

Nurses in Practice Collaborate in Teaching Clinical Nursing Research

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It is our belief that one cannot teach clinical nursing research without the student's clinical involvement. At Dalhousie University in Halifax, Nova Scotia, we faced the problem of how seventy-three senior nursing students could be involved clinically in some type of investigation of nursing practice, with safety for student and patient alike.

Nursing educators are convinced students need patient contact in a nursing role in order to learn to practice nursing. Many learning situations may be profitably simulated to meet specific learning objectives, but at some point the student must be faced with reality, the complex of variables in a life situation which cannot be duplicated by simulation, to apply principles learned previously. Desired student attitude changes accompany the solving of a patient problem through nursing. Through the response of the patient, through seeing predicted patient outcomes occur, and through communicating effectively with patients and colleagues, the student develops confidence. Positive reinforcement engendered in the situation rewards the student and increases her satisfaction in working with patients. We see this evidenced in a show of enthusiasm for the work at hand. We feel that one of the important objectives for students in an undergraduate course in nursing research is the development of enthusiasm for using the investigative process in looking at problems of nursing practice. The stated primary objectives for our course in nursing research are as follows.

The student

- 1) identifies problems of nursing practice for investigation
- 2) evaluates findings from the literature in clinical nursing research in relation to their implications for nursing practice
- 3) participates as a member of a team in carrying out a limited study of a problem of nursing practice.

There are two major objections to be considered before making the decision that student projects are to be carried out in the patient community. The class is large, and the studies need to be small to be manageable by students. This could result in a proliferation of small, inconsequential studies. The first objection is the possible pollution

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of the research arena, especially around a university health science centre. Studies of very small samples cannot be expected to give answers to research questions. As such they are unethical, exploiting patients or health care personnel and, because conclusions cannot be drawn from the studies, they tend to foster the development of negative attitudes in staff. These attitudes intrude on the opportunity for needed research to be carried out at subsequent times. The second objection is one of supervision of the studies. Adequate consultation must be available to ensure the rights of subjects, harmonious working relationships between health agencies and the university, and the meeting of learning objectives for students. The provision of such supervision is a major problem and many schools of nursing cannot release faculty for this purpose.

Others have commented on the need to develop learning opportunities for students in a research course. Reed describes a course planned using what is called the 'Tell', 'Show', and 'Do' process (Reed 1976). Using this process, students in small groups learn to critique research and they prepare a proposal. Many teachers use the development of a proposal as the major outcome in an introductory research course, stopping short in the investigative process before implementation of the plan. We could not locate published material which discussed other means of sensitizing undergraduate students to the research process. Yet it appears desirable that sensitization be planned.

A number of writers stress the need for practicing nurses to be involved more in research activities. According to Jacox (1974: 382):

.... if we are to have knowledge that is useful for practice, then a majority of the persons who develop that knowledge must be so familiar with the clinical setting that they are able to identify truly significant problems for study. Nursing can never develop a scientific basis for its practice until the practitioners themselves — not just the "career" researchers — have a great deal more involvement in the research.

In a similar vein, Notter writes (1974:xii):

.... "research with a small r" will be done by many nurses with only elementary skills in research — practitioners and clinicians whose intellectual curiosity and spirit of inquiry lead them to observe problems at first hand, define them, and begin to study them.

Favourable attitudes which support research endeavours in general are a critical point to consider. Reed reports the development of positive attitudes towards research in his undergraduate course, saying

some students are motivated to implement their proposals. Johnson and Okunade (1975) discuss attitudes towards research:

An important concept to remember in terms of nurses' participation in research is that those who are more affected by research findings are likely to become more enthusiastic about the process of research itself.

There seems to be general concern both in nursing education and nursing service for the development of nurses' attitudes towards research which will be supportive to nursing investigations, but more specifically, which will lead to the identification of nursing problems for study, and also to the initiation of studies or the participation of nurses in research activities.

We are fortunate in Halifax to have health care agencies with nursing services who are receptive to the needs and ideas for improving both student learning and patient service. The chief unmet needs in mounting a clinical nursing research course were for access to expert clinical nursing consultation for students, for supervision of the nurse-patient contact in the collection of data for student investigations, and for facilitation of studies within the organizational frameworks of the agencies. If agencies are willing to provide for these needs, then the university has the obligation to supply the methodological input, both the teaching of course content and consultation to students for the development and planning of their studies.

The nursing instructor approached a number of hospitals and community nursing services in the immediate university neighbourhood to gauge their interest in collaborating in teaching a clinical course. Agencies were asked to provide one of their best nursing clinicians for three hours a week for the academic year. There was no budget allowance to support such a request.

Since we were looking for judgment in nursing, as distinct from methodological expertise, we were not really concerned about the research ability of the nurse who might be selected. In fact, a survey of the educational backgrounds of the majority of the nurses providing nursing services in our community shows that most nurses depend on the education gained through their basic program; for the majority this did not include a course in nursing research. In addition to her clinical nursing judgment, we felt it important that the nurse have a flexible approach in problem-solving, with the ability to allow students to make mistakes, in her role as a resource person, but also to step in, a supervisory capacity, if there were real need with respect to the students' contacts with patients. This was a tall order for nursing service directors.

Not one agency turned the request down. Six nursing services provided nine nurses; two other agencies provided facilities only, since for the first year, with only one month lead time in planning the course, they were unable to release nurses. Six nursing faculty members therefore volunteered to act as clinical resource persons, in excess of their usual work loads. This gave us fifteen resource persons to act as consultants to small groups of students. Nursing services supplied all the resource persons requested in our second year of collaboration. Studies were undertaken in the area of assignment of the clinical resource person, and for faculty who took on this role, in the area of the clinical agency where they had other clinical involvements. Students were free to join the clinical group of their choice within the limits of group size. Once groups, ranging in size from three to seven, were formed the students identified the nursing problem to be studied within the specified clinical area.

Nursing service personnel took on other roles in the course as well. All project proposals were reviewed by an ad hoc ethics committee. Nursing service directors of participating hospitals and community nursing services were asked to be members of this committee. Proposals for studies were reviewed in advance of the meeting by two reviewers, some of whom were nurses from participating hospitals. We also held a Research Day on which students presented their reports in a mini-convention which they organized. Registration for this event was open to anyone interested and agencies sponsored personnel to attend.

Each clinical resource person donated sixty structured hours of consultation to the course. They met with the students in their group for two hours most weeks for planning and implementing the study. They also attended a seminar session with the course instructor for one hour preceeding the planned meeting with their small groups. The purpose of the seminar for clinical resource persons was to give them sufficient input of the course content to make them familiar with methodological terms and the objectives for each class, so that they truly would feel members of the research team. The resource person needed this contact with the instructor to develop confidence in her new role as clinical consultant to a research team. Evaluation of these seminar sessions later indicated this had been necessary and was recognized as helpful.

The clinical resource persons perceived the seminar sessions as a stimulating continuing education program. One unexpected outcome was the breaking down of barriers between agencies, hospitals and community nursing services, as resource persons shared and worked together in the seminar sessions.

The commitment from the agencies required to carry out their consultation with students was a major contribution to the success of the course. It was emphasized to nursing service directors that resource persons were needed every week regardless of their other professional or personal obligations. The program could not succeed without the continuous and sustained efforts of the resource person. This was translated by the nursing service director to resource persons as an activity requiring first priority if time conflicts should arise. This worked; absenteeism in the seminar sessions, both for the resource persons and students, was almost negligible. Evaluation at the conclusion of the course showed that the instructor's initial negotiations for time, and more important, the nursing service director's acceptance of the planned collaboration, led to full participation.

The course has stimulated more awareness of the need for research in clinical settings. Nurses in participating agencies are demonstrating more enthusiasm for the investigative process and are beginning to identify areas in which studies can be carried out.

Students were enthusiastic in their response to this course and many voiced interest in having their findings published. An example of a student investigation is given to illustrate one type of nursing problem that was studied and the means students devised to study this problem. Following is the abstract of the study:

Dow, J; Lewis, A; Robb, S; Tingley, L; and Wright, K.
"Environment and Patient Mobility Post-operatively", April, 1976.

The purpose of this study is to see if, given a specific type of environment in a hospital, there is a difference in the rate of patient mobilization after surgery, i.e.: the distance a subject walks, in relation to the time elapsed since surgery, between subjects in four different patient environments.

Subjects, both male and female, ranged in age from 25 to 50 years, and all subjects were post-operative laminectomy and/or disoidectomy patients. By means of a questionnaire, data were collected from all subjects regarding age, sex, marital status, occupation, religion, number of children and pre-operative level of activity.

Data on mobility post-operatively were collected by means of 1) a pedometer which was worn for six days post-operatively, and 2) an Activity Measurement Chart, in which a subject recorded the amount of time spent walking, as a check on the reliability of the data collected via the pedometers. Complete data were collected on 15 patients. The

first day post-operative was used to test the acceptability to the subject of wearing the pedometer, and the data from that day were discarded. Data were collected from the pedometers each day at the same time and recorded. The values were converted to decimals and graphed against time in days. The slope of the line of best fit was used as a numerical value for the rate of mobilization as this is a function of distance over time.

The data revealed no significant difference in the rates of mobilization between subjects in each of the different environments studied. Analysis of other variables also revealed no significant differences, except the sex of the subject. It was found that the males in the study mobilized more quickly than the females studied, following laminectomy and/or discectomy.

We asked the students to comment on some of the aspects of the investigation which presented special problems:

The measurement of mobilization presented some difficult problems. The pedometer was used to collect ratio level data to indicate the rate of mobilization, which was defined as distance (i.e.: walking motion) plotted against time. A pedometer measures distance by means of an internal pendulum which is activated each time a step is taken, recording the number of steps taken as a distance recorded in miles.

The pedometers, loaned by the Halifax Fire Department, were tested for reliability to ensure that all the pedometers used in the study recorded the same distance for number of steps taken.

Subjects were asked to wear the pedometers at waist level, for six days, beginning the first day post-operative.

Several ethical questions were raised by the use of pedometers. The pedometers were completely taped over to prevent the introduction of bias by means of the subject's knowledge of the exact purpose of the instrument. Subjects asked many questions about the pedometers, such as: What is it?, Will it hurt me?, What does it do?, Can I take it off when I go to bed? Answering these questions honestly without revealing the purpose of the pedometer was difficult. Subjects were told that it wouldn't hurt them, that the researchers would be sending a follow-up letter at the completion of the study explaining everything to them, and that they could remove the pedometers while they were in bed if they became uncomfortable, and the ethical review of the study endorsed these measures to inform patients.

The small group approach to carrying out a limited study of nursing practice with clinical consultation from the nursing service restricted the number of studies being carried out, provided needed

supervision to students, and allowed nursing service and nursing education to work together to improve care of patients and to supply a useful learning experience to students.

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Des cliniciennes* dans les services collaborent à l'enseignement de la recherche en sciences infirmières

Cet article décrit une méthode utilisée par l'Université Dalhousie pour permettre à soixante-treize étudiantes infirmières en dernière année de premier cycle de s'engager dans une certaine forme de recherche clinique en matière de pratique infirmière.

A la suite de contacts établis par le professeur auprès des services hospitaliers et communautaires, six agences de services infirmiers ont mis neuf infirmières cliniciennes à titre de personnes ressources à la disposition de l'université. De plus, six professeurs de la faculté se sont portés bénévoles. Ces quinze personnes-ressources ont travaillé chacune pendant soixante heures comme conseillers pour de petits groupes d'étudiantes. Elles ont également assisté à un séminaire d'une heure avec le professeur avant de rencontrer leur groupe.

Tous les projets d'étude ont été examinés par un comité d'éthique ad hoc, comportant notamment les directeurs des services infirmiers des hôpitaux et les responsables des services infirmiers communautaires participants. Le cours s'est terminé par une journée de recherche ou mini-congrès, durant laquelle les étudiants ont présenté leurs rapports.

Le cours a fortement sensibilisé les participants au besoin d'entreprendre des recherches en milieu clinique et les étudiants ont réagi de façon très positive à ce cours.

La formule des petits groupes utilisée pour réaliser cette étude restreinte dans la pratique infirmière en consultation avec les services infirmiers pour les aspects cliniques a permis aux secteurs professionnel et pédagogique de la profession de collaborer en vue d'améliorer les soins prodigués aux clients et d'enrichir l'expérience des étudiantes en matière de formation.

*Dans ce texte, les termes infirmière, clinicienne et étudiante se réfèrent également aux termes infirmier, clinicien et étudiant.