence, coaxed and bribed into eating or given his own way when he has temper tantrums."

"In dealing with sick children in a hospital, the nurse must know how well-adjusted, healthy children with normal intelligence behave in their homes. This knowledge is necessary because the nurse must be able to judge what part of a sick child's behavior results from his illness, from emotional maladjustment or improper training received in his home, or from inferior mentality, and what part from the child's reaction to the strange environment of the hospital." It is hoped that the problem-

18 Ibid. p.31.


20 Ibid. pp.118-119.
solving approach will stimulate the student of nursing to find the answers to these questions.

The opportunities in pediatrics are numerous for students of nursing to investigate problems, to attempt to solve them by the use of reflective thinking and to make use of all their creative abilities in trying different approaches to the problems. This problem-solving approach to nursing care should stimulate the students' interest in her individual patients, make her more aware of the various stages of growth and development, impress her with the influence of environment and heredity on the individual child, and develop her understanding of child behavior.
CHAPTER III

THE PILOT STUDY

Students Participating in the Study

The three students participating in the study represented three general hospital schools of nursing. Students A, B, and C had completed nineteen, twenty-one, and eighteen months respectively of their three-year nursing curriculum before entering the Boston Floating Hospital for their pediatric affiliation. This was the first affiliation for all three students, and they had completed four weeks of their experience at the time the study began.

All students had completed their theoretical and practical experience in medical and surgical nursing. Student B was the only student who had not had obstetrical nursing experience, either theory or practice. Only Student C had any public health, approximately six hours of theory and four hours observation with a public health nurse on the Visiting Nurse's Association.

The first month's pediatric experience for the three students had been with infants from birth to two years. They had had twenty-five hours of theory in pediatrics. The first two weeks included thirteen hours of nursing arts as applied to pediatrics, the second two weeks included twelve hours of growth and development. At the time the study began, the students had not had any formal classes in the disease conditions of infancy and childhood.

During their twelve-week affiliation period the students are required to attend a total of twenty-four hours in clinical teaching. This clinical teaching is correlated with the classroom teaching.
Since there are two groups of classes being taught simultaneously, there are also two groups of clinics being taught. Therefore, though these students had not had any formal classes in the disease conditions, they could attend clinics of this sort which were being given for the advanced group.

Students A, B, and C had fifteen and three-quarters, fifteen and one-half, and thirteen and three-quarters hours respectively of clinic time in their first month's experience. Four, four and one-half, and four hours respectively of this total time was in attendance at clinic discussions of nursing care of patients with specific disease conditions. None of these clinics for Students B and C were discussions of the particular disease conditions which their study patients had. Student A had attended a thirty minute clinic on the nursing care of a patient with a myelomeningocele.

**Preplanning for Study**

Conferences were held with the pediatric instructor and clinical instructor before the study began to discuss the purpose of and the procedure to be followed in carrying-out the study, and also to choose the tentative students who would participate. These students were chosen because they were assigned to the study area for a consecutive two-week period. They were then approached by the pediatric instructor to ascertain their willingness to participate in the study.

Individual conferences were then held with the head nurse, and assistant head nurse on the ward where the study was to take place. The purpose and method of the study and the guide and work sheets were
explained to them. Patients were discussed, and before the study began the patients, who were expected to be hospitalized for at least two weeks, were chosen. Since the students did not arrive on the ward till the day the study began, it was not feasible to have them choose their own patients. The head nurse and assistant head nurse helped to choose patients whom they thought would not be too difficult for the students during this first experience.

The head nurse then explained the study to her staff nurses when they arrived on duty, and to the night nurses. She also explained it to the other students assigned to the floor the morning the study began. At this time, the head nurse mentioned that the study students would appreciate help from the rest of the nursing staff in regard to any observations made on the study patients, and that they were all to feel free to add their comments or notes to the student's observation sheets.

Since each patient is assigned to one doctor during his entire period of hospitalization, these individual doctors were contacted. The study was explained to them and their cooperation was enlisted in regard to answering any questions the students might present to them during the course of the study. They all expressed a willingness to teach the students and share any knowledge that might benefit the students and the patient. Similar contacts were made with the social worker, dietitian, and psychologist.

A conference was then arranged with the pediatric instructor, the three students who had expressed willingness to participate, and the investigator. At this time the purpose and method of the study was explained to and discussed with the students. They were oriented to the
problem-solving method of approach to nursing care and were given the guide and work sheets to be used during the study. Since the study patient had been chosen at this time, the students each drew the name of the patient they would be assigned to during the study, and then were given a brief resume of the patient's particular disease condition. Since none of them were familiar with the patients, this seemed to be the best way to assign them.

None of the three participating students had been exposed to this method of teaching before or to nursing care plans.

The problem-solving guide and work sheets had originally been adopted from a problem solving guide prepared by Bowen. After a trial period of use during a pilot study to test this method of teaching, the guide had been revised by Greep. It was this revised guide which was used in this study.

General Plan

These students were assigned to their study patient, and when possible to other patients within the same area. Since Student A has four different study patients, and Student C had three different study patients, their other patient assignment was not always within the same area. The patient assignment during the study period ranged from one to five patients, but averaged two and one-half patients, which included the

1 Bowen, E.P. Unpublished material.

study patient. Occasionally the students were assigned two to three extra patients as an additional assignment when they relieved another nurse.

The students worked forty-four hours and had one day off a week, which was given at a time most convenient for the total ward situation. They had six hours of formal class the first week of the study and four hours the second week. Their time on duty was very irregular, sometimes being continuous and other times broken and covering any period of time from seven in the morning to seven in the evening. Student A was assigned to the three to eleven p.m. shift twice during the two-week study period.

The students had equal responsibility for all patients in their assignment and cared for them according to their individual needs. When their patient assignment was completed their second responsibility was for their special assignment. After these assignments were completed the students were permitted to attend clinics whenever the ward situation permitted. Some of the clinics were compulsory, but otherwise attendance at clinics was optional. The only stipulation made was that the students attend a total of twenty-four hours of clinics during their twelve-weeks' experience.

After the students' assignments were completed they usually spent their free time reading stories and playing games with the children who had to remain in bed or on the ward. When there were enough students available to play with the children, the students participating in the study read histories, wrote their observation sheets and worked on their nursing care plans. Whenever possible they spent extra time talking to, observing and playing with their study patient.
Students were given permission to use their free time pursuing the work of the study, i.e., library work, conferring with resource personnel, and observing their patient in the playroom. They all seemed quite hesitant to approach the various personnel. Towards the end of the second week period, two of the students consulted the doctors to find more information about their patients' physical condition. These same students had asked questions of the nursing staff fairly freely during the study period, but the third student did not confer with any of the personnel regarding her patient except for one contact with the doctor, and daily contacts with the investigator.

The investigator was available for guidance most of the time the students were on duty during the study period. At other times, since the students worked odd hours, the head nurse and assistant head nurse volunteered to assume responsibility for guiding them in the study.

The investigator conferred with each student on duty every day except Saturday and Sunday to determine the presence of any problems in relation to the study sheets or the patients. The student who had not consulted the resource personnel seemed reluctant to talk with the investigator at the beginning of the study, but after three to four days she began to approach her with more ease, and to discuss her patients and the various things she had found out about her study patient and the disease condition. The other two students, though also unsure at first, seemed to adjust to the entire project much more readily.

In addition to these individual daily contacts, a group conference was held at the end of the first week. Those present included the three students, the pediatric instructor, and the investigator.
The students did not respond much at the beginning of the conference, but toward the end of the period they became more relaxed and asked questions regarding the problems that had confronted them in regard to the various work sheets and procedures to be followed, and about their individual patients.

The daily observation sheets were kept on the front of each patient's chart and some of the other nursing students made notations on them, particularly when the study student was on her day off.

Individual conferences were held at the end of the study period to evaluate the method of approach and to obtain the student's suggestions regarding revision of the guide and work sheets.

**An Analysis of the Problem-Solving Guide and Work Sheets**

Questions asked by the students indicated that they had great difficulty trying to decide which categories were best suited for their observations on the observation sheets. They tended to include emotional findings under both the "General Comfort and Well Being" column and also under the "Emotional Factors" column. Social and emotional factors were also confused on this sheet.

The students seemed to do well stating the problems as specific problems of an individual patient but there was a tendency to put material in this area which belonged in the "Collection of the Data" column. Under "Collection of Data" they tended to neglect including the research material they had found on the disease condition.

There was quite a bit of confusion in the development of the nursing care plan. Student A seemed to recognize the patient's problems
very well but added too much collected data on the nursing care plan. Her approaches to the problems were briefly and well stated. Student B took each order that held nursing implications and wrote the problem involved with each order and what was done about each problem. The idea of the problem-solving seemed to be demonstrated in this method but there is some question as to the usefulness of such a long method. Student C gave evidence of the best understanding of the problem-solving approach in her nursing care plan, though her observation sheets and written work were very brief, and not too informative. The fact that her patient was ambulatory and in the playroom most of the time may have been a factor in this.

All students stated that it was definitely necessary to have a guide sheet for the use of this approach. They stated they did not know what to look for and could not have done it without a guide.

All students gave evidence of having difficulty organizing and outlining their work, recording their observations, and expressing their opinions in the written form. Conversations with the students indicated that they were aware of a great deal more than was evidenced by the compiled written reports. Apparently they did not feel guided or stimulated to put this information in the final reports.

Description of Setting for Study

An orientation to the ward on which the study took place will aid in understanding some of the discussion of the study. Physical arrangement. The third floor of the Boston Floating Hospital, which is the pediatric portion of the New England Medical Center, is
reserved for the care of children of both sexes between the ages of two to fifteen years. The ward consists of four multiple bed units and two private rooms. The total bed capacity is nineteen beds. There is no segregation of children by sex or disease condition, though an attempt is made to place children in the wards according to age groups.

**Assignment to the ward.** Students are usually assigned to the ward for a period of twenty-one days which may be consecutive or broken for experience in the admission room or playroom. During their assignment to the ward the students' time is arranged to suit the needs of the ward. Students' hours may be consecutive or split. They work forty-four hours a week which is distributed throughout a six day period. The hours of work range from three to nine hours a day.

**Staffing.** The entire staff for the ward included a head nurse, assistant head nurse, two graduate staff nurses, sixteen to twenty affiliating students of nursing, and two attendants. During the two-week study period the hours of nursing care per day varied from 6.3 to 10.3, but the average was 8.1 hours per day. One day during the study the nursing care hours were recorded as 22.3 when the census was only four. Since this was very unusual, this was not included when determining the daily average during the study period. The census ranged from four to seventeen patients with the average of 10.6 patients daily during the two-week study period.

**Provision for continuity of care.** Patient assignment is done by the case method, and is usually made for approximately a five-day period, when possible, to allow for continuity of care for the patient and ease of adjustment for the student. The study patients were assigned to the students for their entire period of hospitalization during the study
period. The other assignment for these three students changed as the patients changed. Besides the patient assignment, which varied with the census, the students were sometimes given a special assignment which included such items as, cleaning the medicine closet, etc.

A complete ward report was given at seven in the morning, seven in the evening, and eleven at night for all on duty. This report is repeated for every nurse who comes on duty at any hour throughout the day. This general report on all the patients is followed by a more detailed report to the nurse about her particular patients, from the individual student she was relieving. Special instructions for care were written on the Kardex.

Playroom facilities. The psychiatric service of the Boston Floating Hospital provides a playroom for the ambulant child as one of its services. They also make bi-daily rounds of the wards to supply play materials to the bed patients. Patients who are given playroom privileges by the doctor, usually spend most of the morning and part of every afternoon in the playroom, which means they are absent from the ward during this time since the playroom is on the fourth floor, away from the wards.

Availability of Medical Personnel. Medical and surgical residents are responsible to the Chief of each service for the supervision of the patients. Complete patient rounds by the entire staff are made by each service daily. At all other times the needs of the patients control the frequency with which the residents visited the wards. Though it was usually possible for the students to see the doctors at some time, they were not always on duty when the doctors were available. The charts contained complete medical histories, and brief progress notes written by the
doctor, but practically no social history, except in a few rare instances. Therefore the students had to obtain any information of this sort from the patients themselves or their families. Social workers and the dietitian were only on the wards as called, but could be seen by appointment whenever necessary. The psychiatrist and psychologist usually made patient rounds at least once daily and were willing to answer questions and offer help with any problems on the ward or with the patients.

**Visiting hours.** Visiting hours were from two to three every afternoon for all parents, and from six-thirty to seven in the evening for parents with special permission. Since many of the student's classes were scheduled from two to four in the afternoon, and since the students were usually busy at six-thirty to seven trying to prepare the patients and the ward for the students working the relief shift, they did not have much opportunity to talk with parents, particularly since all the parents did not come every day.

### Choosing the Study Patients

The three study patients were chosen four days before the study began. Patient #1 had hypospadias and was undergoing the various stages of reconstructive surgery; patient #2 had rheumatic fever; and patient #3 had Legg Perthe's disease and was awaiting transfer to a convalescent home. These patients were chosen because they were in wards with other patients, and did not seem to present emotional or physical problems which would be too overwhelming for the students participating in this method for the first time. These patients were also expected to be hospitalized about ten days to two weeks longer. Most of the other patients were short term
patients or presented more complicated physical or emotional problems.

Patient #1, with hypospadias, who was assigned to Student A, was discharged three days before the study began. The doctors had decided to send him home while his operative wound healed, before they attempted the third stage of repair. The second patient chosen for Student A on the day the study began had been admitted the day before and had a possible diagnosis of Hirschsprung's disease. He had been admitted for diagnostic studies, and treatment if necessary. Since these results were negative, he was discharged the second day of the study. The third patient chosen, in his second day of hospitalization, had the following possible diagnoses: Friedreich's ataxia, multiple sclerosis, generalized demyelinating process, and Schilder's disease. His neurological findings by consultation were all negative and he was discharged three days later, the sixth day of the study period. On the seventh day of the study, the student chose her fourth patient, the patient who had a neurogenic bladder from post-operative excision of the myelomeningocele. This patient had a complicated medical history and had previously been by-passed because of it. Since there were only five patients on the ward, there was no other choice. Student A followed this patient till the end of the study period, since he was still hospitalized at this time.

Patient #2, with rheumatic fever, was assigned to Student B and remained in the hospital till the eighth day of the study. At this time she was discharged and Student B's study work was completed.

Patient #3, with Lagg Perthe's disease, was assigned to Student C. His transfer to the convalescent home was expected to take anywhere from one to two weeks time, but in the meantime his relatives requested
that he be transferred to another convalescent home nearer their home. Since there were immediate facilities available the patient was transferred the second day of the study. After consulting with the doctor and assistant head nurse again, a patient with rheumatic fever was chosen as Student C's second patient. This patient was presently undergoing diagnostic studies to confirm the diagnosis and degree of heart involvement, if any. The results of these studies indicated that the patient's condition did not require hospitalization and that he could be cared for at home. Therefore, he was discharged the next day, the third day of the study.

Once again the low census limited the choice of patients. The patient in the private room was chosen. He had had a craniotomy for subdural hematoma ten days previously. He had also been by-passed in the beginning because he was in a private room, but he was expected to be moved into the ward within two days time. This patient was cared for by Student C for six days until he was discharged on the twelfth day of the study.

A Description of the Patients

Peter. Peter, an eleven year old boy, was an only child. He lived with his parents and two cousins. He was in the fourth grade of a local public school and seemed to be quite well adjusted despite his very obvious physical handicap.

Peter was born with a spina bifida and myelomeningocoele. At the age of five months this was excised and Peter was left with lumbar flaccid paralysis of the bladder and colon, and paralysis of both legs below the
knees. Bilateral dislocated hips were noted at the age of four years. At five years of age he began to walk with braces and crutches. This same year he was operated upon for ruptured appendix. When he was seven years old, he had surgery to lengthen the Achilles tendons, and at the age of eight years he had an operation on his right dislocated hip, which slipped out soon after removal of the cast. He has had six hospital admissions within the past three years for the purpose of various studies in an attempt to establish methods of bladder control. The last four of these admissions were at the Boston Floating Hospital. His present admission was for the beginning of reconstructive experimental surgery in an attempt to develop a means of mechanical control of the bladder.

This is the first time this particular procedure was attempted and therefore the exact details were not too clear, and the probable outcome was guarded. Peter and his parents realized that this was research surgery and might not be successful, but Peter, who was fully aware of this, agreed to take the chance since he had nothing to lose and might possibly gain a great deal. The final decision was left to Peter. Peter had no sensation in his bowels, but has been regulated by enemas, and was seldom incontinent.

Peter was quite dependent upon his mother in many ways because she had given him a great deal of attention. She even fed him when she was visiting him during mealtime. Nevertheless, when she was not present, Peter managed to do things for himself very well, but it was quite evident that he liked to have someone with him a great deal of the time. At the time the study began, Peter had had the first stage of this reconstructive surgery and was on penile and suprapubic drainage by catheters.
Joan. Joan was an eight and one-half year old girl who was in the third grade of school. Her family consisted of her mother, father, older sister, and younger sister and brother.

This was her first hospital admission. She was described as being very nervous and extremely afraid of needles. She was also quoted as being a finicky eater, eating some foods well but most foods poorly.

Her present illness began seventeen days prior to admission. She did not look well and had the following symptoms: pain in her groin, temperature of 102 degrees, pain and swelling in her ankles with migrating pains in all of her joints, and a slight sore throat. She was seen by her physician who upon examination believed that she had rheumatic fever. She was placed on bed rest and given penicillin and aspirin. The joint manifestations subsided within four to five days but apparently the heart findings persisted. Eleven days prior to admission her mother was advised to bring her to the hospital for consultation, which she did. At this time, after a sedimentation rate and physical examination were done, the diagnosis of rheumatic fever was confirmed. Hospitalization was advised, but the child's mother could not accept this decision and felt that she must have time to think it over. She returned home with Joan, who remained in bed during the interval. Ten days later Joan was brought to the hospital for admission.

The admission notes eight days before the study began, both doctors and nurses notes, record that the child was nervous and apprehensive. The guidance sheet carried the notation that the child had a "needle phobia".

The doctors notes prior to the study included the following
observations: 1st day- "Apprehensive!" 2nd day- "Still Apprehensive." 3rd day- "More irritable. Comfortable. Needle phobia." 6th day- "Child doing well but anxious to go home as she fears needles."

The nurses' notes prior to the study contained the following observations of behavior: 1st day- "Appeared very nervous during examination. Quiet - looking out of window. Seemed shy but good." 2nd day- "Appears shy but cooperative. Lab work done - very uncooperative while work was being done. Crying to go home. Seemed very depressed. Visited by mother. Visited by doctor. Child crying uncontrollably." 3rd day- "Acts very unhappy. Talks very little. Wants to get up. Difficulty swallowing pills. Very apprehensive of treatments or approaches. Whining for parents. Very apprehensive when approached." 4th day- "Medication taken with great persuasion. Was very quiet and didn't want to cooperate. Playing with toys and contented at present. Takes medications very poorly and takes a lot of urging and firmness. Seems very withdrawn when awake." 5th day- "Painting. Slightly depressed but not as bad as usual." 6th day- "Playing in bed. Crying. Wants to go home. Sitting quietly in bed. Reading. Seems in better humor." 8th day- "Coughed several times while taking medications. Playing in bed. Appears apprehensive due to being told she will have the needle this week."

This was the behavior pattern of Joan when the study began.

Her specific treatment at the time the study began consisted of bed rest, ACTH (low sodium) diet, cortisone, potassium chloride, aureomycin.
John. John was a seven year old boy in the second grade of school. He had two sisters and one brother, in addition to his parents. His brother has had cerebral palsy since birth.

John had a history of severe headaches during the past year, occurring at least once a week and persisting twelve to twenty-four hours, with little relief from salicylates. His medical history relates four incidents of cranial trauma within the last three years.

Two years ago- he fell down concrete steps suffering blows to the occiput with lacerations and deep abrasion of the scalp. He was drowsy thereafter but had no other apparent sequelae.

One year ago- he fell seven feet suffering multiple contusions, lacerations, and abrasions about the face and scalp. Again no coma. Again followed by drowsiness for several hours.

One year ago- he was struck over the head by playmate with a glass bottle sufficiently hard to break the bottle and imbed pieces of glass in the scalp. Again followed by drowsiness for several hours.

Three days ago- he was kicked over the right eye - some local swelling. Again slightly drowsy but then recovered. Two days before admission he awoke in the morning complaining of an excruciating headache and thereafter returned to sleep for several hours. That afternoon his mother entered his room to find him comatose with his head hanging over the bed. His face was flushed and he was noted not to be breathing. (Flushing of the face and dizziness had always been associated with previous headaches). Simultaneously, he was noted to have clonic movements of the right arm only, which persisted approximately fifteen minutes.
During this time he turned cyanotic. After the seizure he was somewhat disoriented and could not speak. Paralysis of the right arm was noted and persisted for approximately one hour when he again fell sound asleep. On awakening he was re-examined by the referring physician and at that time physical findings were nil.

The past few months he has done poorly at school, has become quite forgetful, particularly on the days following the headaches. He has been "jumpy" and has developed a "nervous habit" of rubbing his nose and face.

After admission to the hospital an electroencephalogram was done. This, plus neurological examination indicated there was a pathological lesion about the left central area. The neurologist found definite weakness in the right arm. Skull plates and carotid arteriography supported this evidence of lesion. Therefore, craniotomy was done on the ninth day of hospitalization and a hematoma was removed. John's post-operative period of recovery was satisfactory. He was kept flat in bed for forty-eight hours and then placed in trendelenberg position. He was placed in oxygen immediately after surgery and remained for approximately three days. Antibiotics, dilantin and aspirin were the post-operative medications ordered. He remained in trendelenberg position approximately six days in an attempt to force the contents of the skull into the space left by excision of the hematoma and in this way to prevent spinal fluid from oozing into the cavity and causing increased intracranial edema. After this six day period, John's bed was leveled and he was given permission to sit up as much as he desired. When the study began John had had his bed flat for one day and was very apprehensive about moving and turning very much.
Activities of the Students

Student A

Student A was aware that Peter required good nursing care to prevent development of decubitus ulcers and to maintain correct body alignment. He was on his abdomen on a Bradford frame constantly except for one or two periods daily when he was placed on his back on a stretcher for a change of position and to have skin care.

Peter was on penile and suprapubic catheter drainage, and Student A realized that aseptic technique was important to prevent further urinary infection. Peter had already shown evidence of slight infection and was receiving Gantrisin in an effort to combat it.

Student A became interested in Peter's long medical history and in the research being done on him. Since she knew nothing about Peter's condition she spent time reading his charts and past records in order to see what had been done for him and what was expected in the future. She could find very little about treatment of this disease condition in the literature, and since her curiosity was aroused in regard to his expected surgical procedure, she consulted the resident on the case for more information about it. He gave her a brief idea of what was to be done but said, since it was research, no one could predict what the outcome might be.

After reading the history Student A realized that Peter had had foot drop for some time. She also knew that by preventing any further pressure on his toes while he was lying prone, she would help prevent it from becoming worse. His frame was not high enough from the bed to keep his toes entirely free of the bed, therefore, she put a roll under the frame beneath Peter's ankles. This accomplished the intended purpose of
keeping his feet entirely free of the mattress. Thereafter this roll was kept in place whenever the bed and frame covers were changed.

Since Peter's mother had special permission to visit him at any time, it was very convenient for Student A to talk with her frequently and also observe her with Peter. She noticed that Peter was very fond of his parents and anticipated his mother's arrival every morning. She was quite surprised to see his mother feeding him at mealtime, but in one instance, when another nurse commented that she thought Peter would rather feed himself since he was such a big boy, his mother answered that she didn't mind and that she enjoyed doing things for Peter.

Student A recognized the fact that Peter could and did do things for himself when his mother was not present. Although he liked to have people around him most of the time, when the nurse explained that she had something else to do he did not try to detain her. The longer Student A cared for Peter and the more she was able to observe him with his mother, the more she realized that he was not as dependent upon her as he first seemed to be. She decided that he was used to having someone around all the time and probably felt lonely when he was left alone for any period of time.

Student A became interested in Peter's social life because he frequently talked about playing baseball and other sports. After talking with his mother, Student A discovered that he was very active in spite of his braces and crutches. He participated, to some degree, in all activities with his playmates. His mother said that his classmates had accepted him very well and were marvelous with him. She also said that they were thinking of changing schools now because Peter had to stay back this year.
due to so much hospitalization, and he would feel too badly about leaving his present classmates. His parents thought it would be easier for him to adjust to another school than to stay in the same school and not be able to be with his friends.

Student A noticed by observing Peter that he twisted his body to the left for all his activities. Realizing that he could develop a functional scoliosis as a result of this constant twisting, she encouraged him to keep some of his materials on the right side of his bed so he would alternate his position.

Peter seldom ate very much breakfast. Student A wondered about this and investigated to find possible reasons for this lack of appetite. After talking with Peter and his mother she found out that he never ate much for breakfast at home, and in fact, neither his father nor mother were accustomed to eating much breakfast. Since Peter appeared to be very well nourished, and ate his other meals very well, Student A did not think it would be wise to try to interfere with this well-established family habit.

Though there was no noticeable change in Peter's physical condition or emotional behavior during the study, Student A found that she became very interested in Peter and his family. She said she realized that although a child was seriously handicapped, with the help of thoughtful parents he could live a relatively normal life. She also realized how good nursing care could prevent more serious handicaps in an already handicapped child. She also became quite interested in the experimental operation.

Peter and his mother had apparently appreciated Student A's interest in him, for when he was discharged a few days after the study ended,
his mother invited Student A to visit Peter in his home.

**Student B**

Student B discovered one of the main problems with Joan during her first morning of care. She recognized that Joan was very withdrawn and described her as being "drawn into a shell". She spoke only when spoken to and appeared very apprehensive and suspicious of any approach by the medical or nursing staff. She talked constantly about going home.

Student B realized that in order for Joan to learn to understand and accept her rheumatic fever and its restrictions, she must first develop confidence in the hospital personnel. She reasoned that her lack of a sense of security might be caused by separation from her family. She seemed very close to her parents and brothers and sisters and seemed to miss them a great deal. Upon reading her history, Student B discovered that the guidance sheet and doctor's notes stated that Joan had a "needle phobia". This helped Student B to understand why Joan was constantly asking when she was going to have a needle.

Student B also noted that Joan's mother had been very reluctant to bring her into the hospital. She thought that the fear of hospitalization by Joan's mother had probably been transferred to Joan and, for this reason, though she was in her eighth day of hospitalization when the study began, she was still very apprehensive.

Student B could find nothing on the history that gave any specific cause for the "needle phobia". When Joan's mother brought her in for the consultation, blood was drawn for a sedimentation rate, which may have been the beginning of the "needle phobia". The doctor caring for Joan
mentioned during one of his rounds, that Joan's mother had told her at home, that if she came to the hospital she would not have to have any needles. A sedimentation rate was ordered on the day of admission and the doctor stated the child was practically uncontrollable. During visiting hours after Joan had had the needle, her mother told her that she wouldn't have to have any more needles. The doctor overheard the mother making this statement and told both Joan and her mother that she would have to have another needle to check her progress.

Whenever anyone approached Joan she was very apprehensive for fear they would give her a needle. There were periods when she would talk constantly about getting needles. Student B realized that by allowing her to talk about this fear, she would be able to dispel some of the false notions Joan had acquired about needles. Joan seemed to think that the laboratory technicians were quite anxious to take blood from her. When they came to do blood work on any of the other children in the ward with Joan, she became very upset although she was told that the doctor had to sign a slip and order blood before they could take it. Joan immediately suggested that someone else in the laboratory might sign if they wanted to take it from her. When the laboratory technicians left the ward without approaching her, Joan seemed quite relieved.

The second day during the study period Joan had blood drawn for a sedimentation rate. She cried hysterically and struggled quite a bit. The doctor was able to find the vein very quickly so there was a minimum of pain associated with the procedure.

Student B realized that it was very important for Joan to learn to trust adults in general and the hospital personnel in particular.
The only way Joan would develop confidence and trust in the hospital personnel was to realize that they were trying to help her and were interested in helping her enjoy her period of hospitalization. In order to break down this barrier Joan had against the hospital personnel, Student B spent a great deal of time reading to her and talking and playing games with her.

Another problem that Student B encountered with Joan was her inability to accept her bed rest restriction. Joan felt well since cortisone therapy had been started and she could not understand why she had to stay in bed when she felt well. Student B explained to her that though the medication made her feel well, she was not well enough to get up. When the doctor visited on his daily rounds on the third day, Student B told him about this problem she was having with the patient. The doctor tried to explain to Joan that she had a "sick heart" and also something about her disease. Joan told the nurse that she understood what the doctor said and why she had to stay in bed, but there continued to be discussions during the next five days of the study about Joan wanting to get out of bed. Since Joan was only eight and one-half years old, Student B seemed to realize that she really could not understand too well and had difficulty accepting this long term restriction as she began to feel increasingly better.

Student B's efforts to become friendly with Joan were rewarded by a slow change in her attitude. She began to talk more freely with the other children in the ward and play with ambulatory patients who approached her bed. She smiled more often and even spoke voluntarily to the nurses with whom she was most familiar. She still talked constantly about going
home and about getting another needle. However, she did not seem quite as apprehensive about this impending needle because the doctor had told her that he thought she might be able to go home a few days after the needle. When the time came to have this blood test, Joan became apprehensive and started to whimper. Nevertheless, she cooperated very well and did not struggle against the doctor. Though she favored her arm a short while afterwards, she soon forgot about it and became absorbed in television.

Joan's history also gave information that she was a poor eater. Though she was on a special diet because of the cortisone treatment, she ate quite well during her period of hospitalization. However, she did not like milk and usually would not touch it. At different times Student B, with permission from the head nurse, substituted ice cream for the milk, which Joan ate quite readily.

The nursing care plan for Joan emphasized her phobia and resistance to bed rest. Joan had also disliked taking pills during her hospitalization. Though she took them a little better as the number were decreased, she was still quite slow about it till the day of discharge. Student B anticipated difficulty after discharge both in regard to the pills and bed rest, since she noticed that Joan's parents frequently gave in to her wishes even though it was not for Joan's ultimate good. Joan had told Student B that her mother had allowed her to get up before she came to the hospital, when she was supposed to be on bed rest.

Student C

When Student C was assigned to John, he had passed the critical post-operative period following a craniotomy for subdural hematoma and he
was beginning the period of convalescence. She recognized three problems in caring for him: (1) he was afraid to move about in bed for fear he would loosen his dressing, bang his head, or harm the stitches; (2) his appetite seemed poor; and (3) he was very resistant to having hypodermic injections of antibiotics.

Student C recognized that age was an important factor in all these problems. His hesitancy to move was also caused by fear. She realized that John needed reassurance and explained that his dressing and stitches were quite secure and would not be loosened by his moving about in bed. She then helped him turn from side to side and to sit up. After a while, with constant encouragement from Student C, John began to move by himself. He realized after a few trials that he did not have to fear loosening his dressing and stitches and he gradually became quite active, so that two days later he was permitted to get out of bed. His newly acquired confidence helped him to accept this increased activity very well.

The following day he was given playroom privileges.

John had had headaches ever since the operation. This was an expected outcome and though they decreased slowly in severity and frequency, they would at times cause him to become sedentary in his activities. The doctors told Student C that it was hard to say just how long they would continue, possibly for a few weeks to a month.

When Student C realized that John was eating poorly, she asked him why. John said he didn't feel well and besides the food wasn't like his mother cooked. Student C recognized that his physical condition would affect his appetite and because he was so young, he had difficulty adjusting to the food differences. She observed him for the next few days and
noticed that as he became more active, his appetite also improved. Student C thought John had given adequate reasons for not eating and had also realized that if she forced him she might create a more serious problem since this was one recognized cause of feeding problems.

Student C accepted his fear of needles as perfectly normal for a seven year old boy. Therefore she tried to reassure him that she knew how to give needles, tried to explain simply why he needed them and that the doctor had ordered them. She also had an older boy who had received needles from her, attest to the fact that she knew how to give them. Although John was still tense whenever he received a needle, he offered much less resistance.

Student C included these problems and her approach to them on her nursing care plan. On the third day of the study John was given playroom privileges and then three days later he was discharged. He was away from the ward a great deal of the time once he received playroom privileges, so Student C did not have too much opportunity to observe him with the other children.

Though she did not have opportunity to see John's mother during the study, Student C realized by talking with John that he was very much attached to his mother. He always spoke of her as being "beautiful" and looked forward to her visits. Student C noticed that John also had a strong belief in God for a seven year old child. If the other children were misbehaving, he would admonish them and tell them God would punish them if they did not do what they were told.

The week after the study ended, John was re-admitted to the hospital with complaints of headaches. Student C was assigned to the
admission room that week and made a point to consult the nurses on the ward to find out what was to be done for him. Ventricular taps were done with negative results. Therefore, it was decided to discharge John and have him return for a check-up in a couple of weeks unless he developed more symptoms.

An Analysis of the Guidance Needed

By Each Student

The guidance needed by each student varied because of the differences in personality and backgrounds of the students and in the types of patients to whom they were assigned.

Student A.

Student A required help in defining Peter's specific problems. She was able to state the obvious physical problems but needed assistance in recognizing the emotional aspects. Her written observations tended to be quite brief at first, but as she became more aware of the various factors in nursing care, she was able to make and record better observations. Student A had four different patients before the study ended and by the time she was assigned to Peter, she said she had lost interest in the study, but after working with Peter for a day or two, she became interested again. She required additional assistance and encouragement in order to maintain her interest in the study and her study patient. She took the initiative the last week of the study to approach the doctor caring for Peter and questioned him in regard to Peter's surgery.
Student B.

Student B seemed somewhat overwhelmed at the beginning of her assignment to this ward. One of the patients in her assignment was an eleven year old girl who was a behavior problem and was very difficult to control. Student B became discouraged quite easily when she couldn't control her. With frequent conferences and suggestions from the investigator, the student gradually began to accept this child's behavior without becoming quite as disturbed. She had taken this child's remarks personally in the beginning but when she noticed that similar remarks were also directed at other members of the staff, medical and nursing, she seemed to feel more comfortable about it and appeared more relaxed in her patient care.

Student B recognized the problems her patient presented, but needed help stating them and trying to find approaches to them. She seemed quite slow beginning to seek data about her patient and her problems. By presenting problem questions to her the investigator noticed that she seemed stimulated to find the answers, primarily by library research, though she could have found some of them much easier by consulting the resource personnel. Only once during her study time did she approach the doctor, and at no time did she ask questions of other personnel on the ward. Though she was on duty a few times when Joan's father was visiting, she made no attempt to talk with him.

Student C.

Student C seemed to adjust to the entire study approach quite easily. Though she had three different patients, she did not seem to
become discouraged. She noted and stated her problems well and also her approaches to them. Her evaluation of the study was stated as facts she had learned without any explanation to them. Though they were specific facts associated with the care of her patient, she did not state them as being related to this individual patient.

**Specific Activities and Recordings**

The investigator and students involved in the study recorded the time they spent in the various activities. Each student carried a pocket size notebook with the following chart on each page:

<table>
<thead>
<tr>
<th>Date</th>
<th>Caring for study</th>
<th>Caring for other</th>
<th>Conferences</th>
<th>Libr. study</th>
<th>Writing</th>
<th>Visiting agencies</th>
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The investigator recorded her time in diary form under the following categories:

1. Conferences with students.
2. Conferences with medical personnel.
3. Library study.
4. Interviewing patient and family.
5. Caring for patients.
7. Clerical work of study.
Considerable part of the investigator's time was spent in conferences with various personnel for the purpose of choosing patients for the study and in helping guide the students in the adjustment to the changing patients.

The investigator recorded daily observations of the students and patients, particularly any significant events.

The conference at the end of the first week was to help identify problems that students were having in the use of the guide. Records of this and all conferences were recorded.

During the study the head nurse and assistant head nurse were asked for any suggestions or evaluations they might have in regards to the study. At the end of the study the head nurse, assistant head nurse, staff nurse, pediatric instructor, clinical instructor, and medical resident were interviewed to determine their evaluation of the study method. An attempt was made to ask leading questions in order to obtain their opinions in regard to the advantages and disadvantages of the study. No notes were taken during the interview, but as soon as the interview was complete, the various comments and opinions were recorded. They were asked what values they saw in the study method, did they consider it time consuming, what values did they see in this for the students and for patient care.
ANALYSIS OF STUDENTS' TIME

Figure I shows the comparison of the time spent by each student for each activity. Time spent for special duties on the ward, clinics, and classes are not included in these graphs.

The difference in time on duty for the three students during the study is explained by the length of time of the individual study period. Student A had her study patient for seven days, Student B - for eight days, and Student C - for six days. The irregularity in daily working hours also accounts for this variation to a slight degree.

The difference in time spent caring for the study patient between Students A and B and Student C was due to the type of patients involved. The study patients cared for by both students A and B were on complete bed rest and required more care. Student C’s patient was ambulatory and was given playroom privileges the third day of the study. Therefore, he was away from the ward most of every morning and part of every afternoon.

The marked difference in time spent caring for other patients between Student A and Students B and C is explained by the low census at the time of these studies. The average patient assignment for Student A was two patients daily, Student B - three patients daily and Student C - one and three-fourths patients daily. The patients cared for by Student B and Student C were primarily ambulatory patients with playroom privileges, while Student A had patients who were either on bed rest or post-operative patients who were in for minor surgery and required close observation and care during their brief period of hospitalization.
I. A COMPARISON OF THE TIME EACH STUDENT SPENT FOR EACH ACTIVITY

<table>
<thead>
<tr>
<th>Time on Duty During Study Period</th>
<th>Time in hours</th>
</tr>
</thead>
</table>

1. **Time on Duty During Study Period**

2. **Nursing Care of Study Patient**

3. **Nursing Care of Other Patients**

4. **Conferences**

5. **Library Study**

6. **Writing**
II. DISTRIBUTION OF EACH STUDENT'S TIME FOR VARIOUS ACTIVITIES

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

**STUDENT A**

- Time on duty during study
- Nursing care
- Study patient
- Conferences
- Library study
- Writing

**STUDENT B**

- Time on duty during study
- Nursing care
- Study patient
- Conferences
- Library study
- Writing

**STUDENT C**

- Time on duty during study
- Nursing care
- Study patient
- Conferences
- Library study
- Writing
III
TOTAL HOURS SPENT BY EACH STUDENT

<table>
<thead>
<tr>
<th>Time in hours</th>
<th>5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80</th>
</tr>
</thead>
</table>

STUDENT A

STUDENT B

STUDENT C

Time in hours

IV
PROPORTION OF STUDENT'S TOTAL TIME DEVOTED TO EACH ACTIVITY

<table>
<thead>
<tr>
<th>Time in hours</th>
<th>10 20 30 40 50 60 70 80 90 100 110 120 130 140</th>
</tr>
</thead>
</table>

Total time By all students

Nursing care

Study patients

Nursing care

Other patients

Conference

Library

Study

Writing

Time in hours
Conference time was higher for Student A because her patient's mother had special permission to visit her son any time she desired. Therefore Student A had much better opportunity to talk with the parent than either of the other students.

Student B seemed to spend more time in all aspects of writing her reports than either of the other students, which probably accounts for the additional time recorded.

Figure II demonstrates the allotment of time spent by each student for the different activities. The marked difference between the time spent caring for the study patient and the time spent caring for other patients with Students B and C gives indication of the differences in the types of patients cared for by these students. They had more ambulatory patients with playroom privileges than Student A.

Figure III demonstrates the irregularities in the working hours of the three students. Though Student A had her study patient seven days, Student B - eight days, and Student C - six days, the total hours spent by each student is not in the expected relationship.

Figure IV shows that the total time spent caring for the study patient exceeds all other activities. Time caring for other patients is second highest, with conference time third. Conference time was not as high as was hoped for, because students seemed reluctant to consult the resource personnel available within the hospital.
Analysis of Investigator's Time

Figure V illustrates the amount of time spent by the investigator in various activities. Conference time with the students consisted of explaining the mechanics of the various work sheets and guides, as well as discussing the patients and their problems. The questions regarding the patients were of the type that could be, and would ordinarily be, answered completely by the head nurse or assistant head nurse, since they were familiar with the patient and his family. In many instances the investigator had to have additional conferences with the head nurse in order to find the answers to many of the students' questions. Since they usually possess this information by virtue of their position, the conference time with students in the future would not be expected to be quite so high.

Library study included time spent reading the patient's charts and the students' records.

The time spent interviewing the patients and their families and caring for patients was brief because, of the three study patients, only Student A's patient required an additional person to help in his care. Since the head nurse and graduate staff were accustomed to teaching and helping the students in the care of the patients, the instructor thought it better to remain in the role of an observer as much as possible. Therefore, there were less people for the patient and his family to adjust to during their hospitalization period. Most patient care by the investigator was involved with other children in the ward who needed assistance at the time the investigator was observing the students and their patients.
DISTRIBUTION OF INSTRUCTORS' TIME FOR VARIOUS ACTIVITIES

<table>
<thead>
<tr>
<th>Time in hours</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conferences with Students</td>
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<tr>
<td>Conferences with Medical Personnel</td>
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</tr>
<tr>
<td>Library Study</td>
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<tr>
<td>Interviewing Patient and Family</td>
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<tr>
<td>Caring for Patients</td>
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<tr>
<td>Morning Report</td>
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<tr>
<td>Clerical Work or Study</td>
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V
Advantages in the Use of This Problem-Solving Method

The values, as seen in this method by the students, staff and instructors, were compiled from statements of evaluation made by them. These values seem to fall into the following four categories:

1. It made the students more aware of the importance of detailed charting, particularly in the area of child behavior.

2. It improved total nursing care of the patients and made the students more observant of the various aspects of good care.

3. It aroused the students' interests and stimulated them to seek information about their patients.

4. It stimulated the interests of other students working on the wards.

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>IT MADE THE STUDENTS MORE AWARE OF THE IMPORTANCE OF DETAILED CHARTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Nurse</td>
<td>&quot;Student A has done some very good charting since caring for Peter.&quot;</td>
</tr>
<tr>
<td>Student A</td>
<td>&quot;These observations (notes by Student B) give you an idea of the personality of the child.&quot;</td>
</tr>
<tr>
<td>Student C</td>
<td>&quot;I'm more aware of my charting now and try to write more about the patient's reactions.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;I asked my roommate about her charting. I asked her what sort of things she charted, and if she found a patient did not eat, did she ever check back on the chart to see how he had been eating, and did she ever try to find out why he didn't eat.&quot;</td>
</tr>
</tbody>
</table>
Student C  "I looked through all the nurses' notes to try to find his reaction to the pre-operative medication and the oxygen tent post-operatively. I couldn't find anything at all. Maybe it bothers me more now because I realize the importance of it."

II

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>IT IMPROVED TOTAL NURSING CARE AND MADE STUDENTS MORE OBSERVANT</th>
</tr>
</thead>
</table>
| Head Nurse              | "Student B made more attempts to talk to children when they seemed upset and she tried to allay their fears. She seemed more aware of the need for these explanations."
| Asst. Head Nurse        | "Peter received very good nursing care. I don't know whether it was because of the study approach or because he was assigned to the same nurse all the time."
| Doctor                  | "The patient (Joan) became more manageable and had less fear of the needle and was more cooperative. There was quite a difference between the second and third needle."
| Student A               | "I'm still doing this to some extent with all my patients."
| Student C               | "You automatically use this on other patients."
| Staff Nurse             | "This is a good way for students to learn total care of the patient."
| Student A               | "I noticed improvement in daily reports of Joan, though I wasn't too familiar with her. When I came, she didn't talk at all, but she gradually began to talk to nurses and other patients and to smile."
| Student C               | "I used to think of patients more as diseases, but now I think of them as persons."
| Student B               | "This was a very interesting way of studying. I noticed more about the children because I knew what to look for."
**Playroom teacher**

"Student B made better observations than students usually do. Like most nurses, she tried to do too much for the children. She managed the younger children very well."

"Student C seemed to fit right into the situation. She would get right in with the group who needed someone with them, but would not do too much for them. She encouraged them to do things for themselves. She made very good observations."

**Student A**

"I noticed more about behavior and found out things about the patient's physical condition and possible reasons for his behavior that I would never have noticed otherwise."

"I now know what to look for in my patients and know how to give them better care."

**Diary 5/26**

"The night nurse reported that Charles had stayed flatter during the night than he had any night since the order was written to keep patient flat (six days before). Student C had cared for Charles (her first study patient) the day before and tried to explain the reason for him staying flat and tried to find means of diversion which could be done while in this position."

### III

**Source of the statement**

**IT AROUSED THE STUDENTS' INTERESTS AND STIMULATED THEM TO SEEK INFORMATION**

<table>
<thead>
<tr>
<th>Head Nurse</th>
<th>&quot;All students seemed to ask more questions than the other students.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asst. Head Nurse</td>
<td>&quot;Student C seemed interested in all patients and asked questions about tests and how they were being done, which most of the students don't do.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;All three students listened more intently to doctors and nurses when they discussed the patients, while the other students usually continued on about their business.&quot;</td>
</tr>
</tbody>
</table>
Student B

"I was more interested in my other patients after doing this and even felt interested in the patients in the playroom." (Students next assignment.)

"This is a very interesting way to do a nursing care study."

Student C

"I enjoyed doing this very much. The old way of doing nursing care studies was dull."

Clinical Instructor

"I spoke to the students about their work and they didn't seem to be having any problems writing it up. The students all seemed quite interested in it."

Pediatric Instructor

"I think this method stimulated all of them to think."

IV

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>IT STIMULATED THE INTEREST OF OTHER STUDENTS WORKING ON THE WARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student B</td>
<td>&quot;The students who relieved me asked what I wanted them to chart and to look for.&quot;</td>
</tr>
<tr>
<td>Student A</td>
<td>&quot;They (other students giving report about study patient) reported more attitudes and not only physical condition. Sometimes they also reported attitudes of the other patients too.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;A lot of the students asked many questions about the study, what it was for, how we did it, etc.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;The other students were wonderful and filled in the charts when I was off duty.&quot;</td>
</tr>
</tbody>
</table>

Disadvantages of the Use of This Problem-Solving Method

A review of the various conferences indicated only two evident disadvantages of this method:
1. There were not enough opportunities to talk with the parents.

2. The low census at the time of study and rapid turnover of patients made it difficult for the students to find really suitable study patients.

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>THERE WERE NOT ENOUGH OPPORTUNITIES TO TALK WITH THE PARENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>&quot;During evening visiting hours only a few parents come, and we're usually too busy then to talk with them.&quot;</td>
</tr>
<tr>
<td>Student B</td>
<td>&quot;I was usually off duty during visiting hours and didn't get a chance to talk to her parents.&quot;</td>
</tr>
<tr>
<td>Student C</td>
<td>&quot;Many times the parents go to the playroom with the children so we don't have a chance to talk with them.&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>STUDY PATIENTS NOT MOST SUITABLE DUE TO RAPID TURNOVER IN PATIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>&quot;I lost interest after changing so many patients and when I first started with Peter, I had no interest in the study any more. After a couple of days caring for him I became interested again.&quot;</td>
</tr>
<tr>
<td>Student C</td>
<td>&quot;I didn't have much chance to observe John once he was given playroom privileges.&quot;</td>
</tr>
</tbody>
</table>
The Desirability and Feasibility
of this Problem-Solving Method

The results of the evaluation of this method by students, staff, and instructors seem to signify that the advantages of this method heavily outweigh the disadvantages found. This method of approach seemed to stimulate the student's interest in her own patient and other patients on the ward. It improved the care of the patients and made the students aware of the importance of recording their observations for the benefit of the rest of the staff and the patient himself.

The disadvantage of lack of parent contact could be partially remedied by the adjustment of the student's time. Since there would probably only be two to three students using this method at one time, their time could be arranged so they would be present during visiting hours on the days when they did not have classes at this time.

Since the average period of hospitalization in this hospital is seven to eight days, it was difficult to find patients who could be used for the study patients for a longer period. The low census at the time of this study contributed to this difficulty, but is not the usual pattern for this ward.

The instructors and head nurse indicated by different comments that they had noted a change within the students during and after this study:

"Students A and C did seem to ask more thoughtful questions in class."

"Student B seems to be developing more self-confidence. She asked the doctor many questions in class yesterday, but until now she has been a very quiet student in
"Student B has much more self-assurance this time. She takes more leadership now, where before I had to tell her everything that had to be done. I don’t know whether this is because of the study or just because she has been here longer." (Student B had been assigned to this ward before the study and returned there one week after the study ended.)

Recommendations for Future Use of This Method

Other comments made by the students and staff were used as a basis for recommendations for future use of this method. For clarity of presentation they have been divided into the following categories. All statements referring to any category are grouped together whether they are positive or negative. Contradictory views could only be settled by future trials of this method.

1. For better results and increased learning within the students this should be done as early as possible in their experience.

2. The use of this method would not be too time-consuming in this situation.

3. Special consideration should be used in the choice of the study patient.

4. A printed guide is necessary to help the student become familiar with this method.

5. One week is an adequate period of time to become familiar with this method of approach to patient care.

6. The study period was too brief to evaluate what the students received from the use of this method.
I

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>IT SHOULD BE DONE EARLY IN THEIR PEDIATRIC EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student C</td>
<td>&quot;Students could do this after one week because really, it's all nursing.&quot;</td>
</tr>
<tr>
<td>Student A</td>
<td>&quot;I think students should do this in their first month so they will be able to notice more for the rest of their experience.&quot;</td>
</tr>
<tr>
<td>Student C</td>
<td>&quot;This should be done in the first month so it will help students for the rest of their time, and they can take it back and use it on adults too.&quot;</td>
</tr>
<tr>
<td>Head Nurse</td>
<td>&quot;If this does what the students say it does, I think it should be used for all students.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;The time for a student to do this would depend on the individual student. Some are ready sooner than others.&quot;</td>
</tr>
<tr>
<td>Asst. Head Nurse</td>
<td>&quot;The students may be too overwhelmed at first to understand or use this method. They may need time to adjust first.&quot;</td>
</tr>
<tr>
<td>Pediatric Instructor</td>
<td>&quot;I would think it would be valuable in motivating student interest and more valuable if started early.&quot;</td>
</tr>
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II

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<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>SPECIAL CONSIDERATION SHOULD BE USED IN THE CHOICE OF THE PATIENT FOR STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student C</td>
<td>&quot;It would be better to be assigned to the patient as soon as he comes in so you will see his attitude toward hospitalization and be able to see how it changes.&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;It is not necessary to have the study patient in a ward with other patients, because you pick up most of your information during bath time. You can't just go in and ask a lot of questions, but it's easy to ask them while you are giving a bath.&quot;</td>
</tr>
</tbody>
</table>
Asst. Head Nurse

"It seems as if they could take a patient in a private room because the students usually go back to such a patient after their other patients are done, because these patients are alone and usually the sickest and require closer attention. They would also get an opportunity to talk with parents more, since they need to develop this area. They don't always have to talk, many parents like to talk and just want someone to listen to them." (Parents of very ill children are given extra visiting privileges.)

"This would not be too good for short term patients, those not diagnosed, those too complicated, and those who go to the playroom every day."

Head Nurse

"A patient that is very disturbed could be too much for a student just as much as one who is too complicated physically."

"The doctors on the case make a difference as to how much the student can learn. Some are very willing and anxious to teach and others aren't."

III

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>TIME ELEMENT WOULD BE MINIMAL IN THIS SITUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student C</td>
<td>&quot;I think you could do this even if it is busy because it does not take too much time. The library time looking up the disease and things is not extra because you do that for any patient.&quot;</td>
</tr>
<tr>
<td>Head Nurse</td>
<td>&quot;It would not take much time to guide the student in this method since you'd probably only have a couple study patients at one time.&quot;</td>
</tr>
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IV

<table>
<thead>
<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>THE PRINTED GUIDE AND WORK SHEETS IS NECESSARY</th>
</tr>
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<tbody>
<tr>
<td>Student A</td>
<td>&quot;It's very necessary to have the guide. I have never done anything like this before and I wouldn't have known how to start without the guide.&quot;</td>
</tr>
<tr>
<td>Student B</td>
<td>&quot;I couldn't have done this without the guide because I wouldn't know what to look for.&quot;</td>
</tr>
<tr>
<td>Student C</td>
<td>&quot;The guide is very important for this approach.&quot;</td>
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V

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<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>ONE WEEK IS AN ADEQUATE PERIOD OF TIME TO BECOME FAMILIAR WITH THIS METHOD OF APPROACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student C</td>
<td>&quot;One week was long enough for us to learn the things to look for in our patients.&quot;</td>
</tr>
<tr>
<td>Student A</td>
<td>&quot;One week is long enough to do this in order to learn this approach to the patient. It was very quiet when we were doing it, but I don't think we could do it when it is busy, or else it would have to be for a longer period, perhaps two weeks or more, when it is busy.&quot;</td>
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VI

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<tr>
<th>SOURCE OF THE STATEMENT</th>
<th>THE ENTIRE PERIOD WAS TOO SHORT TO EVALUATE WHAT THE STUDENTS RECEIVED FROM THE USE OF THIS METHOD</th>
</tr>
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<tbody>
<tr>
<td>Pediatric Instructor</td>
<td>&quot;I think we should remember that a lot of these appreciations come with self-growth over a period of years. Therefore, one of the best things we can do is to stimulate the students' interest and guide them in their own growth.&quot;</td>
</tr>
</tbody>
</table>
Pediatric Instructor  "It was difficult to judge its value here in such a short period considering the differences in the students' backgrounds."

"I would like to use it in the future if it could be simplified a little."
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The evidence disclosed by this pilot study, testing the feasibility of a problem-solving method of teaching in a pediatric affiliation, attests to the fact that it is a stimulating method of teaching the care of children to students of nursing. The evidence also indicated that the results expected from this method of teaching have been achieved.

The learning experiences for the students were distributed in a number of different areas. They concentrated first on observing their individual patients in an effort to determine the specific problems that each presented. In order to understand their patient more fully, they realized it was necessary to search his past history for clues which might account for his present condition and behavior. They compared their individual patient with other children of the same age on the ward in an attempt to determine the level of development of their particular patient. In order to find the answers to some of the questions they encountered regarding their patients, they sought the information in the library and to some extent from the doctor assigned to the patient and the head nurse and assistant head nurse on the ward.

The students became aware of the various problems their patients presented by the use of observation sheets. These daily records, on which the students recorded all their observations about their patients and information that they discovered in caring for him, aided the students in defining the existing problems which needed to be included in the nursing care plan.
By making a comparison of the typical textbook picture of the disease condition and the picture presented by their patient, they not only learned about the disease condition, but also had experience in sorting out the pertinent material from the patient's history, and evaluating their findings of the comparison.

The students all needed guidance in understanding their patients and the possible reasons for their behavior. They also required guidance in recognizing the steps of the problem-solving method of approach, and their final reports indicated they seemed to understand the approach. Nevertheless, it was also evident that this understanding could be strengthened quite a bit.

The students had some difficulty deciding the kind of observations to be recorded under each of the five headings. Since they thought the emotional factors seemed to be implied under the "General Comfort and Well Being" column, their comments regarding emotions were frequently found in both this and the "Emotional Factors" columns. They suggested that a total of three headings would be easier to understand and follow. These suggested headings were: (1) Diagnostic and Therapeutic Treatments and Physical Comfort; (2) Emotional and Social Factors; and (3) Family Visiting. All three students agreed that the child's behavior when his parents were present was many times different enough to deserve recording under a specific heading. They seemed to recognize the important role the parents and home life played in the attitudes and reactions of the child.

The distribution of the time spent by the students in various activities was partially determined by the individual study patient, the
student's additional assignment, and her working hours. The bed patients usually required more care. The ambulatory patients did not require close supervision when they were up and around because they usually received playroom privileges and therefore were away from the ward quite a bit.

Only one of the three students had parent contact and this was only with her last study patient. She had not had any with her other study patients. In the area of pediatrics this parent contact is very important and the students indicated they would like to learn more about the child's behavior at home and the possible cause of his present behavior, which they felt could be obtained from the parents.

Of the total time spent by all the students, 43 per cent was spent caring for the study patient, 23 per cent caring for other patients, 17 per cent in conferences, 12 per cent in writing the assignment and five per cent in library study.

Although the conference time was not low in proportion to the other figures, not enough of this was spent with resource personnel. The continual changing of study patients accounted for a good part of this time. If this method were to be used with the head nurse as the instructor, means might be found to encourage the student to seek information of the various resource personnel. Since the head nurse would be familiar with the ward situations, and the doctors on the various services, she could probably create opportunities for the students to make these contacts.

The time spent by the investigator in the various activities would not influence the use of this method in the future. A great deal of the conference time with the medical personnel also dealt with constant-
ly choosing new study patients. After their initial orientation to this method of teaching, conferences for this purpose with the medical personnel would not be necessary once this method was in use. Library study for research regarding patient's diseases, interviewing the patient and his family, and assisting in the care of the patients, are activities ordinarily engaged in by the head nurse in the course of her usual days work. Clerical work would be eliminated by the use of mimeographed guide sheets once the method was established.

One of the biggest problems throughout the study period was choosing study patients. It was found that the following types of patients were not too suitable for study for beginning students:

1. Patients admitted for short periods for therapeutic treatments or minor surgery.
2. Patients admitted for the purpose of establishing a diagnosis.
3. Patients who are too complicated either emotionally or physically.
4. Patients who have full playroom privileges.

Sometimes the patients are on restricted activity and limited playroom privileges. A patient of this type would probably be on the ward enough for observation and could be used as a study patient.

The students tend to become disinterested when their patients were constantly being changed or when they were too complicated in relation to their own level of development. Since most of the patients chosen fell into the above categories, this seemed to be a normal reaction of the students.
Once a student had used this guide for the first time and was familiar with the method involved, she could probably be assigned to any patient with the above restrictions to become familiar with the problems presented by these short term and ambulatory patients which are different from the bed patients. With experience, she would be challenged by patients who presented more difficult problems.

The advantages of the method as expressed by students participating in the study were several. They became more aware of the importance of detailed charting and its value in continuity of care for the patient. They felt they were able to give better care to their patients because they were aware of all the aspects to be considered in total care. They were more aware of the behavior of the patients and recognized the effect this behavior had on the treatment of the child's disease condition. This method aroused their interest in their patients as persons and stimulated them to seek more information about them. It made learning a more enjoyable and satisfying experience.

The instructors, head nurse and assistant head nurse saw values similar to those seen by the students as well as some additional values. They indicated that the students appeared quite interested and seemed to be enjoying this experience. It stimulated the students interests and they asked more thoughtful questions in class, and also asked more questions about the patients and their treatments while on duty. Their charting seemed to improve and the patient care was good. One student seemed to develop more self-confidence and self-direction.

The disadvantages of lack of contact with parents is really quite important because these students did not have access to any social
history on their patients, since there were none on the charts. Therefore, unless the patients were old enough to give accurate information or unless the student had parent contact, she had no way to determine what influence within the home might be causing the child's present behavior, and what his role was in his family unit. Nor was she aware of the parents attitudes towards the child, and towards his disease condition and hospitalization.

Therefore, since this method seemed to have certain definite values, and since the disadvantages were limited and could be partially overcome with better planning in the future, the use of this method seems both feasible and practical in this pediatric affiliation.

RECOMMENDATIONS

Since this pilot study provides evidence that the problem-solving approach to nursing care is both stimulating and interesting to the students and improves the care of the patients, it is recommended that this approach be used by all the students during their pediatric affiliation and within their first month's experience. For this initial experience, patients should be chosen preferably who are expected to be hospitalized for approximately a two week period, and who do not present too complicated problems either emotionally or physically. This learning method is equally applicable in assignments to ward or private patients. Students usually spend more time with patients who are alone, and lack the companionship of other children in neighboring beds. Moreover, the parents frequently spend more time with the child who is in a single bed unit. This would provide more opportunities for observation of parent-child relationships and also student-parent contact.
Before this teaching method is instituted, the staff should be
well oriented to it and the underlying philosophy and purposes of it.
They should also understand the functions of the various guides and work
sheets. Wider experience with the guide sheets, if continuously appraised,
would aid in ascertaining how they could be designed for greater usefulness
and would provide ideas to make them more suitable for the field of
pediatric nursing.

After the initial use of this method in the first month, it is
further recommended that a modified problem-solving approach to learning
be carried out by each student during her entire twelve week affiliation
period. If students are to be able to identify major problems and learn
to do something about them, they must have continuous experience in this
area. They must learn to identify problems, to determine the data needed
to solve them or from which to make decisions, to test these decisions,
and to evaluate the results of their efforts. Once the student had used
the extensive approach for her initial experience, she could help other
students in their approaches. This would result in group approach to
problem-solving arising from group discussions of the individual problems.
Constant practice in defining problems, trying approaches to them, and
evaluating the results will prepare these students to function more com-
pletely in the area of total nursing care. It tends to increase skill in
observations, to increase sensitivity to the patient's needs, to expand
both depth and breadth of knowledge, to provide understanding of the sig-
nificance of relationships in general and the particular emotional and
intellectual factors which are the basis of these relationships.
For this continued experience in problem-solving the students could be assigned to patients who are admitted for short periods for therapeutic treatments, for minor surgery, or for the purpose of establishing a diagnosis, as well as to patients who have longer terms of illness. These patients present problems in adjustment, and the more immediately they are recognized the less traumatizing their hospital experience is apt to be. With continued experience, the student should be able to recognize these problems as well as the social and medical therapeutic problems which must be resolved if a high quality of care and understanding of these patients is to result.

Since these students, who represented three different schools of nursing, did not use a problem-solving approach to learning before trying this method, and since they seemed to have a fairly superficial knowledge of total nursing care, it may be safe to assume that a dynamic approach to learning is not applied in their home schools. The qualitative judgments of the head nurse and instructors in comparing these students with other affiliating students appears to bear out the values in problem-solving as a teaching method. It is recommended that when the faculty of the Boston Floating Hospital meets with the representatives from the affiliating schools of nursing, they should discuss with them the approach being used and try to stimulate them to begin this approach in their individual schools of nursing. When students are not familiar with this method of learning, and have had limited opportunities for self-direction, a longer period is required to develop this approach. Moreover, all of these students coming to this affiliation are at least in their eighteenth month of a three-year curriculum, much too long for a routine approach to nursing, when more and more medical
and health plans call for professional nurses with a high degree of nursing skills which must be developed if the nurse is to hold a position on the health team on a level with the other professional members.

The use of observation sheets on all patients is recommended as guides to help the students become more aware of all the various aspects that contribute to good patient care. They also aid the students in the development of their communication skills.


APPENDIX
INTERVIEW
INSTRUCTORS - HEAD NURSES

1. Did the study create problems in ward management?

2. What values do you see in this method of approach to patient care?

3. What disadvantages do you see in this method of teaching?

4. What suggestions do you have to improve the method?

5. Did you observe any change in the patients' conditions during the study period?

6. Did you observe any change in the students during the study period?

7. Would you think it would be valuable to continue to use the method for teaching students?
STUDENT CONFERENCE

1. Was there sufficient time:
   A. To observe and interview the patient?
   B. For library research?
   C. To interview the parents?

2. What particular problems developed for you while doing the study?

3. How early do you think you could have used this method in your pediatric affiliation?

4. Did you have enough guidance during the study?

5. Do you see any advantages to the use of this method of approach to patient care?

6. Do you think one week is long enough to become familiar with this type of approach?

7. What would you like to change about the guide or work sheets?

8. Do you think your approach to patient care has changed?
STUDY GUIDE USED

I. What is the main problem of this patient?

II. What are the sub-problems?

A. Concomitant health needs.
   1. Maintenance of nutrition
   2. Elimination
   3. Maintenance of resp-circulatory functions
   4. Care of skin
   5. Posture and exercise
   6. Sleep, rest, relaxation
   7. Intellectual needs
      a. Reading
      b. Understanding problems
   8. Emotional needs
      a. Fears
      b. Security
      c. Belongingness – love
   9. Self-expression
      a. Vocational
      b. Avocational

B. What are the health needs of the family?

III. Collection of data:

A. How are the problems evidenced?

B. What are the factors which influence the problems?

   1. Age and personality
   2. Family relationships
      a. Is the family concerned about the patient's illness
      To what extent?
      b. Is there any change in the patient's behavior when the
         parents are present?
      c. What is the relationship between the patient and his
         parents, and siblings if present?
   3. Cultural and religious patterns
   4. Socio-economic

C. What services for the patient can be supplied by other medical
   personnel or community agencies?
IV. Sources of data:
   A. Medical personnel.
   B. Patient and family.
   C. Medical record.
   D. Community agencies.

V. What factors must be considered in planning nursing care and carrying out this plan?
   A. Nursing personnel on wards.
   B. Availability of community resources.
   C. Patient, family, socio-economic and ecological factors.

VI. Setting up and carrying out Nursing Care Plan.
   A. Initial plan
   B. Subsequent changes.
   C. Long term plans.

VII. Evaluation:
   A. How effective was my supportive and rehabilitative care in terms of criteria of good care?
   B. How successful have I been in helping him and his family?
   C. What factors prevented maximum assistance?
   D. How effectively have I used other health agencies?
   E. What agencies might have been used by this patient earlier?
   F. What factors contributed to non-effective use?
Information regarding the disease

How does this patient studied compare with the textbook picture?

I. Incidence

II. Etiological Factors

III. Symptoms

IV. What complications may arise?

How can they be prevented?

V. Treatment
1. What conclusions may be drawn relative to the differences?

2. What significant factors were found in the study?
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<tr>
<th>1st day</th>
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<td>Diagnostic and Therapeutic Treatments</td>
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<td>Family Visiting</td>
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A SAMPLE OF THE STUDENTS' WRITTEN WORK

(FORMS COMPLETED BY STUDENT B)
PROBLEM

Rheumatic fever with carditis

SUB-PROBLEMS

1. Maintenance of nutrition.
   This child was placed on an ACTH diet. Eats fairly well, but dislikes milk very much, also some other foods.

2. Sleep, rest, relaxation.
   This is the main problem. She will not rest in afternoon. From time she wakes up in the morning till bedtime at night, she is constantly doing something, although in bed. She does not relax and appears extremely apprehensive.

3. Fears.
   This child is extremely fearful of needles and afraid of being hurt.

4. Love and security.
   Appears lonely and seems to like company and friendship.

5. Dislikes taking pills and does so very slowly.
Essentially well till 17 days prior to admission. Mother noticed she did not look well. Complained of pain in groin and felt funny. Temp. 102 degrees. She went to bed and it was noticed that she had pain and swelling in her ankles with migrating pains in all of her joints at this time also.

14 days prior to admission she had a very slight sore throat. Seen by her physician who on examination believed that she had rheumatic fever. Was placed on bed rest, given penicillin and aspirin. Joint manifestations subsided in 4-5 days, but apparently heart findings persisted. Consultation at hospital confirmed diagnosis. Hospitalization was advised, but mother could not accept it at this time. She returned home to think it over and about 10 days later brought child to hospital for admission.

1. Patient takes solids poorly, she is a finicky eater, eating some foods well, but most foods poorly.
   Her special diet is because of cortisone medication, to help prevent edema.
   She must eat well to maintain her strength while in bed for a long period of time.
   She seemed to eat quite well while in the hospital.

2. Child only 8 yrs. old and cannot seem to understand why she must remain on bed rest and while in bed to remain as quietly as possible. This condition of carditis can lead to a chronic valvular disease causing a very weak heart which later on in life could end in very serious results. Bed rest for a prescribed length of time could rest the heart and strengthen it so the child could lead a normal life without strenuous activity.
   She almost refuses to stay in bed as once was seen sliding out and standing on the floor.
   Insists she can get up. States, "It's wrong to make a bed with a person in it." Wanted to watch TV.
   Can't understand why she can feel well and still be ill.
   Mother was not very strict about her remaining in bed when she was sick before being admitted although on bed rest at this time.

3. Patient is very nervous and extremely afraid of needles.
   Cooperates at times with a marked degree of suspicion.
   Does not like to have people bathe her or comb her hair.
   She seems to fear being hurt.
   She has a needle phobia. On having her first blood test she almost became hysterical previous to procedure.

4. Constantly asked when she could go home - very anxious to leave. Concerned about blood test and if it will be all right so she can go home. Patient is fairly quiet during the day until her father arrives - then becomes happy and talkative.
   She appears to very close to her father. Enjoys reading and playing with toys. Didn't talk much - only when spoken to.

5. Dislikes taking pills and as a result is very stubborn.
   Did slightly appreciate cut in dosage and lowering number of pills to be taken.
OUTLINE OF NURSING CARE PLAN

1. Since she is a finicky eater, I found out which foods she liked best and gave her more of these to make up for the food she would not eat. For example, on some days I gave her ice cream to replace her milk.

2. I played games with her and read to her. Gave her all the books and toys she wanted. This kept her mind occupied more or less. Had doctor explain to her about her "sick heart."
Not too much was improved on her requesting to get up till a TV set was finally able to be moved to her room.
Able to keep patient cheered up with books, toys, TV and talking with her.

3. Allowed patient to talk about the needles and tried to reassure her when she seemed frightened about them.

4. Had doctor explain to patient that as soon as blood test was alright she could go home. Also said that he felt the test would be alright.

5. Explained to her about Cortisone, but patient still couldn't or wouldn't understand. Tried to explain the necessity of taking pills.
EVALUATION

1. Patient eats foods she likes very well, but the foods she doesn't like she won't touch. In spite of having a special diet, the patient really ate quite well while in the hospital.

2. She seemed to accept bed rest a little easier when TV came to room. Appeared absorbed in it. Playing games with her and reading to her kept her from thinking or dwelling on one thought too long. Now that she has been discharged with order of 3 weeks bed rest at home, I am afraid her mother will not be very strict about her remaining in bed as she didn't before admission.

3. I believe the patient has calmed down to a small degree about having "needles". Her first blood test, where she was hysterical before the procedure, proved successful as the vein was found immediately so there was not as much pain as she anticipated. On the second blood test she did not resist against the injection being done. She cried extremely little, but still hesitated to bend arm following procedure, but was easily forgotten by occupying mind with TV. This was probably due to doctor's success and allowing patient to talk about it. Patient perfectly content to bathe self and comb hair.

4. Towards end of hospitalization she was friendlier with other children and shared her toys with them. She seemed better adjusted to the entire situation. After patient became used to nurse she came out of her quiet "shell" and became more cheerful and friendly. By playing with her and reading to her the nurse was able to get closer to patient. Still felt unsure and worried about going home.

5. Even on discharge patient was slow taking pills. I think there will be difficulty at home with this problem.
I. INCIDENCE

Rare in first year of life because development of allergy requires time. Height of incidence—onset at five years, reaches its peak between seven to ten years. May occur at an older age, but rarely. Prevalent in temperate zones and during season of respiratory infections. Family incidence. Low income level.

II. ETIOLOGICAL FACTORS

The underlying factor is infection in the throat with a variety of hemolytic streptococcus. As result of chronic or repeated acute infections, body becomes sensitized to the organism.

III. SYMPTOMS

1) Preceded by sore throat, fever is present (moderate in degree) may rise to 102 degrees at onset but drops quickly to lower levels where tends to remain with occasional elevation in some cases which means there is activity of the infection such as cardiac involvement.
2) Prodromal symptoms present for a day or two with malaise and fleeting pains, then onset is abrupt with a chill, temp higher at onset and remains higher throughout.
3) Anorexia, malaise, anemia, leukocytosis, sweating.
4) Elevated sedimentation rate.
5) Migrating joint pains, chorea.
6) Continued infection or repeated infection after sensitization leads to allergic response as with rheumatic nodules, carditis, and mild arthritis.

IV. WHAT COMPLICATIONS MAY ARISE?

1) Carditis—heart damage.
2) Rheumatic arthritis.
3) Carditis with Grade I systolic murmur.

HOW DOES THIS PATIENT STUDY COMPARE WITH THE TEXTBOOK PICTURES?

Family of low income. Patient eight and one-half years. Temperate zone. Season of respiratory infections. No history of rheumatic fever in family.

Fourteen days prior to admission had very slight sore throat. No apparent exposure to contagion and no previous episodes of this disease.

1) Fourteen days prior to admission had sore throat, fever 102 degrees.
2) Mother said she did not look well, felt funny, pain in groin and swelling and pain in ankles with migratory pains in all joints.
3) Lethargic, temperature normal from 11 days prior to admission.
4) Sedimentation rate 90 mm/hr.
HOW CAN THEY BE PREVENTED?

No satisfactory means has been found, but since it is associated with streptococcus infections, try to prevent infections by continued administration of sulfonamide during the winter months.

Discharged on penicillin daily.

V. TREATMENT

Cortisone - potassium chloride
ACTH diet
Bed rest
Salicylates
Penicillin or sulfonamides upon discharge.

Cortisone 300 mg daily - gradually reduced to 100 mg daily for discharge.
Potassium chloride 0.3 Gm t.i.d.
ACTH diet.
Bed rest.
Penicillin upon discharge.

1. WHAT CONCLUSIONS MAY BE DRAWN RELATIVE TO THE DIFFERENCES?

I can see no differences and so can draw no conclusions.

2. WHAT SIGNIFICANT FACTORS WERE FOUND IN THE STUDY?

The patient is a typical case. Very difficult to keep in bed and to give medication to. Very fearful of needles. Dislikes milk very much. Seems to receive a lot of attention from father, but does not seem spoiled. The fact that she can get her parents to give into her may influence her care at home, particularly where bed rest, diet and medications are concerned.
ORDERS

1) 5/17
   Bed rest
   Reg diet
   TPR q4h
   Sed rate

2) 5/18
   Cortisone 100 mg t.i.d.
   Potassium chloride 0.3 Gm t.i.d.
   ACTH diet
   Aureomycin 125 mg t.i.d.

3) 5/27
   Carubson 250 mg daily (100-50-100)

4) 5/28
   Cortisone 200 mg daily (100-50-50)

5) 5/31
   Cortisone 150 mg daily (50-50-50)

6) 6/1
   Cortisone 100 mg daily (50-50)
   Sed rate

PROBLEMS

1) Does not understand why she should remain quietly in bed. Almost refuses to. Will not remain quiet while in bed – stands up and walks around and sits on foot of bed.

2) Dislikes taking pills very much. Takes 15 min to take them. Does not understand the reason to take them.

3) Slightly appreciative of cut in medications – still slow and slightly stubborn in taking them.

4 & 5) Same as above.

6) Smiled and slightly happy in having to take only 2 pills along with the others. Asking at what time of day these pills will be given.

Sed rate) Patient is very frightened of needles and has a "needle phobia". Worries if test will be all right to allow her to go home. Wants to go home soon.

APPROACH

1) Dr. has explained to pt. that she has a "sick heart" and that she must remain quiet to make it better. Nurse has tried to stress this fact. At times she behaves well but then she goes back to "why", moving about and trying to get out of bed. Wants to watch TV, so on 5/29 a set was placed in the room. This made patient happier and seems to accept her stay a little easier.

2) Explained why pills are necessary – dislikes to take them regardless.

3) Explaining still does not seem to help even though dosage is cut.

4 & 5) Still dislikes taking them, but takes pills better as there are less. Explained to patient that as the dosage is cut, patient is getting better and after awhile may not have to take any.

Sed rate) With the first test pt. was told and explained to that it may hurt a little, but not as much as she imagined. Cried hysterically before test. Dr. able to get blood quickly giving only slight pain so that at the second test she whimpered slightly before test and cooperated at the time of the withdrawal. Not as fearful of needles.
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<th>Date</th>
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<tr>
<td><strong>GENERAL COMFORT AND WELL BEING</strong></td>
<td>Appears comfortable, but unhappy.</td>
<td>Appears comfortable, but happy. Gives the appearance of a lost child. Story read by volunteer at 5:30. Appeared interested, but at times indifferent.</td>
</tr>
<tr>
<td><strong>EMOTIONAL FACTORS</strong></td>
<td>Watches everyone, and fears what they may do. Has a needle phobia and is upset and apprehensive to having to have one in a blood test. Appears to be in a &quot;shell&quot;. Will talk when spoken to. Colors very well.</td>
<td>Still speaks about having a needle. Fears it very much. Still talks only when spoken to. (Very disturbed when blood drawn by doctor. Struggled and cried hysterically. Blood drawn quickly and easily. Says she &quot;feels sick&quot;. Returned to bed. Still crying. Story read and gradually quieted down. Holding arm stiff but flexed it upon suggestion from nurse.) Keeps asking when she can go home and why the doctor doesn't tell her.</td>
</tr>
<tr>
<td><strong>SOCIAL FACTORS</strong></td>
<td>Likes school. Is in 3rd grade. Has 2 brothers and 2 sisters. One sister is older than patient.</td>
<td>Trying to teach a 4 year old child to play checkers. Good patience.</td>
</tr>
<tr>
<td><strong>FAMILY VISITING</strong></td>
<td>Playing checkers with father, does not appear any happier. (Was anxious to be reassured that he would return the next day. Was not enthusiastic about receiving presents promised to be brought the next day.</td>
<td>Father visited after the needle. She still held her arm stiffly and told her father the whole story. Appeared happy upon arrival of father. 6-7 p.m. Very happy with father visiting. Talked to nurse much more in his presence. 9-10 p.m. Quite upset about medications.</td>
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( ) Comments added by nurses other than study student.
3rd day

Very quiet this morning. TPR 98\(^\circ\) - 80 - 20. Washed self. Would not let back be washed. Nurse able to cheer pt. up by teasing her about always saying just "yes" and "no" - started to talk more and smile.

Lies quietly in bed most of time. Does talk with other children at times.

Long discussion on why pt. is unable to go home. Cannot understand why she can feel well and still be sick. Dr. had talk with pt. explaining she still has a "sick heart" and explained her sickness a little more. The pt. now tells me she understands. Very happy this noon. Dr. told her she can go home next week. Told her she will have to have a needle first but she doesn't seem to mind as after that she will go home.

Listened intently to nurse reading stories. Appears to be lonely and wants company and friendship.

Father visited - patient appeared happy.

4th day

Diet taken very well, TPR 98\(^\circ\) - 80 - 18. Examined by doctor. Patient asked quite a few questions about going home. Dr. stated maybe Tues, but not sure. Said sometime next week. B.P. 130/94. Telling father about going home.

Bathed 3/4 of self - does not like to have back washed (don't know reason). Requested hair be braided to-day which was done. Seems depressed again after episode of pt. getting needle. Requests a lot of books for reading. Likes to be read to. Smiles quite a bit during stories.

Appears more cheerful this a.m. Talking a little more and smiling (the subject is going home). A little uncooperative as to having bed made. Pt. insisted she could get up in chair - found it hard to explain to pt. - still don't think she understands. Seems upset with pt. getting an unexpected needle. Determined to get out of bed. Slid out of bed onto floor. Nurse put patient right back. Pt. won't understand.

While making bed patient stated she liked the way her mother made her bed, because she got up. Pt. stated it isn't right to make bed with a person in it. Colors very well. Happy this p.m.

expects father both afternoon and this evening. Very happy on expecting and seeing father. Asks of mother and family tells trouble of staying in bed to father. Wants to see TV. Talking about going to the zoo when well.
5th day

Diet taken very well. TPR 98 1/2-80-20. Very quiet at first this a.m. (Diet taken well at noon. Supper taken well but slowly.)
B.P. 118/82. (Asked Dr. when she could get up in wheelchair to watch TV. States father is coming again tonight.)

Bathed 3/4 of self. Hair again braided. Refused to have back washed today. Had a little trouble fitting pt. into p.j.'s. Refused to wear the slightly small or slightly large. States she doesn't feel good when in bed so long. Attempting to climb out of side of bed. Difficulty in understanding she must remain in bed.

Became slightly more friendly around 8:30. Enjoys reading to self and to have someone read to her. (Anxious to watch TV and to be able to get out of bed. Worrying about how her blood test will come out. TV set moved into room. Patient much happier.

6th day

(Diet taken well. TPR 98-76-20. Amusing self. B.P. 118/82. Says she has only one more needle to get. Dinner taken well. Refused to eat potato. States it doesn't taste like her mothers. Insists on having ice in water for medications.)

(Bathed 3/4 of self. Hair braided. Reading aloud to self in a.m. Played checkers for 1/2 hour with nurse. Read to by nurse. Enjoys having someone play games with her.)

(Speaks constantly of blood tests and of going home, Tues or Wed. Appears to be fearful one will hurt her when combing her hair. Insisted on combing it herself. Watched TV most of day.)

(Appears to get along very well with other children. Willing to wait her turn to play with toys. Shares toys with other children.)

(Enjoys sharing games with people and playing with others. Very quiet type personality.)

(At dinner time speaking of parents visiting her. Father visited for 1 hour. Asked dad how mother and other members of family were.)
<table>
<thead>
<tr>
<th>7th day</th>
<th>8th day</th>
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<tr>
<td>(ACTH diet taken well. Blood test taken by</td>
<td>TPR 98(^6)-72-20. Diet taken well. Did not</td>
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<tr>
<td>doctor.) Does not like milk, ate vanilla</td>
<td>drink milk. B.P. 112/84.</td>
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<td>ice-cream instead. B.P. 118/70.</td>
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<tr>
<td>(Very quiet during bath. Refused to have</td>
<td>Took 3/4 of bath – back washed. Combed</td>
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<td>back washed. Had it done yesterday.</td>
<td>hair, nurse braided it.</td>
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<td>Insists on combing hair. Fears someone</td>
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<td>may hurt her. Enjoys watching TV. Extremely</td>
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<td>quiet this a.m.)</td>
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<td>&quot;Babied&quot; arm in which blood was taken.</td>
<td></td>
</tr>
<tr>
<td>Quite worried about results of blood test.)</td>
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<tr>
<td>Insists she feels better when she gets up.</td>
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<tr>
<td>(Very quiet to children in early a.m.</td>
<td>Watching TV and weaving gimp all day.</td>
</tr>
<tr>
<td>Watched TV all morning.)</td>
<td></td>
</tr>
<tr>
<td>Cheerful and watching TV all afternoon.</td>
<td></td>
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<tr>
<td>Wants to weave gimp.</td>
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<td></td>
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</tr>
<tr>
<td>Tells nurse father will visit this after-</td>
<td>Father visited. Patient very happy.</td>
</tr>
<tr>
<td>noon and evening. Appears happy with this.</td>
<td></td>
</tr>
<tr>
<td>Talking seriously with father about going</td>
<td></td>
</tr>
<tr>
<td>home.</td>
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</tbody>
</table>
9th day


Bathed self - hair braided before breakfast due to hurry to get home.

Talking about going home at 8:30. Asking almost every minute for the time. Slightly upset at 9 a.m., when father hadn't arrived. Very happy upon hearing father had come at 9:15.

While talking to patient in main office awaiting discharge, found she sleeps in room where there are twin beds with her mother and baby in one and patient in other. Have own home.

Father arrived at 8:45 but patient had to wait for doctor before being discharged. Dressed and ready to go - very excited. Anxious for doctor to discharge her. Very anxious downstairs while waiting 1 ½ hour for medications and doctor to talk to father.