

The Role of Continuing Education in Promoting Research in Practice

by DONNA DIERS



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The fact that the conference planners have chosen to link the words "continuing education" and "research" in the title of this presentation is of more than passing interest. Indeed, as I hope to develop this farsighted title-mongering is a radical, perhaps even historic move. Without getting too pretentious about it, and without trying to fathom what was in the minds of those who wrote the title, it may have the effect of moving the cause of the intellectual life of nursing ahead by a quantum jump.

First, let me limit the tendency to drift into sweeping generalities and put some boundaries around what nursing practice research is. Research in nursing practice is the systematic study of problems in patient care. Problems for such research arise out of the clinical setting, from real life patient

situations and are, for the most part, studied in real life clinical situations as well. The ultimate purpose for research in nursing practice is to develop better information on which the care of patients can be based, through answering important questions about the nature and effect of nursing on patients.

Problems for nursing practice research, in contrast to other research in and about nursing, arise from discrepancies found in the clinical situation. The discrepancies are, in simplest form, differences between the way things are now and the way they ought to be, or between what one knows now and what one needs to know, or between two opposing sets of facts. What makes problems and discrepancies into research topics is that they are differences that matter — matter to the improvement of patient care. The test of whether something matters is to ask the question, "What would it look like if the discrepancy were removed?"

The clinical world is full of discrepancies, just waiting to reach out and grab you. But not all of them matter, or matter enough to call for the energy and discipline that research to solve the problem involves. For example, some nurses like to work in pediatrics, some in geriatrics. That may not be a difference that matters if those who like peds work there and those who like geriatrics are assigned there. The mere existence of a perceptible difference does not automatically make a discrepancy into a research problem.

Some differences that seem to matter on first inspection turn out not to matter when further pursued. For example, suppose a pediatric nurse practitioner who works in a newborn nursery notices that a very large proportion of the patients she meets postpartum do not return to the clinic for their

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well-baby care. This looks, on the surface like a nice discrepancy — nice in the sense that there's a real problem there, with real potential consequences for the health of mother and baby. But suppose that this pediatric nurse practitioner looks a little further into this situation and discovers that while her patients do not come back to the clinic, they go somewhere else for their postpartum care — a local neighborhood health center, a private physician, well-child conferences of the visiting nurse association, or other clinics. Her nice neat discrepancy turns out not to be one at all, and while she can be happy that the patients apparently are getting care anyhow, she's short one research problem.

Discrepancies for clinical nursing research arise out of a feeling that something is wrong, an irritation, a wish either to change things, or to know something more about a situation. For example, a nurse graduate student was herself hospitalized for diagnostic surgery. She found herself very anxious preoperatively and unable to bring herself to use the intercom to call a nurse just to come talk to her. After she recovered from the surgery, which turned out to be just a biopsy, she began to wonder whether patients are intimidated by the intercom in asking for what they really want or need. Here, the student's experience and her own discomfort stimulated a research problem.

Sometimes, discrepancies come out as a hunch, an itch to see if something will work. Here, the difference that matters is between what one knows now, and what one needs to know. For instance, in a hospital in New Haven, several patient care units have recently shifted from team nursing to primary nursing. The discharge planning nurse, who knew that the shifts were happening, and on which units, began to notice what she thought was a pattern: that the referrals she was getting and the requests for consultation on discharge planning from the primary nursing units were qualitatively and quantitatively different from those on the other units. She suspected that since primary nurses get to know their patients a good deal better than team nurses do, they would put more thought into discharge planning and it

would show in the referrals her office retrieved. What was needed was a systematic study with built-in controls for objectivity and reliability and that is now in the process of being designed.

One final example: sometimes discrepancies in practice come with considerable emotion and erupt as sometimes bitter criticisms. The nurses working in a plastic surgery unit stimulated one study when they felt totally unable to deal with what they saw as the anger and hostility of patients who had had massive mutilative surgery done. To the nurses, it seemed as if the patients had not been adequately informed about what was going to happen, and they could get furious at the physicians for not doing their job and dumping all the reactions on nursing. With some effort, this situation was translated into the less emotional research question — what do patients know about their surgery, how do they know it, and what is the relationship between knowledge or information and recovery from surgery?

I've gone on at some length here with examples, to make the point that clinical nursing research, or research in nursing practice, keeps its roots firmly in the practice situation so that whatever information is developed through the research has the chance of having an impact on changing the patient situation for the better.

This kind of research is only recently developed in nursing. As you may know, studies of the workers, rather than the work¹ predominated until the early 1960s; then, studies of curriculum and administrative questions ruled. Even now, as the editor of *Nursing Research* has pointed out in her annual report editorials, there are fewer clinical studies published in that journal than other kinds of studies. In fact, it was over 50 years after the movement of nursing into the university that the American Nurses' Association House of Delegates finally took action to approve a resolution advocating research in nursing practice.²

There are some interesting parallels in both the past and present of nursing research and continuing education in nursing.

Nursing practice research grew out of the realization that nursing education as the repository of scholarship in the field had moved rather too far away from its sources in nursing practice. There were some articulate spokespersons who said that it was folly to put one's efforts into devising complicated curricular structures or administrative maneuvers until and unless one knew first, *what* in patient care worked and what nurses do to help improve the lot of those they serve.³ There were others who recognized that the knowledge on which the practice of nursing is built has to be knowledge about that practice, not necessarily solely knowledge borrowed from other disciplines.⁴

Even though it wasn't until 1974 that the ANA took a formal position advocating nursing practice research, the ANA, the NLN, and other nursing bodies had long advocated research for nurses as the shorthand way of advocating scholarly, intellectual work — one of the definitions of a profession.

It has seemed to me that the roots of continuing education in nursing developed from some of the same concerns. While in the politics of continuing education, the theme of protecting the safety of the public through assuring them competent, up-to-date practitioners was sounded, that theme is essentially the same as the research tune — improving the quality of nursing care by increasing the knowledge of its practitioners. And in the continuing education arena, there were rather important assumptions made that nurses need to learn more, not only to keep up, but to develop their practice. And behind that assumption is the even more important one that nurses *can* learn, and continue to learn; that nursing is more than mere technical competence. Indeed, continuing education has made a crucial distinction between inservice education done primarily for institutional reasons — orientation to new equipment or drugs or procedures — and continuing education, done to expand the mind of the professional nurse and thus expand her practice.

So both nursing research and continuing education have put their commitments on the line, and in very parallel ways: that

nursing is intellectual work which constantly needs refreshment, enrichment, and development, and that such development is in the service of providing better and better care to those whom society has mandated us to serve.

And it should be pointed out that both in research and in continuing education, there is a nearly explicit realization that as a woman's profession, nursing has not been given and has not taken the credit for the heavy brain work that is involved. Nurses as women are not supposed to think, at least not abstractly, which both research and "continuing education" in its broadest sense connote. And nurses as women are not supposed to be able to deal with the complexities of statistical analysis, or mathematical models, or the philosophy of science as research requires, or physiological chemistry, or psychopharmacology, or the electrical conductive system of the heart as continuing education provides.

There are parallels also in the putative future of both continuing education and clinical nursing research that boggle the mind, and make of the title of this paper the visionary statement it is.

Both continuing education and nursing practice research are nontraditional. "Education" is supposed to mean degrees or diplomas, granted by some institution with granting powers, properly surveyed and quality controlled and generally relatively structured and boxed in. Similarly, nursing research, or more commonly, research in nursing, is supposed to be, almost by definition, remote from the practice of the profession, because it's by becoming remote that we raise our status. It used to be common in nursing research polemical literature to see espoused a total lack of reliance on nursing as the source or delta for research ideas. Great flowery statements were once the vogue — that nursing research should deal only with the testing of social/psychological concepts, or the application of theory devised for other purposes, or that all nursing theory was, was theory of man.

But now both nursing practice research and continuing education ideas have brought us back to where we should be in the first place — worrying about how to

improve nursing care. And joining these two forces has quite incredible potential for changing the face of the profession as a "learned discipline."

Because continuing education deals entirely with already prepared practitioners (people who are already RNs) it is free to concentrate its efforts differently than traditional education which is largely geared to preparing people for entry into practice, even entry into advanced practice as in the case of master's degree programs.

There are two ways to think about research, and two ways to think about continuing education. One can think about using research in practice, and one can think about doing research in practice. Similarly, one can think about the purpose of continuing education being eradication of obsolescence in practice, or one can think of it as upgrading knowledge and skill by providing essentially new content.

To make use of knowledge gained from research in practice, one must first have some sense of how to decide what research knowledge is good knowledge. Research in any field contains excellent, seminal work, and work of highly questionable quality. Even that which is "okay" research on the surface may prove upon deeper inspection to be so full of bias and invalidity as to be useless. I remember well one study we used to assign to our graduate students regularly. This study compared the use of nurses and physicians as triage officers for fractures in the emergency room setting. The results indicated that nurses were terrific at triage, making the correct decisions for referral and x-ray, and reducing waiting time in the ER considerably. But when one looked at the sample, one discovered that of the nurse group, no one in the sample had less than 27 months of ER experience. One looked a little closer and discovered that the study presented that the physician staffing in the ER consisted of interns just out of medical school.

One's political heart turned over to see those nice results go down the drain but it is simply not fair to compare experienced ER nurses with newly minted MDs, no matter how favorable the comparison is. It might be, by the way, that nurses make

lovely triage officers and that the major impact of the study was to convert people to that way of thinking. But it is a misuse of research to make simply biased political points sound less biased by highfalutin' research jargon and impressive statistics when the design of the study itself is poor.

So it seems to me that it might be well for continuing education to consider offering classes or other work in how to read research, dealing with some of the basic principles of good study design, control, and reporting. Then, and perhaps only then, one can think about ways to teach nurses what is new in patient care, and what the nursing research literature says. We need not foist any more garbage on our colleagues than is already there for them to find themselves!

There could be many creative ways continuing education could help nurses become aware of and use research knowledge in their practice. First, there are by now some sustained lines of inquiry in nursing which have produced valid and reliable information that could be helpful to nurses in practice. For example, there are a whole series of studies on the preparation of patients for hospitalization and surgery. From Rhetaugh Dumas' early work,⁵ through Jean Johnson's monumental laboratory and clinical investigations, there is a good deal in the nursing literature about how to improve the care to patients about to undergo surgery.⁶ Similarly, there is some fine work available in the preparation of children for surgery and hospitalization, from Mahaffey's early study⁷ through Wolfer and Visintainer's elegant and important experimental designs.^{8,9}

There is considerable work in nursing on the effect of nursing on pain, including studies of patients in pain,¹⁰ studies of cultural differences in the perception of pain,¹¹ and studies of certain specific nursing approaches to the patient who complains of pain.¹²⁻¹⁴ There are studies of bedsores and other problems with skin integrity¹⁵; studies of the effect of patient teaching¹⁶; studies of compliance with medical recommendations¹⁷; and studies of the effect of touch in the nurse-patient relationship.¹⁸⁻¹⁹ One could perhaps name other sequences of studies and note that what is

being advocated here is the inclusion of sequences of studies, not single investigations. It is the nature of scientific knowledge that it is built up over years, sometimes many years of studies, each of which builds on the others.

To do justice to the research knowledge, it would probably be necessary to concentrate in continuing education on relatively small chunks of information — to borrow, if you will, one of the major teaching mechanisms of graduate education. This is, one could suggest holding a continuing education course on "pain," for example, in which one could go into some depth on the theories and findings of studies in this area, rather than trying for more global combinations of topics which breeze over things so superficially that neither the content itself is absorbed, nor is the audience usually inspired to continue study in the area on their own.

There is another way continuing education can help get research knowledge into practice, and that's through the function of "translation." Here I'm not talking about simply translating from the research jargon in nursing to the practice situation. Indeed, in the kinds of sessions I just talked about, I would use the original source material — the studies themselves rather than reports written for the nontechnical audience, and the responsibility would be on both the instructor and the student to make sense of it. There's no reason to think nurses don't want to stretch their brains to read highly complex material.

The kind of translation I'm thinking about here is the translating of knowledge that is not specifically nursing into knowledge for nursing practice. There is a great deal in the psychological, sociological, psychiatric, medical, and other literature that has direct implications for nursing. The complicated biopsychological studies of stress, for example, can be related easily and usefully to the care of patients in predictably stressful situations, such as intensive care, or even just general surgery.

Similarly, the psychological studies of helplessness in animals may be useful in understanding the reactions of people confronted with situations over which they have no control, such as hospitalization,

accident, rape, etc. Some quite exciting continuing education experiences could involve discussions of this kind of material to tease out the clinical implications, as well as more orthodox sessions intended simply to acquaint nurses with other sources of knowledge.

It is a continuing frustration to me that it sometimes seems as if nursing, like automobile manufacturing, functions under a conscious program of "planned obsolescence," training for situations that are outdated the minute after graduation.²⁰ So very little nursing research is encountered in formal nursing education programs and it seems unfair to suggest that continuing education must be used to plug up the holes. But in fact, that is what's needed, and the rapidity with which new knowledge is evolving in nursing, medical science, and the social sciences means that continuing education will probably always find itself in the position of this kind of knowledge updating.

So far I've talked about continuing education's role in promoting research through use of the research knowledge. Even more important, and more interesting, perhaps, is the role continuing education may have in directly promoting conducting patient care research.

But here we have a two-fold problem: there isn't enough nursing practice research going on, and organized continuing education is not enough involved in promoting it. Taking the first part of the problem first, the next question is, "Why isn't there more nursing practice research?"

First, there aren't enough people trained to do it (obvious implication there, for continuing education to leap into the breach). But there are some cautions immediately. Doing nursing practice research isn't like doing any old research. The kind of "teaching" that's needed must include some of the tools of research, the methods or conventions for assuring objectivity and reliability and validity, but more important and harder to accomplish is teaching people how to discover nursing practice problems for research, and how to develop them into doable studies. What's so hard about that? At the bottom line, nurses are

not, by and large, trained to analyze patient care situations in the way that analyzing them for research requires. All too often, nurses treat each potential irritation, criticism or discrepancy as if it were isolated and unique, rather than as if it were an instance of a larger problem. The nature of research is such that discrete and specific problems are investigated in such a way that the information gained says something about more abstract issues. There is a constant interplay between the very concrete data and the very abstract concept, and this is a skill and way of thinking that is not bred into traditional nursing education programs, the graduates of which then become prospective continuing education students.

The analytic approach to nursing practice requires another psychological shift for many nurses — a shift from protecting one's self from criticism, to actively criticizing one's practice, and one's information base so as to define holes in it that could be plugged with further education or research.

So, one way continuing education might promote research in nursing practice is to develop continuing education experiences that deal with issues of research *process* rather than issues of substance. To clarify that further, there are lots of continuing education programs offered that deal with "the nursing process." But that's not what I'm talking about. "Nursing process" courses or classes do not deal with the analysis of practice; instead, they focus, and quite rightly for their purposes, on the content of the process, if you can follow that phrasing. That is, nurses are trained in what to assess in patients, in how to interpret the data, in what to do, and in how to evaluate what's done. The kind of analytic process that begins to prepare people to do research is of another kind. In it, specific instances of real life situations would be discussed and developed, using inference to available theory, other cases of the same kind, the increasingly microscopic examination of the elements of a situation in order to tease out all the subtleties, and the increasingly complicated potential explanations, using more and more abstractions.

Such a process depends heavily on the "clinical wisdom"²¹ of the nurses involved, in making their intuition, their "unconscious intelligence" available for public perusal and hopefully, empirical investigation.

If continuing education were to develop ways to help nurses learn this kind of process, immediately we would need to look at the other half of our problem statement, that is, some modifications in the way continuing education is viewed. Continuing education has some real and important problems inherent in the notion of education which is not required for degree credit, and thus which does not have in it necessarily the kinds of quality control that more traditional education has. In the case of possible offering the kind of analytic training I mentioned before, the difficulty for continuing education is that for it to work, there almost have to be some requirements for production. Nurses, like all human beings, are great sitters-around-and-talk people but unless there is a push for some obvious product, the talk will lead nowhere, and will not even be taken seriously as the very complicated method it is. In traditional education, students can be required to write papers, or present seminars, or otherwise demonstrate that they've learned what they are supposed to. In teaching the analytic process of research, mere class attendance or even contribution to the discussion are not sufficient to assure that any "education" has taken place. So any continuing education offerings to promote research through developing the thinking powers of nurses must have some kind of built-in expectations for performance, and that may be counterproductive to interesting nurses in research, or enrolling them in a program.

Which leads to the next piece of the analysis of our problem of the relationship between continuing education and research in nursing practice: another reason why there isn't enough nursing practice research going on is that it isn't rewarded.

Nursing research is hard work. That alone makes many nurses shy away from developing their talent through research, and that coupled with a lack of basic

analytic tools may make research a frightening and off-putting thing for the practicing nurse to contemplate. But continuing education is in a prime position to make dramatic changes in that situation, and by doing so, contribute significantly to the power of research to improve the practice of the profession.

Suppose it were the case that conducting a research project were defined as deserving continuing education units? Suppose further, that states developed some criteria that rewarded nursing practice research with more units than other kinds of research? In theory, it would not be difficult to work out such an arrangement, and even to grant variable CEUs for the various parts of a research project. That is, suppose it were determined that a formal statement of a research problem, with the accompanying formal analysis of the practice problem, and the initial conceptualization were worth, say, 5 CEUs? Then suppose that plus a review of literature were worth 10? And suppose a full-fledged research proposal were worth 20, and a fully developed and conducted and reported study were worth 40 or 50 CEUs?

I submit that a nurse's education is "continued" far more fully from such personal involvement in systematic study than the equivalent of contact hours of sitting in courses or programs, especially when the study is a study of nursing practice that automatically sends the nurse to the nursing research literature, and to related literature in other fields.

In Connecticut, and I am sure elsewhere, CEUs can be earned by teaching, by publishing, or presenting papers among other things. Why not doing research too?

Another reason why nursing practice research isn't done all that much and why continuing education may be helpful is that there is an unfortunate tendency in nursing to think that only those with doctorate's can do "research" with a capital "R." Or that research training and emphasis should occur only in conventional institutions, and only after basic nursing. My position is that the best nursing practice research will come out of those who are closest to that practice, not necessarily those who have

removed themselves through years of course work in another discipline, or whose administrative or educational position has not permitted involvement in the real world of patient care. Further, there is nothing so mysterious about research methods or statistics that means it has to be hidden away in the elite ivory tower.

It is possible to do quite useful nursing research work with the application of intelligence, some basic knowledge about design and logic, a *lot* of knowledge about clinical practice and the motivation to attack problems systematically and without bias. Sure, there are frills of design and fancy theoretical notions, and they are important, but not the overriding concern in conducting studies of problems in patient care.

If a continuing education program were to make a real push toward educating a defined group of nurses to conduct studies, it can be done, and it would be beautiful to see. Continuing education simply must take on some of the responsibility for preparing people to do studies, especially since such small percentages of nurses go on for higher education that prepares them for research. Research, at least in the sense of analytic, systematic processes of inquiry, if not in actual study design, should be part of *every* nurse's armamentarium.

Yet another reason why there is so little nursing practice research done by nurses in practice is that there is some feeling that researchers are so ethereal and unreal that nurses don't even want to have contact with them, much less with their output. There's a certain amount of truth in that, but simply griping about it doesn't do anything. Rather, nurses in practice should take every opportunity, and continuing education should find a way to reward it, to participate in research conducted by others. That's the only way to assure that the research has any applicability to the real world, and that the topics studied and the methods used have the potential for improving the quality of care.

For example, there is a very important study in the literature comparing the practice of family nurse practitioners and physicians in Canada.²² In fact, there are rather a lot of studies of the practice of

nurse practitioners floating around, but I know of very few in which the nurse practitioner herself was a coinvestigator or consultant to the project, and therefore in a position to make sure that the project said something of interest to nurses. In the famous study I mentioned, the entire focus is on the medical care of patients, the extent to which nonphysician primary care nurses can deliver care which is as safe as that of physicians in this setting. While that may be an important problem, conceiving the study that way seriously limits the extent to which it can have an impact. There is no attempt in the study, for example, to measure those things nurses in primary care do that is not medical practice, the teaching, counseling, referring things that are traditionally the province of nursing. Had they been included (as they were in an as-yet-unpublished study at Yale), it might have been the case that while nurses could be demonstrated to give quality medical care, using physician practice as the standard, physicians give rotten nursing care. The point is that primary care is more than simply the practice of orthodox medicine, it is also care based on the needs of patient, some of which are not "medical" at all. A study which attacks only a piece of the problem contributes only a piece of the information to solve the problem.

My other favorite example of this kind of inadequacy of studies that stems from not involving nursing is a study done some years ago of postpartum blues. It was done by several male psychiatrists, who were astonished to find out that their operational definition of "blues," crying in the early postpartum period, would not work. They state wistfully at the end of their paper, that they came up with essentially no conclusions because women apparently cry for reasons other than depression, and some show depression in ways other than crying. Any nurse could have told them that!

Involvement of nurses in studies conducted by others is also a way to attack the potential obsolescence of nursing where nurses are not exposed all that much to other disciplines. It can be highly instructive to work with a team of physicians or social scientists and to

realize that they have some of the same kinds of intraprofessional, conceptual, political, territorial problems we chastise nurses for having. And that kind of "continuing education" is extremely valuable in preparing people for increasing levels of interdisciplinary responsibility.

I have not dealt much in this paper with continuing education at the postmaster's or postdoctoral levels. Clearly, however, some of the suggestions here would be equally appropriate if not more so, to people whose educational background should have included a more defined concentration on research. Among the more depressing statistics I know about nursing is the one that indicates that in a national sample, only an infinitesimal percentage of nurses with doctoral degrees were doing any research after the doctorate.²³ If research were rewarded by continuing education units or an equivalent means, perhaps people would be stimulated to stay with it.

Political arguments and other such ephemeral considerations aside, there is now in these times an even more powerful argument for nursing's involvement in research, and the efforts of all of us to support that: the increasing pressure on the health professions to document the effects of our services. Quality assurance programs are part of that, as is the new PSRO system for nursing being developed. These activities are, if done right, *research*, and they should require the same rigorous standards of thought and design that more conventional research does. Therefore, continuing education which addresses quality assurance or peer review should do more than simply define the terms and describe the programs; it should help us work together to define the standards of practice (which is in itself a research activity) on which we will base measures of performance (which is also a research activity). Since quality assurance is so much on the minds of nurses, at least those employed in institutional health services, it provides a wonderful excuse and motivation for getting nurses involved in research-type activities.

I said earlier that nursing research is hard work. It is, and that means rather powerful motivations have to be brought to

bear to involve nurses in it. Formal rewards are one thing; "enlightened self-interest" is another. I would suggest to you, without being overly dramatic about it, that unless continuing education and nursing practice research get together (along with research and orthodox nursing education) we stand a distinct chance of never being able to establish nursing as the true profession we believe we have. And we will do women and nurses a disservice if we do not confront consciously our anti-intellectual heritage in nursing and find all possible ways to bring research and continuing education into partnership to reinforce and demonstrate that nursing is, in Annie Goodrich's words, "the adventure of thought and the adventure of action."

Dean Goodrich goes on to say:

... to effectively interpret the truly great role that has been assigned [the nurse], neither a liberal education nor a high degree of technical skill will suffice. She must also be master of two tongues — the tongue of science and that of the people.²⁴

I couldn't have said it better myself.

REFERENCES

1. Henderson V: Research in nursing — when? *Nurs Res* 4:99, 1956.
2. American Nurses Association, House of Delegates, San Francisco, 1974.
3. Leonard RC: Developing research in a practice oriented discipline. *Amer J Nurs* 67:1472-1475, 1967.
4. Wald F, Leonard RC: Toward nursing practice theory. *Nurs Res* 13:309-314, 1964.
5. Dumas R, Leonard RC: The effect of nursing on postoperative vomiting. *Nurs Res* 12:12-15, 1963.
6. Johnson J: Effects of structuring patient expectations on their reactions to threatening events. *Nurs Res* 21:499-503, 1972.
7. Mahaffey PR: The effects of hospitalization on children admitted for tonsillectomies and adenoidectomies. *Nurs Res* 14:12-19, 1965.
8. Wolfer J, Visintainer M: Pediatric surgical patients' stress responses and adjustment as a function of psychological preparation. *Nurs Res* 24:244-255, 1975.
9. Visintainer M, Wolfer J: Psychological preparation for surgical patients: the effects on children's and parents' stress responses and adjustment. *Pediatr* 56(2):187-202, 1975.
10. Jacox A, Stewart M: *Psychosocial Contingencies of the Pain Experience*. Iowa City, University of Iowa, 1974.
11. Baer et al: Inferences of physical pain and psychological distress. *Nurs Res* 19:388-392, 1970.
12. Moss F, Meyer B: The effects of nursing instructions upon pain relief in patients. *Nurs Res* 15:303-306, 1966.
13. McBride MA: Nursing approach, pain and relief. *Nurs Res* 16:337-341, 1967.
14. Diers D et al: Effect of nursing interaction on patients in pain. *Nurs Res* 21:419-424, 1972.
15. Verhonick P: Nursing measures in prophylaxis of pressure sores. *In* 8th Nursing Research Conference, Albuquerque, New Mexico, March 15-17, 1972. New York, ANA, 221-226, 1972.
16. Putt A: One experiment in nursing adults with peptic ulcers. *Nurs Res* Nov-Dec 1970.
17. Marston MV: Compliance with medical regimens. *Nurs Res* 19:212-221, 1970.
18. Saltens IJ: Physical touch and nursing support in labor (abstract). *Nurs Res* 12(3):Summer 1963.
19. McCorkle R: Effects of touch on seriously ill patients. *Nurs Res* 23:125-132, 1974.
20. Kramer M: *Reality Shock*. St. Louis, CV Mosby Co, 1974.
21. Dickoff J et al: 8-4 research. *Nurs Res* 12:12-15, 1963.
22. Spitzer WO et al: Burlington randomized trial of the nurse practitioner. *New Engl J Med* 290:251-256, 1974.
23. Abdallah FG: A review of nursing research, 1955-1968 Part 1. *Nurs Res* 19:67, 1970.
24. Goodrich AW: *The Social and Ethical Significance of Nursing*. New York, Macmillan, 1933, p 14. Reprinted 1972 and available from Yale University School of Nursing.