

THE RESEARCH THREAD

BARBARA JOHNSON

Assistant Professor, Faculty of Nursing
University of Toronto

WE live in a time of rapidly expanding knowledge and technology, a fact which has great implications for health professions such as nursing. Now more than ever nurses need to work at keeping abreast of developments which affect their practice. Because of such fundamental considerations as these, the decision was made to include an emphasis on research in the nursing course being discussed in this issue of this journal. The inclusion of research was conceived as fulfilling a twofold purpose directly related to the nurse's need to grow as her profession grows.

First, since more and more research is being done in nursing today, it follows that research reports are forming an increasingly large proportion of nursing literature. In order for nurses to use this literature intelligently as a basis for practice, they must be able to evaluate the research methodology involved. The findings of a study are only as sound as the methods used to obtain them. Thus the inclusion of research in a basic nursing program helps to prepare intelligent, critical consumers of nursing literature.

Second, it is hoped that the research emphasis will help students develop a more objective frame of mind toward their own nursing practice. As they learn to examine critically the problems that have been investigated and reported by researchers, it is hoped they will also learn to examine critically the problems they encounter in their own practice — to look at a problem thoughtfully, examining all its aspects, trying to discover possible reasons for its existence and possible means of alleviating it, unhampered by the yoke of traditional practices, protectiveness, or defensiveness.

This, then, is the twofold purpose behind the inclusion of research in the basic program. What form does the research emphasis take?

In the first year of the course, the students are simply exposed to nursing research. They learn that this is one way nurses have tried to answer the questions that occur in their practice. As the students

study certain topics in their nursing course, they become familiar with the nursing studies that are relevant to those topics.* The main emphasis is on the findings of the research, not on the methods, and the students learn to recognize how these findings relate to what they are learning. No special teacher becomes identified with research. Rather, there is a natural integration of research content into the other teaching by the regular nursing instructors.

Beginning in the second year, research becomes more of a separate unit, but for practical reasons rather than reasons of conviction. The students continue to become familiar with research studies that contribute to nursing knowledge, but the emphasis is broader than mere findings of the studies. They learn to recognize the kinds of nursing studies that have been done and can be done; they start to become familiar with research language; they learn about some of the ways that information can be gathered in a controlled, objective way. But although the second-year students are beginning to pay attention to research methods, they do so in a fairly uncritical way. The aim is to help them read selected nursing studies in order to be able to recognize and understand some of the methodology involved, not to evaluate these methods critically in the context of any particular study.

This critical evaluation of methodology begins in the third year of the curriculum. In this year students learn more of the techniques of research design. For example, they learn about variables and what goes into their operational definition. They learn about certain sampling techniques and when each may appropriately be used. They discuss how bias may creep into a study and how this can be controlled. In addition, the third-year students take an introductory, one-term statistics course given by the department of epidemiology and biometrics in the School of Hygiene. The third-year research unit includes an assignment to design a nursing research study. This assignment is conceived mainly as a learning experience in which the student has the opportunity to apply her research skills to a nursing problem of her own choosing by designing an investigation related to some aspect of that problem. The investigation designed by the student is not meant to be implemented, so the students are free to design it with only the criterion of good research in mind, not considering whether they as students with limited time and resources could carry out the study. Also, care is taken to avoid giving students the impression that they are now well enough trained to be independent

* For example, Pamela E. Poole, "A Study of the Routine Taking of Temperature, Pulse and Respirations on Hospitalized Patients," Hospital Services Study Unit, Canada, Department of National Health and Welfare, December 1968.

researchers. The assignment is seen as a thorough test of a student's ability to evaluate research methods in the context of a particular study.

Thus the main thrust of the research emphasis in the first three years relates to the first aspect of the twofold purpose mentioned earlier. The instruction and the assignments discussed all have to do with developing students who can read and evaluate critically nursing research literature.

In the fourth year this same emphasis continues. Students in small discussion groups present critiques of research studies reported in the literature and lead their classmates in discussing the techniques used in the particular study, the strengths and weaknesses they discern and the study's relevance to various aspects of nursing. But in addition, the fourth-year students have classes and an assignment related to the second aspect of the twofold purpose for including research in the curriculum, the development of an objective attitude toward their own work. This assignment is to choose a problem they encounter in their nursing practice and to investigate it empirically instead of trying to solve the problem just by asking the advice of others or just by reading what others have to say about the problem, although both these activities may be a part of the investigation the students carry out. The students are expected to write their plan of investigation before carrying it out and to write a report of their investigation after completing it. They are expected to use methods that are as carefully controlled and as sound as possible within the limits of time and resources. But even so, this investigation is not conceived as a true research project; it is not, as students are tempted to think, an extension of the third-year assignment where a study was designed only but not carried out. The scope of this fourth-year investigation of necessity is too small and the limitations too great for it to be considered research. Rather, it is an exercise in applying some acquired investigative skills to a problem students encounter in their practice.

In the second term of the fourth year, research is one of four areas of concentration students may elect. The students who choose research have an opportunity to increase their depth of understanding of the research process by some practical extension of their first-term investigation. This may take the form of analysing the data from the investigation according to some new perspective, or of refining the data-collection method according to insights gained in the original investigation and gathering additional data by the refined method, or of designing (not carrying out) a new study based on implications of the original investigation and its findings.

In addition to extending their own first-term investigation in one of the above ways, the students in the research area of concentration will have the opportunity to learn about research being planned or carried out in some health-related area. Each student will study the questions and methods of an investigator currently working on some phase of a research project. Ideally the students will be able to study projects based close enough geographically to allow personal contact with the investigator. Possibly the student may even assist that investigator in some aspect of the project. It is hoped that this contact with current research will give the student an increased appreciation of the contribution of research to the advancement of knowledge.

The above is the form in which research is included in the basic nursing program. One class has been graduated from the curriculum being discussed. We are presently working with our second class of fourth-year students. With that much perspective, how do we judge the results of our efforts? What has been our actual experience with research in the basic program?

The first reaction to the research component that the planners of the curriculum had to face was doubt and anxiety from their colleagues. Some questioned whether research belonged in a baccalaureate-level curriculum.* Others accepted that premise but questioned the staff's competence to handle the research component. The third- and fourth-year teaching teams felt especially in need of help because these years contained special research assignments that required the involvement and guidance of all the staff teaching in those years. Various measures were taken to alleviate staff anxiety and increase their confidence in helping students with research concepts. Informal sessions with small groups of staff were held to explain the purposes of the research emphasis in the curriculum and to clarify how this differed from research in a higher-level curriculum. The fourth-year teaching team had a series of informal study-discussion sessions designed to increase their ability and confidence in reading research reports and generally to increase their familiarity with research methods. Members of the second- and third-year teaching teams were invited to attend the research classes taught students in these years. Also, the third-year teaching team, in a series of informal sessions, was given help in developing criteria for evaluating the research designs submitted by their students.

The staff were not the only ones anxious about research. The students, especially the first class to come through the new curricu-

* *For a discussion of this question, see K. King, "Research in a Basic Baccalaureate Program", The Canadian Nurse, May 1972, pp. 21-23.*

lum, also experienced a great deal of anxiety with respect to this aspect of the curriculum. The anxiety was greatest among the first class as they approached their fourth year and learned about the research activities that would be a part of that year. A great deal of time was spent clarifying the exact nature and purpose of the fourth-year research assignments to these students. This clarification itself seemed to alleviate some anxiety, for the research assignments had been misconstrued as much larger and more complex than was intended. In addition, some specific measures were taken to help succeeding classes feel less threatened by the research components of the course. Three such changes were: more emphasis on the introduction of appropriate research studies during the first three years, longer periods for discussion of research methods, and an extension of the statistics course to be offered as an elective.

Although the first class in the fourth year remained somewhat anxious about their research assignments throughout the year, they did some good critiques of nursing studies and conducted interesting investigations of nursing problems. Examples of the problems investigated by this first group of students are: factors influencing postpartum rest in hospital, the effectiveness of selected methods of relieving thirst in patients on restricted fluids, handwashing practices of nurses, and the preoperative preparation of patients for cardiac surgery. It can be said without exaggeration that a few of the students even became excited about the investigations they had done and the things they had learned. However, none of this first class elected research as an area of concentration in their second term.

We are presently working with the second class to enter the fourth year. There seems to be a much more positive attitude toward research among this group of students. Consequently, much less time has to be spent allaying fears and more time can be spent helping the students appreciate how research can make an exciting contribution to better nursing practice. At the time of this writing, students are engaged in collecting data for their investigations. These investigations reflect a wide variety of interests of the students (for example, the post-operative nursing needs of patients on Stryker frames, factors affecting patients' sleep, the learning needs of patients with rheumatoid arthritis, and the problems of parents in toilet training handicapped children). The majority of students seem to be approaching their investigations with sincere, sometimes enthusiastic, interest in the outcome. Six of the students have elected research as their area of concentration for the second term.

The research component of the curriculum, as all components, will be constantly evaluated. Our experience with it is still limited and thus our perspective is short. Further refinements will no doubt be made. We hope the refinements will serve to make the research component more and more closely related to the other components of the nursing curriculum, to the end that research itself will be seen to be a natural, integral rather than isolated part of nursing.

Applications are invited for openings at Queen's University School of Nursing for graduate nurses with master's preparation in clinical nursing. University teaching experience is desirable; experience in clinical practice is required. Academic rank and salary commensurate with preparation and experience.

**Dr. E. Jean M. Hill, Dean and Professor
Queen's University School of Nursing/Kingston,
Ontario.**