



***NURSING PAPERS
PERSPECTIVES EN NURSING***

PREPARATION FOR THE NURSE PRACTITIONER

SURVEY OF BACCALAUREATE NURSING PROGRAMS
FOR REGISTERED NURSES

EFFECTIVENESS OF GROUP AND INDIVIDUAL
TEACHING IN SELF-MEDICATION

EFFECT OF ROLE MODELING ON ANXIETY IN
MOTOR SKILL PERFORMANCE and EFFECT OF
SELF CONCEPT IN MOTOR SKILL PERFORMANCE

TEACHING CONTINUITY OF CARE

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Moyra Allen, *Editor*

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Vivian Geeza, *Managing Editor*

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Moyra Allen, *rédacteur en chef*

Automne 1976

Vivian Geeza, *adjointe
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BACCALAUREATE PREPARATION FOR THE NURSE PRACTITIONER: WHEN WILL WE EVER LEARN?

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En février 1976, l'auteur du présent article était invitée à prendre la parole au congrès annuel de l'Association canadienne des écoles universitaires de nursing, section de l'Ouest. La conférence portait sur la question suivante: "Devrait-on considérer le programme du baccalauréat comme étant la formation de base pour l'infirmier 'praticien'." Voici la réponse qu'elle y a apporté.

In February, 1976 the author was invited to address the annual conference of the Western Region, Canadian Association of University Schools of Nursing on the question, "Should the baccalaureate program be the basic preparation for the 'nurse practitioner'?" Her reply follows.

Why are we discussing this question in February 1976? Why is it still a question at all? A review of some of the statements, studies and papers so very familiar to us now, pinpoints the stalemate in our decision-making related to the "nurse practitioner". Recall the *Report of the Committee on Clinical Training for Medical Services in the North* (1970); *The National Conference on Assistance to the Physician* (1971); "The Expanded Role of the Nurse: A Joint Statement of CNA/CMA" (1973); the Boudreau report (1972); and special issues of *Nursing Papers* (1974) and *Nursing Clinics of North America* (1975) on the subject.

Why are student nurses still asking what faculty believe about the "nurse practitioner", and asking whether they will be prepared as "nurse practitioners" when they graduate? "If not now, when?" they ask, "if not now, why not?" Can we expect our students to be committed when we cannot commit ourselves?

Can we blame governments and physicians for deciding for us when we have no strong position or no position at all from C.A.U.S.N. on the issue?

How many university schools of nursing faculties — entire faculties — have spent time accepting or rejecting the Boudreau report and its implications for baccalaureate nursing? How many have a clear statement of their beliefs on this issue with a clearly identifiable action plan? How many have identified faculty learning needs for the expanded role and taken action to have these needs met? Are most of us today still in the position described by one of our colleagues two years ago:

Although the faculty as a whole has not, as yet, taken a definitive stand on the role and preparation of the nurse in primary care, during the past few years individual faculty members been keeping a finger on the pulse of the local, provincial and national scenes as they relate to the nurse in primary care and the need for this role. (Brown 1974: 41).

I submit that six years is an incredibly long time to be observing.

To be asking the question we are asking today is, to me, an indication we have failed to practice what we teach: problem-solving, decision-making, and carrying out a plan of action. Decisions such as this one confront us more and more, decisions which must be made if we as a profession are not to forfeit the opportunity to affect our future. Faculty must tear off their protective masks and engage in decision-making. They must be willing to say “I believe” or “I think” and to take strong positions on the issues at stake, such as the question before us.

The fact that this question is still being asked means, to me, that we are facing resistance. What *are* the commonly-held forms of resistance among nurse educators, against incorporating “nurse practitioner” functions into the baccalaureate program? Five major arguments come to mind, and I shall look at each in some detail.

Resistance I: “The ‘nurse practitioner’ is a mini-doctor.”

I see this as the “What’s-in-a-name-game” which we continue to perpetuate in an effort to avoid the task of critically examining the functions that the “nurse practitioner” can, will and might carry out according to the dictates of the setting. Like the phrase “baccalaureate nurse”, and the phrase “nurse practitioner” (at this point in time), “mini-doctor” may mean anything, everything, or next-to-nothing. Hence, to argue that the “nurse practitioner” is a mini-doctor is to waste time and energy. “Our real task is to develop understanding of the full capacity and contribution of nurses and thus to go beyond the debate on definitions...” (Kergin, 1975). Many faculty members who are proponents of the mini-doctor school do not speak from direct observation in the practice setting, but from academia. My experience has been that nurses functioning as “nurse practitioners” are

more aware of their functions as nurses, more aware of the need for a different kind of nursing practice and more aware of their capabilities to provide highly significant contributions to help the patient cope with his problems, needs or situations. Rather than “mini-doctoring”, I believe a sector of nursing has finally “recognized the need for a different kind of nursing practice and moved forward to provide it” (*Nursing Outlook*, 1974). Though their numbers are small, their impact on patient care is considerable.

Resistance II: “There is no need for the ‘nurse practitioner’.”

How do we know?

Because of our confusion, we are not united, and thus in no position to sell the idea to the consumer. Again, we are our own worst enemies.

In Ontario the Pickering report (1973) and other studies have given evidence that consumers are irate with the impersonality of care and irate with the lack of availability, continuity and accessibility to health care — primary health care in particular. Why has nursing responded neither to consumers nor to government? How can we continue to believe that there is no need when “evidence at hand suggests a future strengthening of community health services and a gradual re-direction of resources from the tertiary health care sectors toward primary care sectors”? (Kergin, 1976). As educators for the 21st century, are we meeting our own needs or those of our learners? “We have somehow managed to persuade ourselves that we are too busy to think, too busy to read, too busy to look back, and too busy to look ahead.” (Cousins, 1971).

Resistance III: “There is no time in the curriculum for anything more.”

Too many nursing faculty members seem to hope the whole idea will go away; this attitude pervades entire faculties. They argue that there is no more time for any more knowledge, skill, or clinical experience within present programs. Time use must be re-examined in the light of the future. Some educational prescriptions for our learners are rooted in the past, not based in the present or planned for the future. Educational programs must be designed for the realities of practice. Re-evaluation of ourselves is imperative, keeping in mind that we have a strong tendency to meet our own personal needs in curriculum, and to believe these are the future needs of our graduates. Unless we are able to introspect, to help our learners move to the future, to prepare ourselves to meet the challenge of tomorrow both theoretically and clinically, I submit we should withdraw from the university. Faculty must be expected and prepared to work in the

community as well as in institutions. The time for theorizing is past. We must address ourselves to the realities of practice of tomorrow and *make* the time for the needed content and experience in our curricula. The complacency that exists among many faculty members within our schools is very dangerous.

Resistance IV: "The baccalaureate nurse does not have the maturity and experience to perform the functions of a 'nurse practitioner'."

Several thoughts come to mind in response to this statement. What do we mean by maturity, and by experience? Who says maturity comes with experience? What are we, as faculty, doing to facilitate growth, maturity, and independence throughout our programs? Are we fostering an adult climate for learning? How?

We have spent years arguing the case of experience and maturity while addressing ourselves to the benefits of such moves as

— from the certification program for public health nursing to the incorporation of public health nursing into B.Sc.N. programs;

— from the "sandwich" approach to baccalaureate nursing to the integrated approach; and

— from the three-year diploma program to the two-year program.

With all our concerns, no nursing studies have documented that specific amounts of either education or experience are necessary for a safe beginning practitioner to function effectively. We need to spend less time on these arguments and give more time to our quality of thought with regard to the functions of the "nurse practitioner".

Resistance V: "All that is needed to prepare the B.Sc.N. student for the 'nurse practitioner' role is history-taking and physical assessment skills."

One year ago, the C.A.U.S.N. Committee Report on Accreditation was accepted. This implies our acceptance of the concept of program relevance — the degree to which baccalaureate programs are responding to the needs of the community. Relevance means more than the simple addition of history-taking and physical examination skills. If we say baccalaureate students are prepared to function as 'nurse practitioners' can we say, for example, that they are prepared to handle the commonly-occurring undifferentiated acute and chronic problems in primary care? Has the pendulum swung too far? In preparation for the Ontario Region C.A.U.S.N. June annual meeting, a questionnaire was sent to each university school of nursing on the expanded role. One response to the question "What is your faculty's operational definition of the expanded role of the nurse?" (Roman and Steels 1976) reads as follows:

The focus of his/her practice is client-centered in which he/she applies the nursing process for the promotion of health of individuals, families and communities, utilizing advanced theory skills in varied settings.

While I believe students must be prepared for health promotion and health maintenance, this must not be to the exclusion of having our graduates prepared to advise on and participate in the management of illness in primary care. It is easy to say that the addition of history-taking and physical assessment skills qualifies the B.Sc.N. graduate to be a competent 'nurse practitioner'. It is hard work for nursing education to critically examine its own presenting problems by asking such questions as the ones formulated by Roman and Steels:

— What is our operational definition of the expanded role of the nurse?

—What are the roles and functions relevant to this operational definition?

—What specific knowledge, skills and attitude does the learner in our program require to perform the expanded role as defined?

—What opportunities are provided for learners to acquire knowledge, skills and attitudes relating to the expanded role in each year of the program?

—What resources are used to facilitate learning in the expanded role?

I believe anything less than a good history and detailed examination of the curriculum in relation to this issue leads to the perpetuation of patchwork in the curriculum. This need for curriculum re-examination has definite implications for faculty members. We know that

one of the realities of life is that any major change constitutes a threat. Changes, or proposals to institute changes, suggest that what one has acquired or developed is somewhat imperfect. Renovations of basic programs and the incorporation of new knowledge, skills and attitudes is bound to create strong resistance within faculty members, especially faculty who are comfortable with the way things are done now and who are anxious about unknown products. (Kergin, 1976).

Many of us do not have all the skills, knowledge and attitudes required to function in the expanded role. Can we continue to allow our deficits to hamper our learners from becoming and remaining skillful? How can our deficits be made up now?

GOVERNMENT POLICY — SOME IMPLICATIONS

I would like to look at some implications arising out of our indecision with regard to the 'nurse practitioner' for government policy in Ontario.

A number of community health centres have been opened in the province. The government — more than organized nursing — can see the value of the nursing service the 'nurse practitioner' can provide. Little nursing input has been forthcoming as pertains to functions, contracts and working conditions drawn up by the government. Organized nursing, knowing the situation, has made little effort to clarify the position or to speak on behalf of nursing.

At a meeting of the Ontario Council of Health (the senior recommending body to the Minister of Health) over a year ago, sixty health professionals met to discuss the role, need, educational preparation, legal status and remuneration for the 'nurse practitioner' in primary care. The government document arising out of this meeting has been available for well over six months. One of the statements pertinent to baccalaureate nursing refers to continuing education programs for nurse practitioners, and reads as follows:

For the time being, programs for the preparation of nurse practitioners should be placed in the health science complex. Since there appears to be no relationship between the nurse practitioners' effectiveness and whether their basic nursing education was a degree or a diploma, nurses with both qualifications should be accepted (Ontario 1975:6).

No position statement from O.R.C.A.U.S.N. was included with materials distributed before the conference. The meeting left the eight university schools of nursing in the usual position of having to respond to government statements rather than providing leadership in the development of policy. Lack of a clear position resulted in the statement that "in the future, the basic preparation of nurses, both at diploma and university levels, should be suitably modified to reflect this broadened concept of nursing" (Ontario 1975:5). I need not elaborate on the problems arising out of that remark, now written in the report. Claire Fagin expressed my feelings well when she said:

At Lehman College we participated in the preparation of videotapes on physical assessment. It strikes fear in my heart when I hear from our distributor that many community colleges are interested in purchasing the tapes so that they may include this kind of content in their associate degree programs in nursing (Fagin 1976).

The same situation is occurring here.

It is my sincere belief that this group can take the lead and make a worthwhile contribution to the C.A.U.S.N. statement on the baccalaureate nurse if a Western Region decision is made to do so in these two days. I fear it will not be when I see the full agenda and this disappoints me no end. Will we still be asking "Should the baccalaureate program be the basic preparation for the nurse practitioner?" in 1977? The longer we procrastinate, the sooner government and physicians will decide for us.

The College of Physicians and Surgeons of Ontario and The College of Nurses of Ontario have been meeting regarding procedures The College of Physicians and Surgeons would like to delegate to the "Nurse Practitioner". When health teaching comes up as one item they would like to delegate to us, I can only state that the voice of professional nursing has not made itself heard nearly enough. If we believe we have staked out a claim for assessment and promotion of health status, we have failed to communicate clearly.

These examples suffice to illustrate my grave concerns — concerns pointing rightly to us for our slowness, indecision, and passivity.

I believe there is no more time for indecision. I believe the baccalaureate program should be the basic preparation for the 'nurse practitioner'. I believe it is up to us to make the necessary curriculum changes *now* so that the knowledge, skills and attitudes needed to function in the role under discussion are provided for us in our university schools of nursing.

I believe it is of the utmost urgency that we

1) answer the question "What is a baccalaureate nurse?" nationally; and

2) become vocal nationally about baccalaureate nursing before groups of consumers, government policy-makers, and allied health professionals.

We have graduates we believe in, nurses who are valuable, flexible, adaptable, reliable and capable of rendering quality service. Let us commit ourselves now to describing these nurses clearly and to promoting them proudly and loudly.

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A SURVEY OF BACCALAUREATE NURSING PROGRAMS FOR REGISTERED NURSES IN CANADA

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On a distribué un questionnaire aux écoles de nursing de niveau universitaire du Canada, principalement dans le but de déterminer les tendances actuelles qui se manifestent dans la composition des programmes destinés aux infirmiers ou infirmières candidat(e)s au grade de baccalauréat en nursing. On a ainsi pu dégager de nombreux points communs dans ces divers programmes, notamment quant à la progression, aux problèmes et aux possibilités de modification et de perfectionnement qui y sont prévus.

A questionnaire was sent to university schools of nursing in Canada primarily for the purpose of ascertaining trends in program development for the registered nurse who seeks a baccalaureate degree in nursing. Many similarities were expressed related to progress, problems, and plans for change and development within the presently existing programs.

What are the trends in nursing education in Canada for the registered nurse who seeks continued study at the university level to obtain a bachelor's degree in nursing? Are programs for registered nurses integrated with basic baccalaureate programs, sharing such commonalities as faculty, classes, and courses? Is there an interest in the development and use of challenge examinations as a tool for providing credit to the registered nurse for the education and experience she brings to the university program?

Annual surveys done by the National League for Nursing indicate the trend in baccalaureate nursing education for the registered nurse in the United States is towards an integrated program, and with the use of challenge examinations. Of 3,003 registered nurses who graduated from baccalaureate programs in 1974, 2,551 graduated from 268 basic programs in nursing and 452 were graduates of 41 special nursing programs restricted to registered nurses (Johnson 1975: 580). Eighty-five percent of the baccalaureate programs give some form of examination for admission with advanced placement to the registered nurse, providing credit for previous education and experience (Lenburg and Johnson 1974:267).

Rationale cited for the above are as follows. It is indicated that the exchange of information between the registered nurse students and

the basic nursing students is beneficial for both groups (House 1973: 278 and Dudas 1968). The socialization process with accompanying role change in which the diploma nurse is involved while obtaining a baccalaureate degree in nursing is facilitated through an integrated approach to learning (Sheahan 1974). A study done at Arizona State University to identify similarities and differences between registered nurse senior students and basic senior nursing students with respect to the components of professional nursing showed wide variability in both student groups' ideas (Corona 1973). The differences within the groups were greater than the differences between groups. It indicated that individual differences among the total sample were greater than differences related to method of entry into the nursing program.

Baccalaureate nursing faculties continue to struggle with the problem of granting credit for previous education and experience in nursing. The development of tools to assess the knowledge and skill of the registered nurse is not an easy assignment (Dineen 1972). Most schools choose a point somewhere between the two extremes of blanket credit for previous education, and credit based almost entirely on testing (Katzell 1973). Using challenge examinations serves to give credit for previously gained knowledge and skills, at the same time conserving the strength of the program and the quality of the graduates (Palmer and Brown 1974). Also indicated is the advantage of lessening the students' expenditure of time, energy and money and avoiding the duplication of content (Dineen 1972:770).

There is some documentation in Canada regarding trends in program development for the registered nurse. One article published in 1969, suggests that an alteration in post basic baccalaureate curriculum design is necessary and desirable (Good 1969). Post-basic study should be equated with offerings in the basic baccalaureate program. To attain this equality, studies should be integrated. The unique and difficult challenge of changes in philosophy and values that a diploma graduate encounters entering a baccalaureate program is identified (Munro 1974). A summary of information collected by C.A.U.S.N. and presented at the National Meeting in Ottawa, November 1971, indicated that three university schools were using challenge examinations, two additional schools had established a policy for them, and eleven schools expressed interest in the development of the examinations (Field 1971).

An interest in the current trend in program development in Canada for registered nurses seeking continuing education at the university level to obtain a bachelor's degree in nursing, led to a survey of university nursing programs in Canada.

A questionnaire was directed to Deans and Directors of each of the twenty-two university schools of nursing in Canada in the spring of 1976. The one-hundred percent return reflected a willingness to share information regarding such programs and as well indicated a real interest in documentation of program trends in Canada. The results are tabulated to facilitate comparison and reference.

PROGRAMS FOR REGISTERED NURSES

There is action at all university schools of nursing across Canada for the development of educational opportunities for the registered nurse seeking a bachelor's degree in nursing. Of the twenty-two university schools of nursing in Canada, twenty indicated an acceptance of the registered nurse into a program leading to a bachelor's degree in nursing. Of the two other programs, one indicates an admission of the occasional student into their basic degree program, while the other suggests possibilities for future program development for the registered nurse.

LENGTH OF PROGRAM

The length of programs for the registered nurse varies from two to four years. Seven of the programs are two years in length, twelve of the programs are three years, and one program is a four year program. It is indicated that challenge examinations and individual management can reduce the length of three of the programs. The occasional student that is accepted at Queen's University essentially completes the requirements of the basic four year degree program.

SEPARATE OR INTEGRATED PROGRAM

Is the emphasis at present on providing a completely separate program for the registered nurse or on sharing faculty, courses, and classes with the basic nursing students in an integrated approach to learning? Data suggest that nine of the programs are separate programs, while twelve of the programs are integrated.

A detailed review of the data, however, indicates that few programs are completely separate or completely integrated. The majority of programs have a combination of separate and integrated components. Five of the programs essentially contain no integrative aspects and are purely separate programs. Sixteen of the programs, however, have some integrative aspects ranging from a sharing of a few of the nursing or non-nursing courses, a sharing of one to two years of the basic program, to a complete sharing by both basic nursing students and registered nurses in a single identifiable nursing program.

Rationale for the establishment of a separate program or separate components of a program is primarily identified as necessary to

specifically meet the learning needs of this group, taking into account their background of life experiences as well as different bases in nursing knowledge. Integration appears to be favored as an enriching experience for the two groups. It is indicated that there is difficulty in doing justice to more than one program with the availability of clinical facilities and number of qualified teachers.

CREDIT OR ADVANCED STANDING GIVEN

What credit is given to the registered nurse for her education and experience? Credit offered to the registered nurse varies from no credit to a maximum of two years' credit. Seven responses indicate that no credit is given. Five responses favor one year credit, either admitting the student as a second year student or by a comparison of the program for the registered nurse to the lengthier basic nursing program. Credit is given in four programs specifically for nursing courses in the first two to three years of the basic program. Nonspecified credits are offered in four other programs.

CHALLENGE EXAMINATIONS USED

Challenge examinations, a method of giving advanced credit or standing to the registered nurse for her education and experience, are used in a variety of ways by the various programs. Seven responses indicate that the opportunity is available to receive credit for nursing courses. The University of Manitoba uses the term 'challenge for credit' as opposed to 'challenge examinations' since there are many modes of testing the competency of students at all levels of the program. These are not necessarily examinations but may be orals, seminar discussions and/or practical demonstrations of performance. In the nursing courses, which have a practice component, challenge for credit consists of theoretical and practical evaluation in each course.

At the time this survey was made, Laurentian University was constructing challenge examinations for use the first time in the summer of 1976; it was anticipated these would include a written component and assessment of skill in a simulated situation.

The University of Ottawa uses challenge examinations to give credit to the registered nurse for knowledge and skill acquired through previous study and nursing practice, and to ensure that their time at university is spent in the acquisition of new knowledge and skills. The school offers the registered nurse the opportunity to demonstrate baccalaureate competency in any or all of the cited nursing courses at the end of the second year of the program. Failure to obtain standing in two or three of these extends the student's course of study.

BACCALAUREATE NURSING PROGRAMS FOR REGISTERED NURSES IN CANADA — 1976

Program for Registered Nurses	Length of Program	Separate or Integrated Program	Credit or Advanced Standing Given	Challenge Examinations Used	Trend in Program Development
University of Victoria, School of Nursing program begins September 1976	2 years	separate no plans for a basic program at this time	—	—	use of challenge exams possible correspondence courses
University of British Columbia, School of Nursing	2 academic years plus 3 months summer course	integrated one nursing course required prior to entry into third year of B.S.N. program	years I and II of B.S.N. program	for admission to program — NLN achievement tests used, for placement in nursing and non-nursing courses	increased use of challenge exams; hope to develop their own for admission to program
University of Calgary, Faculty of Nursing admits visiting students for U. of A. program hope to begin own program September 1976	2 academic years	integrated (new program) two separate nursing courses in lieu of nursing courses in first three years of B.S.N. program fourth year nursing courses shared humanities, natural and social sciences shared	nursing courses in years I, II and III of B.S.N. program Introductory Psychology, Sociology, Biology	may receive "credit by special assessment" per university policy for courses within program no formalized exams developed	some interest in development and use of challenge exams
University of Alberta, School of Nursing	2 academic years plus summer school	separate	—	may challenge courses required within program as per university policy, no formalized exams developed	some integration Principle of challenge exams accepted by faculty

University of Saskatchewan, College of Nursing	3 academic years	separate one fourth year course that is optional for basic students is required two fourth year courses required for basic students are optional some humanities, natural and social sciences may be shared	students admitted as second year students	not in nursing graduates from one institute can challenge for admission to a 200-level class in Psychology & Sociology collecting data with NLN Graduate Nurse Qualifying examination	more integration in senior year increased use of challenge exams
University of Manitoba, School of Nursing	4 years can be reduced to two years with individual management	integrated	up to 10 courses can be credited	challenge for credit - a total of 32 credits can be challenged; this includes nursing and required and elective general education courses	more integration increased use of challenge for credit
Lakehead University, School of Nursing	3 Academic years with advanced standing could be reduced to 2½ years	separate	5 credits in nursing of total required 20 credits	Anatomy	more integration increased use of challenge exams
Laurentian University, School of Nursing	2 calendar years is shortest possible time, given success on all courses open to challenge	integrated omits Anatomy & Physiology course in first year special nursing course in lieu of nursing courses in years I & II	—	“credit by challenge” all third year courses to begin summer 1976	opportunity to challenge non-nursing courses possible division of one second year course into modules which could be challenged
University of Windsor, School of Nursing	3 years	separate	credit for all basic nursing courses i.e. - Obstetrics, Pediatrics, Medical-Surgical Nursing, Psychiatric Nursing	Introductory Psychology, Sociology, Microbiology, Anatomy, Physiology	integration - courses in last year

Program for Registered Nurses	Length of Program	Separate or Integrated Program	Credit or Advanced Standing Given	Challenge Examinations Used	Trend in Program Development
University of Western Ontario, Faculty of Nursing	3 years	separate Research & Statistics shared for first time this year	—	—	some integration, e.g. health care delivery system, professional development
McMaster University, School of Nursing no program offered at this time may be able to do so in the future after revisions in the basic science courses have been finalized and approved	—	—	—	—	—
University of Toronto, Faculty of Nursing,	3 years	separate sharing of some natural and social science requirements	one year "blanket credit" since program three years in contrast to four year basic program	—	more integration project begun to develop credit examinations - objective is to offer one undergraduate program with multiple points of entry
Queen's University, School of Nursing no longer offers a program occasionally takes students if they are unable to attend another institution	4 years	integrated omits second course in nursing which concentrates on basic technical skills	—	—	use of challenge exams
University of Ottawa, School of Nursing	3 years	separate	one year - three year program rather than four year basic program	opportunity to demonstrate baccalaureate competency in Obstetrics, Pediatrics and/or Psychiatric Nursing	increased use of challenge exams

McGill University, School of Nursing	3 years both B.N. and B.Sc.N. programs	separate B.N. program for graduates of hospital schools of nursing phased out this year (1976) B.Sc.N. program developed for graduates of Quebec CEGEP or other community colleges and institutes - parallels existing program with altered science and nursing content	some science courses plus one nursing course	—	more integration maintenance of early separation of nursing courses
Université de Montréal, Faculté de Nursing	3 years with challenge exams can be reduced to two years	integrated - is an accelerated program nursing course in third year may be shared with basic students all other science courses shared	—	all nursing courses may be challenged except the first and last one
Université Laval, Ecole des Sciences Infirmières	3 academic years	integrated	Credit for four pre-requisite courses	—	nursing courses may be challenged to obtain equivalence
University of New Brunswick, Faculty of Nursing	3 academic years plus clinical practice	integrated for two year diploma graduates plan to begin for three year hospital diploma graduates separate program for latter group to be offered for last time September 1976 one separate nursing course to be offered in 1977-78 to graduates of all diploma programs	one year credit for first year of basic program	—	more integration increased use of challenge exams

Program for Registered Nurses	Length of Program	Separate or Integrated Program	Credit or Standing Given	Challenge Examinations Used	Trend in Program Development
Université de Moncton, Ecole des Sciences Infirmières	2 years	integrated for three year hospital diploma graduates eventually for two year diploma graduates separate program for three year hospital diploma graduates phased out December 1975	76 credits	—	possible program through Extension Department (a different program for adults)
St. Francis Xavier University, Department of Nursing	3 years	integrated share required nursing courses and most general education courses	—	Nursing of Mothers and Infants, Nursing of Children, first section of Nursing of Adults	more integration increased use of challenge exams
Dalhousie University, School of Nursing	3 academic years	integrated nursing courses in second and third years separate nursing courses in fourth year shared one fourth year course separated for clinical in 1975-76 two science courses shared	one year three academic years rather than four academic years plus an eight week clinical component	—	—
Memorial University of Newfoundland, School of Nursing	2 years plus one semester	integrated first nursing semester nursing course is separate two other semesters nursing courses are shared	15 non-specified credits toward a 50 credit B.N. degree	—	use of challenge exams for nursing courses

The University of New Brunswick offers a challenge examination at the conclusion of the first academic year. The examination has both written and clinical components. Students passing both proceed to the third year of the basic degree program. Students who fail proceed to a six week inter-session of theory and practice. Upon demonstration of competency they then proceed to the third year.

At St. Francis Xavier University the registered nurse is not required to take the third year nursing courses. They have a clinical inter-session which tests their knowledge and skill in these areas.

Three responses indicate the use of challenge examinations to give credit for non-nursing courses. Registered nurse applicants at the University of British Columbia are required to complete a battery of placement tests in nursing and non-nursing subjects. At the University of Saskatchewan challenge exams are used for admission to a higher level class. At the University of Alberta and the University of Calgary, university policy allows the registered nurse to request the opportunity to obtain equivalence for the learning experience.

TREND IN PROGRAM DEVELOPMENT

For the registered nurse seeking a baccalaureate degree in nursing the trend in program development appears to be towards more integration with basic baccalaureate programs and towards the development and use of challenge examinations. Seven responses identified their programs as separate, indicating the trend for their program development is towards some integration with their basic baccalaureate programs. This is seen primarily in the senior year. Five of the responses that described their programs as currently integrated are planning for even more integration. Responses indicate that six programs currently not utilizing challenge examinations are interested in their use and/or development. Responses also suggest that nine programs currently using challenge examinations are planning to increase their use of these exams.

IMPLICATIONS OF SURVEY

What are some possible implications of this survey? The trend in baccalaureate nursing programs for registered nurses in Canada appears to be towards providing some degree of integration with a concurrent basic baccalaureate program and with an expressed interest in the development and use of challenge examinations as a method of providing advanced standing or credit. Factors favoring integration include: (1) economic and efficient utilization of faculty, (2) improved utilization of clinical facilities, (3) facilitation of the socialization process for the diploma graduate in process of a role change and (4) the value of sharing between the two student groups.

Factors primarily favoring the use of challenge examinations are: (1) this is a tool which can give the registered nurse accurate credit for her education and experience and (2) this is a method of assessing the learning needs of the registered nurse to ensure facilitation of new learning.

There is no doubt that the development of challenge examinations is indeed a challenge for nursing faculty! The development of tools to assess the knowledge and expertise of the registered nurse is a task which involves a large investment of faculty time and energy. There is interest in this task across the country. Perhaps more sharing of information and ideas could facilitate each individual faculty's approach to the assignment. At the very least some moral support could be generated for this most difficult task.

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A PRELIMINARY STUDY DESIGNED TO EXPLORE THE DIFFERENCE IN EFFECTIVENESS OF GROUP AND INDIVIDUAL TEACHING IN SELF-MEDICATION

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Le but du projet est d'étudier l'efficacité de l'initiation à l'auto-traitement afin de déterminer le degré de succès de l'enseignement individuel par rapport à celui de groupe. Les premiers résultats semblent indiquer que l'enseignement de groupe peut augmenter les connaissances du malade en ce qui a trait à l'auto-traitement et favoriser un comportement fidèle. Les étudiants de même que les malades qui ont participé à cette étude préliminaire ont déclaré, de part et d'autre, que l'expérience leur avait été précieuse.

The project was designed to explore the difference in effectiveness of group and individual teachings in self-medication. The preliminary results suggest that group teaching can increase patient's knowledge in self-medication and promote compliant behaviour. Students and patients who participated in this preliminary study both indicated that they have mutually benefited from this teaching-learning experience.

The question "How adequately are hospitalized patients prepared for self-medication upon discharge?" has long been the concern of all health professionals. Investigators, surveying medication errors made by patients at home with prescription drugs, have found that an alarming number of patients fail to take their medication as recommended. The complexity of the problem can be expected to grow, due mainly to the increase in the incidence of chronic illness, the advancement of highly effective drug therapy, and the growing emphasis on hospitals being episodic care centers. Today, there are more persons than ever before who are given the responsibility of self-care at home.

In reviewing the literature of self-medication compliant behaviour, it is noted that demographic variables have not been predictive of

* The author is indebted to her colleagues M. Foley, E. French, M. Langlois, J. McNeil and S. Zerr for their cooperation in data collection and to those students who participated in this study.

compliant behaviour (Marston, 1970). Patients with severe illness are found more likely to follow prescribed orders; however, it is unclear whether actual severity of illness is related to compliance (Donabedian and Rosenfeld 1964, Neely and Patrick 1968, Chaves 1960, MacDonald 1963, Parker and Bender 1957). The complexity of medical regimentation is believed to augment drug errors. With the increasing number of medical orders, there is a corresponding increase in non-compliance (Maddock 1967, Jenkins 1954). A number of studies are concerned with the relationship between social compliance and psychological variables, for example, attitudes towards illness, patients' perceptions of the severity of their illness, etc. The results are nevertheless not conclusive (Charney 1967, Neely and Patrick 1968, Williams 1967). Many investigators studied the patient's knowledge of illness in relation to compliance and found that with better knowledge there is a tendency towards increased compliance (Leary 1971, Marsh 1972, Hecht 1974). Others concluded that a positive patient-physician and patient-nurse relationship can be the determinant (Davis 1968, Hecht 1970). Decreased drug errors have also been related to a well-designed compliance system (Moulding 1961, Liberman 1972, Hecht 1970, McInnis 1970). Still others have suggested that the effectiveness of nurse-teaching can be a means towards promoting better performance of self-medication (Hecht 1974, Leary 1971).

A general trend has begun to develop in the current literature. It is indicated that patients who have a better knowledge of their illnesses, who are effectively taught the use of their drugs, and who have established a positive relationship with health professionals are more likely to be compliant.

From among the many factors which influence compliance, it is the author's wish to investigate the relationship between health teaching and self-medication.

PROBLEM

Prior to discharge, it is customary for patients to receive bedside teaching regarding medical recommendations. However, it is doubtful whether the effect of health teaching is fully obtained through such an individual approach, since group teaching is widely recognized as being more effective. The author is encouraged by other writers and her own experience to continue to experiment with the group method (Leary 1971, Choi-Lao 1975). A preliminary study was designed to investigate the difference in effectiveness of individual and group teachings in self-medication.

The purpose of this study was to examine the effectiveness of group teaching in terms of gaining knowledge of medication and in reducing drug errors.

OPERATIONAL DEFINITIONS

Self-medication: Those drugs ordered by the physician upon discharge from hospital to be administered to the patient at home by either the patient or a member of the family. The order can be either verbal or written.

Knowledge: Refers to the patient's understanding of the prescribed drug's name or classification, methods of administration, action, dosage, side effects and allergic reactions.

Drug error or error in self-medication: Refers to mistakes made in administering the prescribed drug in either amount, frequency or interval. Errors can be omissions or over-administrations.

HYPOTHESES

1. Those patients who were taught by group methods have more knowledge about self-medication than those who were taught individually.
2. Those patients who were taught by group methods make fewer drug errors in self-medication than those who were taught individually.

METHOD

Existing tools in the literature to measure patient's knowledge and compliance behaviour in self-medication were reviewed. Since no single tool met the objectives of this pilot study, a questionnaire modified from the guide listed in the article "Self-Administered Medications" (Leary 1971) was developed.

All patients who were receiving the same classification of medication by all routes while hospitalized were eligible to become subjects of the study. In this project, the medication chosen to be studied was antibiotics. Patients were randomly selected from four nursing units of two hospitals where second-year nursing students practiced. Those who received health teaching by group method prior to discharge were classified as the experimental group and those taught individually the control group. If a patient from either group was discharged with antibiotics, a home visit was then made to this selected subject. The patient's knowledge of medication and his drug errors were assessed by the designed tool. A total of nine patients were visited, four experimental and five control. To avoid bias, all nine subjects were visited by students other than those who conducted the group sessions. All patients were visited within one week of discharge and prior to official discontinuation of medication.

INSTRUMENT USED TO STUDY EFFECTIVENESS OF TEACHING IN SELF-MEDICATION

Hospital:

Ward:

Date of Home Visit:

Address:

Religion:

Race:

Patient cared for by you:

another student:

or staff:

I. Demographic Data:

Patient's Initials

Age:

Sex:

Marital Status:

Education:

Occupation:

II. Medical Data:

Date of Admission:

Diagnosis on Admission:

Date of Discharge:

Diagnosis on Discharge:

What were the written discharge orders for medication:

III. Information on self-medication:

Ask patient the following questions. When applicable, record precisely number of ERRORS made by patient in self-medication. If patient is taking more than one drug, student should obtain all possible information re questions 1, 2, 3 and 4, and concentrate ONLY on the drug being studied for the remaining questions.

1. Do you know the name of the medicine you are receiving? (If patient is taking more than one kind of medicine, student should ask for all the names and record answer in the space provided. Place a check mark next to the drug discussed in a group session).

2. How many and how many times a day do you take your medicine? (Record all answers if more than one. We are interested in amount, dosage and frequency, e.g. tab ÷ 30 mgm q.i.d.)

3. What time of the day do you take it (them)? (Once again, record all answers. We are interested in interval and time of administration, e.g. Q4H, P.C., etc.)

4. Have you missed out on any? (Record number of omissions and compensations for all medicines taken. Count pills to see if the reported amount left corresponds with the observed amount. Discrepancies indicate either omissions or over-administration).

For questions 5 to 12, record all information patient volunteered. But concentrate ONLY on the particular drug under study, if patient is taking more than one kind.

5. How do you remember to take the medicine? (We are interested in patient's system of compliance if he had one. Record patient's exact answer).

6. If applicable, ask: Do you know how to take your medicine? (We are interested in specific mechanics of administration, e.g. to take medication with orange juice, with a straw, etc.)

7. Do you know why the doctor wants you to take this medicine?

8. How does the drug work in your body?

9. Do you know of any symptoms that might occur while you are taking this medication? If yes, what are they?

10. Did any of these symptoms ever occur to you?

11. If yes, what did you do?

12. If no, what would you do if any of these symptoms happened?

13. With all the medications you are taking, are you sharing any of these other members of the family?

14. Are you taking any medication which belongs to other members of the family?

15. What do you do with the remaining unused portions of medicine?

16. Student is to note:

a) if medicine is out-dated

b) if appearance of medication is normal

c) when did patient stop taking his medication?

17. Additional information, if any.

LIMITATIONS

1. The sample is too small to be statistically significant.
2. Patients of both experimental and control groups were taught by different students; therefore, results of teaching may vary due mainly to differences in teaching methodology.
3. Different clinical settings may present different atmospheres for group teaching; some are more conducive to learning than others.
4. The date and time of health teaching prior to discharge were not controlled and the planning of instruction might influence patient's learning.
5. The study did not attempt to identify factors which could also influence compliance behaviour, e.g. emotional status of the patient at home.
6. It is highly possible that information obtained on the day of visit may not truly reflect the patient's compliant behaviour.

RESULTS AND DISCUSSION

KNOWLEDGE

In examining patients' knowledge of their medication, the following items were used as parameters:

1. Name of the Drug, or the Classification of the Drug

All four subjects of the experimental group were able to identify the classifications of their drugs. Three knew both the classification and trade names. One who could not remember the name was on Nitrofurantoin, a relatively new drug.

For the five control subjects, three knew the classifications and names, the fourth one was not certain if the drug was an antibiotic, the fifth one could only identify her pills by virtue of their colour, shape and trade marks inscribed on them.

2. Knowledge of Amount, Frequency and Interval as Prescribed

All subjects of both the experimental and control groups answered correctly.

3. Methods of Administration

Only one experimental subject complained of being uncertain of the mechanics of administration. The patient was on A.V.C. vaginal suppository and she received no instructions for insertion. In the control group, two patients who were receiving eye drops were unclear of the procedure. All patients welcomed the suggestions students offered during home visits. It was noted that all patients were taking currently prescribed medications and all drugs were not outdated and appeared normal.

4. Knowledge of Why Medication Was Prescribed

Out of four experimental subjects, three understood the reasons why they were on the medication. For the control group, only three comprehended the purposes of their medical regimen, and two of the three were taught by their physicians. The other two members were not aware of the cause of their medical modality.

5. Knowledge of the Action of Drug in the Human Body

There were three experimental subjects who conceived the action of drug in their bodies and could describe it in their own words. No one could answer the question correctly in the control groups.

6. Knowledge of Side Effects and Allergic Reactions

All patients of the experimental group were able to outline the common signs and symptoms of side effects and allergic reactions, but none of the control group understood clearly the subject matter.

No patient in both groups suffered any side effects or allergic reactions except one control member who had a rash from taking Gantanol. When the question "what to do if complications occur" was asked, all experimental members stated that their physicians would be contacted immediately, and two remarked that they would stop taking the medication while waiting for instructions. In the control group, four indicated that they would inform their doctors. But none considered that they would interrupt the regimen temporarily until further medical recommendation.

It is evident from the data above that the differences may be small in the knowledge of the drug classification and the prescribed methods of drug administration; the knowledge of the action of drug, however, differ significantly between two groups. In areas of side effects and allergic reactions, the differences are even more remarkable. The first hypothesis is thus verified.

COMPLIANCE BEHAVIOUR

In examining the patients' compliance behaviour, the following measures were used as parameters:

1. Amount, Frequency and Interval

The patient's actual time of administration and amount of medication were checked against physician's discharge orders to see if any discrepancies existed. Except for one control member who was not taking medication at the recommended intervals but with correct dosage and frequency, all other patients acted duly according to instructions. However, it was unexpected to learn that one member of the experimental group did not yet possess her medication, even though she had been home for two days.

2. Omissions and Compensations

The three experimental subjects who had started self-medication had no omissions and the information was confirmed by correct pill counts. In the control group, two patients had one omission and they both compensated by taking one extra pill the next time. One of these forgetful patients, stated that he could not finish all pills because they were too big and he had to take six of them a day.

From the data above, it is noted that all members of the experimental group made no drug errors except one patient who had not yet purchased the medication. Of the control group, however, taking prescribed drug on irregular intervals, omissions and compensations all occurred. The second hypothesis is, therefore, also verified.

GENERAL PRACTICE OF SELF-MEDICATION

In addition to the information on medication knowledge and compliance behaviour listed above, data on patient's general practice of self-medication were also collected. The following questions were asked during home visits:

1. Is the patient sharing any medication with other members of the family?

It was unanimously claimed by all patients that they were not sharing any medication with any other persons.

2. Is the patient taking any medication which belongs to others?

The same definite answer was obtained from all subjects.

3. What should the patient do with the unfinished portions of medication if any is left?

All experimental subjects stated that they would discard the unused portions of medication. In the control group, only two patients stated that they would throw away the left-overs.

The results indicate that patients in the experimental group had a sound practice in disposing left-over medication though there was no difference in both groups with regard to drug sharing.

CONCLUSION

Although the sample size was small, it is evident from the data that compared with those in the control group, members of the experimental group had more knowledge of their medications and demonstrated more compliant behaviour, and the two hypotheses were verified.

The opinions of students and patients participating in this preliminary study indicated that they benefited mutually from the project. Knowledge about self-medication was gained by patients; students, as health teachers, also profited from the experience of evaluating patient needs following discharge. From data obtained, there is reason to believe that group teaching can increase patient's knowledge in self-medication and promote compliance behaviour. It is hoped that in sharing her encouraging results with the readers, the author may be able to invite valuable comments and discussions from her colleagues. With further testing, refined tools and research designs can be developed to ensure greater effectiveness of health teaching and quality care.

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*RESPONSE TO "A PRELIMINARY STUDY DESIGNED TO
EXPLORE THE DIFFERENCE IN EFFECTIVENESS OF
GROUP AND INDIVIDUAL TEACHINGS IN
SELF-MEDICATION"*

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It is encouraging to see a study conducted as part of student clinical experience. The area of medication administration is one with which nursing must be concerned. This is an interesting study, but with the sample size it is hard to determine the value and impossible to draw conclusions on the effects of individual and group teaching. The author is realistic in delineating the limitations of this study. Replication of the study would be interesting but one would need clarification on several points before this would be possible.

The purpose of the study was to examine the effectiveness of group teaching in terms of gaining knowledge of medication in reducing drug errors. Random selection of patients was carried out without any attempt to control the variables. As the literature indicates that certain factors, such as severity of illness, the complexity of the medical regimen and psychological status affect medication errors it would strengthen future studies if some attempt were made to match the experimental and control groups on these variables.

In describing the method, the author indicates that different students were involved in teaching. To me this is not as critical as the consistency of the content of the teaching programs. One concern in my mind was whether the patients receiving individual teaching on antibiotics received the same information as those in the group situation.

Standard content would be a critical factor in comparing teaching effectiveness between the experimental and control group; particularly when one examines the patients' knowledge of drug action and side effects.

Another concern, in the area of data analysis, is the inclusion of data on drugs other than antibiotics. In the analysis of data in the area of methods of administration the author cites three problems, all of which were related to drugs other than antibiotics. We do not know whether these are significant in terms of group versus individual teaching, as we do not know whether any teaching had been given to patients other than that related specifically to the use of antibiotics.

For these reasons one cannot say that the hypothesis that group methods were more effective than individual teaching was verified on the basis of the evidence presented. It was demonstrated however, that the patients who received group teaching appeared to have a sound knowledge of antibiotics, their action, side effects and modes of administration.

While commending the intent of the study a tightening up of the methodology and analysis would enhance the value if replication was considered.

It must be questioned how widely group techniques can be utilized. From an economical point of view group teaching is a plus. One can see it utilized in relation to insulin, to cardio-vascular drugs, but in many instances where patients are on multiple medications one wonders how learning situations could be structured to meet group needs.

Individual problems such as the failure to take medication on the part of one patient due to his difficulty in swallowing his pills, suggest another area for nursing study. Problems of this nature would be more likely to respond to an individual rather than a group teaching approach, as assessment of individual needs would be the basis on which such education would need to be based.

RESPONSE TO "A PRELIMINARY STUDY DESIGNED TO EXPLORE THE DIFFERENCE IN EFFECTIVENESS OF GROUP AND INDIVIDUAL TEACHINGS IN SELF-MEDICATION"

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How best to teach patients to follow their health regimen, especially the correct administration of medications, is a question of paramount importance to health professionals. The literature is full of articles demonstrating the extent to which such regimens are ignored or misunderstood and errors made, and with a variety of suggestions to improve patients' understanding and compliance.

The author explores the relative merits of individual versus group teaching. This is certainly an important topic, one that could add to our understanding and to the development of better teaching methods to improve compliance.

The design of the study is clearly stated and the use of one classification of drugs makes it easier to compare the experimental and control groups. The limitations of the study are also clearly stated.

There are, however, several omissions that are vital to assessing the outcomes of the study. We are not told the age, sex and diagnosis of the participants, nor the frequency and route of administration of the drugs in each group. The small number of patients involved in this study makes it difficult to come to any firm conclusion, and the significance of the differences is difficult to evaluate.

For both groups, it is important to describe the methods used to instruct the patients, as well as the length of, and the time chosen for, each instructional session. Basic teaching-learning strategies should be defined in setting up such a study or the results, good or bad, may erroneously be attributed to the stated hypothesis when in fact it may be due to the teaching methods.

These principles of learning must be considered in order to have a positive learning outcome either in individual or group teaching:

1. Readiness to learn. Selecting a time and place when the learner is physically and emotionally able to learn and is free from other distractions.

2. Establishing a felt need on the part of the learner to learn. Information that is meaningful is more easily learned.

3. Developing clear and specific objectives. This will help the learner understand what the goals are. It also involves demonstration and return demonstration with immediate feed-back, as, for example, in the correct way to use eye drops or insert a vaginal suppository.

4. There needs to be satisfaction from learning. This can be planned for by going from the simple to the complex, from the known to the unknown, in graded steps suited to the learner.

5. Teaching in small units. One needs to adopt the teaching plan to the learner's ability, his state of health and his attention span.

While Choi-Lao's study has led her to conclude that group teaching sessions are more effective than individual ones, many other circumstances may affect the choice of a teaching arrangement — for instance, economy, convenience, availability and expertise of personnel. The basic teaching principles, however, remain the same.

There are many well-developed ideas and methods in this study, but also some obvious gaps, as I pointed out. What would need to be done to round the study out, is to describe the two groups to see how they match for age, sex, number of drugs prescribed and route of administration. It would be useful to get some statistical advice as to the numbers in each group to allow for significant differences to evolve. The instructional methods would have to be described, and be similar in both groups — it is important to have the two groups as similar as possible except for the variable being tested, in this instance individual versus group teaching.

I do not think these suggestions would put an unreasonable burden on the author but would help her test her hypothesis more appropriately.

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A PRELIMINARY STUDY ON THE EFFECT OF ROLE MODELING ON ANXIETY IN MOTOR SKILL PERFORMANCE AND THE EFFECT OF SELF CONCEPT IN MOTOR SKILL PERFORMANCE

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First-year university nursing students undergo anxiety in performing basic nursing skills, particularly in the clinical setting. This is especially evident when administering an injection. At the time of giving the first injection, behavior such as shaking of hands, giggling, excessive talking, blushing, pallor and finally, verbalization of concern has been observed. Fourth-year nursing students, when asked to list the experiences which they felt caused the greatest anxiety in their nursing course, listed as their first or second choice the giving of an injection. In this study, an attempt is made to investigate whether a student's self concept influences anxiety in skill performance, and whether role modeling in the clinical setting reduces anxiety in skill performance.

Students enter the university nursing program at a time when the majority are completing the developmental tasks of adolescence. While acquiring stereotypical roles, the student is learning to cope with her own feelings. Her self-image and role identity are developing and therefore she is not an action-oriented practitioner (Dye 1974). The lower a subject's self-esteem level, the more likely she would report physiological indicators of anxiety: hand shaking, nervousness, heart pounding, palmar perspiration, etc. (Rosenberg 1966). The anxiety is manifested by interference with thinking processes and concentration, feelings of uncertainty and helplessness, blocking of communication and emotional preoccupation. Rosenberg concludes that people with low self-esteem were more likely to experience anxiety than subjects with good self-concept. As well as adjusting to the demands of university, and to the hospital as a laboratory setting, the young adult must be prepared to undergo strain exhibiting this in anxiety (Dye 1974:301). First-year nursing students, while adjusting to feelings about suffering and illness and scholastic responsibilities as they learn to apply theory to practice, find their

* The authors gratefully acknowledge the assistance and support of Dr. J. Hritzuk, Department of Educational Psychology, University of Calgary, during the writing of this paper.

most difficulty adjusting in the hospital setting. They learn that both the setting and the experiences are very real and highly intense (Smith 1966). In addition, skills which are learned in the classroom and university laboratory are performed in a hospital setting with live patients. There are few similarities between the settings which would promote the transfer of learning.

During the cognitive phase of skill development, the instructor and student analyze the skill and verbalize what is to be learned. In the nursing course, the authors suggest that alternate teaching methods might enhance student learning and reduce anxiety during this phase of skill development.

Bandura's (1963) theory of observational learning seems appropriate to the learning of injection administration; he found that the learner will produce the novel response some time later without previously having performed the skill. Two factors involved suggest the applicability of this theory to the nursing skill. Firstly, the stimulus properties of the model (e.g. female, registered nurse) promote identification, and, secondly, the consequences of the model's behavior are reinforced by the patient through responses such as "I didn't even feel it", or, "it didn't hurt at all". By having the student observe a model, we increase the initial probability that a response pattern resembling the one observed will occur (Hilgard 1966:534).

The "whole training method", whereby the student performs the entire skill, is a more efficient way of learning than the "part training method" for highly organized and difficult skills (De Cecco 1974:245). The injection of a medication could be classified in this former category. Hence, role modeling would enable students to observe the entire sequence of sub-tasks.

THE PROBLEM

Role modeling in the hospital setting should contribute positively in learning to give an injection. Firstly, the student would be observing the whole training method; secondly, transfer of learning from classroom to a new setting would be promoted; and, thirdly, we would expect the learner to produce the response pattern more readily because of the stimulus properties of the model. The student's anxiety should be reduced. Students with high self-esteem should exhibit fewer symptoms of anxiety and, conversely, the opposite should be true. Within the limits of this study, self concept should relate to anxiety.

For purposes of this study, the following definitions were accepted:

Anxiety — a reaction to a stimulus which is recognized introspectively by the subject as anxiety and which produces a pattern of behaviour, both physiological and psychological, that is observable by the subject or other people (Munday 1973).

Self concept — a group of feelings and cognitive processes which are inferred from observed or manifest behaviours (Purkey 1972).

Modeling — the production of discrete responses demonstrated by a model (Hilgard 1966)

NULL HYPOTHESES

Role modeling in a clinical setting has no effect on anxiety levels of first-year nursing students when learning to administer an intramuscular injection.

Self concept has no effect on anxiety of first-year nursing students when learning to administer an intramuscular injection.

SAMPLE

The sample consisted of twenty-eight first-year female nursing students. The students were matched according to their grade point averages into a test and control group on the basis of Spielberger's investigation of anxiety (Kimble 1963).

INSTRUMENTS

Physiological responses to stress can be measured. High correlations between heart rate and psychological ratings of anxiety are reported (Cattell 1963). After considering many alternatives, Munday (1973) used a straight forward count of the radial pulse as a measure of anxiety. On this basis, radial pulse was accepted for the study.

In consultation with the Faculty of Medicine and the Faculty of Physical Education, two tests for palmar sweat were also used to measure anxiety. Firstly, an area of the right palm was painted with colorless tincture of iodine, allowed to dry and then pressed against Whatman number two filter paper which previously had been dusted with a fine starch powder. The test was performed before and after the intramuscular injection administration. Areas of sweat would appear as dark circles on the filter paper; the size and number would indicate approximately the amount of perspiration. Secondly, a semi colloidal suspension of graphite in ethylene dichloride, formvar, butyl phthalate and ethylene dichloride was applied to alternate index fingers, and then the dry plastic was lifted onto a piece of scotch tape. The results would then be transferred to a microscopic slide which, when enlarged, would show numbers of black dots indicating sweat gland orifices.

The Tennessee Self Concept Scale, developed by Fitts in 1963, was used to assess each subject's self concept. The advantages of this scale

are that it is easy to complete, widely applicable, well standardized and multi-dimensional in its description statements (which the subject uses to portray his own picture of himself), and it can be completed in ten to twenty minutes. The total positive score (P) is the most important single item and reflects the overall level of self-esteem. Persons with high scores tend to like themselves, feel they are persons of value and worth, have confidence in themselves and act accordingly. The distribution score (D) is a summary score of the way one distributes his answers across the five available choices in responding to the items. It is interpreted as a measure of still another aspect of self-perception. High scores indicate that the subject is very definite and certain in what one says about himself (Fitts, 1963).

PROCEDURE

In learning to administer medications, teaching methods included lectures, videotape demonstrations, slide-tape demonstrations and availability of equipment for student practice. The test group observed a registered nurse perform the skill in the hospital whereas the control group did not. Two days following the role modeling, the students completed the Tennessee Self Concept Scale. Their radial pulses were taken and recorded. The two sweat tests were administered and the subjects gave the intramuscular injection. The three physiological measures were then repeated.

ANALYSIS

ANALYSIS OF VARIANCE: $N = 28$

Source of Variation	df	Mean Square	F ratio
Variable: experimental-control	1	4.762	
base, pre, post pulse	2	632.710	12.31**
students (within groups)	26	289.850	
group x base, pre, post	2	61.760	1.20
students x base, pre, post	52	51.390	

DESCRIPTIVE STATISTICS ON PULSE RATE, "D" AND "P" SELF CONCEPT DATA

EXPERIMENTAL GROUP $N = 14$

	Mean	S.D.	Pearson Correlation Coefficient				
			Base	Pre	Post	D	P
Base pulse rate	77.4	7.82	1	x	x	x	x
Pre pulse rate	82.1	9.69	0.765**	1	x	x	x
Post pulse rate	83.7	9.64	0.557*	0.742**	1	x	x
"D" ₁ self concept	108.4	21.60	0.315	0.390	0.264	1	x
"P" ₂ self concept	338.9	35.68	0.446	0.605*	0.374	0.754**	1

CONTROL GROUP N = 14

	Mean	S.D.	Pearson Correlation Coefficient				
			Base	Pre	Post	D	P
Base pulse rate	73.6	10.68	1	x	x	x	x
Pre pulse rate	82.9	11.09	0.638**	1	x	x	x
Post pulse rate	85.4	17.38	0.624**	0.608*	1	x	x
"D" ₁ self concept	95.0	25.45	0.530*	0.316	0.090	1	x
"P" ₂ self concept	329.0	28.49	0.359	0.232	0.029	0.883**	1

*p equal to or less than .05

**p equal to or less than .01

D - descriptive score for Tennessee Self Concept Test

P - total positive score for the Tennessee Self Concept Test

RESULTS

Role modeling in a clinical setting has no effect on the anxiety levels of first-year nursing students when learning to administer an intra-muscular injection. Interaction between base, pre and post factor and experimental control (e.g. treatment) factor is moderate and not significant at the five per cent level. One cannot argue that treatment had a differential effect or had an effect superior to no treatment.

The change from base to pre to post in pulse rate was highly significant, which suggests that a situation causing physiological changes in pulse measurement occurred around the time of recording of pulse rates taken before and after the injection.

Self concept has no effect on anxiety in first-year nursing students when learning to administer an intramuscular injection. In the experimental group, the pre pulse rate was significant with one of the self-concept scores.

Although much effort was involved in testing palmar sweat, the volume and storing of the results unfortunately precluded the gathering of any conclusive data.

SUMMARY AND DISCUSSION

The significant change in pulse rate may not have been due to the injection procedure but rather to other factors such as completing the self concept test, being supervised while giving the injection or merely waiting one's turn to give the injection. The pre pulse rate which was significant with one of the self concept scores in the experimental group could suggest a relationship between self concept and anxiety. It is not conclusive evidence that self concept and anxiety are related factors in giving an intramuscular injection.

The hospital environment was difficult to control due to the necessity of co-ordinating the staff member, patient care, a sufficient

number of injections at the right time and viewing of the whole procedure by all students. Two role models were used on different wards to ensure a sufficient number of injections, as well as adequate space for each student to observe the procedure within the confines of the small patient's unit. Differences could occur due to differing model stimulus properties. As well, some of the control subjects observed administration of an intramuscular medication in the hospital prior to the study; incidental learning in the clinical setting is hard to assess and control.

Two observers were required to record pulses and administer the sweat tests when the study was done and presumably discrepancies could occur. Electrical devices were not used to eliminate observer error in pulse recording.

A teacher's perception of a student's self concept does not relate to scores on the self-concept scale. In fact, such characteristics as quietness, withdrawing, nervousness and not speaking out are probably more related to the introvert-extrovert dichotomy rather than self-concept.

The investigation of two hypotheses, although convenient regarding subjects, time, numbers, etc., made the study itself unwieldy. The time relationship between theory, modeling and performance did not appear to create obstacles for skill development. A pretest was not used as the validity of the physiological measures was well documented and the self-concept had previously been tested.

Testing the anxiety level by physiological means and self-concept tool using a recognized scale is not specific enough to measure the effect of modeling. Our preliminary investigation could be repeated and measured by an evaluative tool which would indicate the subject's level of proficiency. Such a tool might be based upon behavioural objectives as well as a videotape of the performance so that it could be judged by independent observers.

Since the optimal arousal level for peak performance is important during the early stages of skill learning it may be more pertinent to manipulate the subject's state of arousal as measured by physiological indices such as palmar skin conductance, blood chemistry, changes or circulatory responses (Stallings 1973).

Bandura suggests that following observational learning, immediate reinforcement by verbal description is very meaningful (Hilgard, 1966). Hilgard (1966) states that further benefit is derived from actual practice and reinforcing feedback rather than further observation. The effect of immediate reinforcement may be the most positive contributing factor in skill learning.

As many complex skills are learned by first-year nursing students, teachers should consider all the variables in learning a particular motor skill. If anxiety is markedly increased in students, our teaching methods should be adapted accordingly.

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TEACHING CONTINUITY OF CARE THROUGH POST-HOSPITAL VISITS BY THE STUDENT NURSE

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Le programme de nursing de l'université d'Ottawa comporte, dans le cadre du cours de base en médecine-chirurgie, des visites de rappel à domicile une fois que les patients sont rentrés chez eux. Le projet-pilote de deux ans qui a précédé le programme actuel est exposé dans le présent article. L'objectif central de l'expérience est d'assurer que les soins dispensés à l'hôpital se continuent à la maison. Les malades visés par ce programme appartiennent à une catégorie bien définie : ce sont les patients à qui on donne leur congé sans pouvoir les recommander aux soins d'un service infirmier de la localité, bien souvent parce qu'il n'en existe pas. Nous croyons que ces visites contribueront de façon positive à la formation de l'étudiant en nursing et que, bien entendu, elles seront également tout à l'avantage du client.

Nursing students at the University of Ottawa make post hospital visits as part of their basic medical-surgical course. The two year pilot project that preceeded the present program is presented in this paper. The central objective of this experience is to provide continuity of care from the hospital setting to the home. The patient population is specific, those discharged independent of referral to an existing community health service. It is our hope that the visits will provide a valuable learning experience for the nursing student and at the same time be beneficial for the patient.

Nurse educators and practitioners have studied our commitment to continuity of care for several years. It has become a well-established fact that we must do something about providing continuity of care for the patient.

In reviewing the research that has been published on continuity of care one important fact dominates the results: commitment to continuity of care reaches into all areas of health practise and involves every member of the health team. A definition of continuity of care was clearly established by the nursing service division of the World Health Organization as "the continued responsibility for, care of, and interest in, the person as an individual once he or she has come to our notice" (United Nations 1965). The committee that was formed to establish this definition further states, "It is felt that

the over-all health of the patient should be considered as well as the prevention of recurrence of disease.”

Our project dealt with just one aspect of nursing's commitment to continuity of care, the discharged patient, and more specifically, with the discharged patient who was not using established community nursing services such as Victorian Order of Nurses, Home Care Plan or other community nursing services.

As far back as 1958, a study was instituted by the National League for Nursing at Teachers College, Columbia University, to compare the difference in continuity of care for the discharged patient who went home independent of referral to a community agent and those who were referred for follow-through care (Smith 1962). The well-documented findings of this study show that nurses participated in discussion of follow-up care with referred patients while few nurses gave instructions to the non-referred patients. This finding was documented again in a study done twelve years later in England that will be discussed next. Much of the data gathered by Louise Smith's study relating to continuity of care for the referred patient has been successfully implemented.

The Dan Mason Nursing Research Committee of Great Britain carried out a study to discover what patients themselves see as their home care needs (Skeet, 1970). Some important patient needs were established; a summary follows. Life is often grim for both the patient and the family after discharge. Communication is one of the greatest needs, as patients lack information about their illness and treatment and hospital staffs lack information about the patient's home condition. There is also a lack of discharge planning. The study established that for post-hospital care to be continuous, it must be planned before discharge. This was seldom done. The study presented several criteria identified by patients to help them meet their needs after discharge. Among these are: two-way communication between hospital authorities and patients, allowing information to pass to the patients and the staff; advance notice of discharge to allow for adequate arrangements; and written discharge instructions on patients' activity, diet, prostheses, and effects of drugs and treatments.

Several studies on continuity of care have been carried out in Canada in recent years. One of particular interest to nursing education is the Comprehensive Health Care Project initiated by Dalhousie University. In 1969 nursing students were included in the study (Elahi and MacDougall, 1972). The purpose of the study was to provide the student with a learning experience in the health care of a family in the community, as a member of a multi-disciplinary team.

The results relating to the student nurses' participation in the team were significant. The study showed that the role of the nursing student in the community setting is not well-defined and patients failed to call the nurse for direction or information when they had a health problem. The nurse was called first in only 1.8% of the cases studied, but the study also established that when the nurse was called the patient found her helpful. It is clear from the findings of this study that nursing must establish a clear-cut role as health educator to the patient in hospital before returning to the community.

In a report by Louise Smith, published for a workshop on the role of the nurse in continuity of patient care, clear directives are given to the nurse (Straub and Parker, 1966). She states that the hospital nurse has a distinctive opportunity and an important responsibility in giving conscious consideration to what the patients may need on discharge and follow-up care. In this study, she found that nurses fail to talk with one-half or more of the non-referral patients about their follow-up care. These findings support data from her study previously presented, and emphasize her directives to nursing to establish a teaching role with the patient in hospital to prepare for discharge and follow the patient into the community to provide continuity of care.

THE PROJECT AND SURVEY RESULTS

On the basis of findings of available research, the nursing faculty of the University of Ottawa planned a program to get the nursing student actively involved in continuity of care. By visiting non-referred discharged patients in their homes, it was predicted that the experience would have significant effects on their future nursing practise in hospital.

The students involved were in the second year of a four year university nursing program. The experience was part of the basic medical-surgical nursing course that comprises the entire second year of the program. Two visits were made by each student, one in the first semester, one in the second semester, to a different patient each time. In the first visit the student's skills of assessment were emphasized and a structured guide was followed. The focus was on common problems of the discharged patient as established by Lynne Deakers (1972) in her project on continuity of family-centered nursing. In the second visit, the student was asked to use the nursing process to develop an effective teaching plan.

The students were given two days of clinical experience each semester to complete their assignment. In this time, they were expected to select a patient, preferably one they had cared for in hos-

TABLE I
 PATIENTS' VIEW OF THEIR PREPARATION
 FOR DISCHARGE FROM HOSPITAL. N = 50

Area of preparation	Patients say they were prepared for discharge in this area			
	By doctor		By nurse	
	No.	%	N.	%
Activity	38	76	16	32
Hygiene	19	38	12	24
Drugs	25	50	11	22
Treatments	30	60	10	20
Follow-up	39	78	6	12

pital, and prepare for their visit. The students soon found that to make an effective visit and provide continuity of care they must be well prepared for the visit. Many hours were spent researching patho-physiology, current therapies, drugs and nursing interventions. There was a high level of apprehension, especially for the initial visit, as this was the first time they would leave the security of the hospital setting to further their nursing care plan independently. Individual pre-visit conferences were given to each student to assess that she was adequately prepared. The visit was made and a post conference was held with all the students sharing their experience. The post-conference proved to be most interesting and rewarding. Sharing their successes and inadequacies was profitable for all. It was an opportunity to tell about problems encountered such as getting lost, problems with dogs, and talkative patients, and a time to share the joy of helping the patient in the accomplishment of a new, challenging task.

A survey was taken on the 50 visits made in the fall semester of 1974. Each patient was asked "Were you prepared in hospital for your discharge by your nurse or by your doctor in the following areas?" The problem areas identified in Lynne Deaker's project (1972) were investigated. Results are shown in Table 1.

The results of this survey were very significant to the nursing student. In the 50 cases studied, the nursing student had cared for the patient in hospital in 34 instances or 68% of the patients studied. The fact that the patient lacked preparation to manage the identified problem areas and that the nurses did less teaching than the physicians in all areas, was a revealing experience. The survey supported

previous research studies and clearly established to the student, the need to prepare her hospital patient for discharge.

TYPES OF LEARNING ACCOMPLISHED

It was our objective as a faculty, to make the students aware of the need for continuity of care and to identify teaching needs in hospital before the patient returns home. As a learning experience, results of the project were most encouraging. In evaluating the experience, the nursing students indicated that this main objective was met and that their learning was significantly influenced to make them more aware of the need for teaching and preparation after seeing the patient in the home setting. In one student's words, following a visit to a patient with acute narrow angle glaucoma, "The questions that the patient asks during a home visit makes us discover some of the learning needs that could have been met in the hospital setting" (Pitre, 1974).

Not only was the main objective met, but several other areas of learning were influenced by this experience. This student further states that the experience gave her a total picture of the patient. This comment was made repeatedly by the students evaluating their experience. They felt that by seeing the patients in the home setting they were able to see them more clearly as individuals with individual, family and community needs.

It was interesting to note the other aspects of learning that were affected by the experience and commented on in their evaluations. Some of the positive comments are summarized below.

- with each home visit I improved my interviewing skills
- I have much more confidence in dealing with people
- it gave a break from the everyday nursing in hospital and got you more involved in the community
- we see the functions of the public health and social service people in the community
- I'm glad I spent so much time preparing for the visit because I really had to know my work in order to be able to teach her what she had to know.

We felt our objective was met by the positive response of the students and the effect it had on their learning. We were more than confident that through the program of post-hospital visits the nursing student would improve her efforts in preparing the patient for discharge. We also felt that by following the non-referral patient to the home setting, the student could extend her care established in hospital and become actively involved in the continuity of care.

The project was a rewarding experience to the faculty and to the nursing students. Based on the results of this pilot project, post-hospital visits have been integrated into the basic medical-surgical program. It is our hope that the patients also benefit from this program.

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QUERY and THEORY

Query: In the recent Report of the Task Force on Health Research Requirements (Ontario Ministry of Health) and The Report of the Commission on Canadian Studies (A.U.C.C.) have called attention to the acute shortage of Canadian nurses prepared for or involved in research. Our question is, what is the response, if any, of the undergraduate faculty to rectify this situation? (a) How might one introduce and develop the concept of research in the baccalaureate program? and (b) In what ways, if any, are university schools of nursing assisting with the interpretation and implementation of research to improve nursing practice? We would be very interested in having a response to this very important issue.

Mary Rakoczy,
Assistant Professor, School of Nursing
Queen's University

Query: Is anyone else developing their curriculum around the theme or framework of Adaptation? The Faculty of Nursing, University of Calgary are working on curriculum revision, using Adaptation to Life as the overall concept and Roy's Adaptation Model as the framework. We would love to share with other faculties the curriculum planning around this theme and/or framework — i.e. identified steps to implementation, problems currently encountered, solutions as they are found and so on. It would be helpful to have an open dialogue in this column — or even to know which other programs are using the same theme. Perhaps we could develop some ways of sharing resources, information on materials previewed and costs of resource persons.

Colleen Stainton
Chairman, Curriculum Committee
Faculty of Nursing
University of Calgary



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A three year program to prepare for leadership roles in nursing.

- General and professional courses with nursing experience in McGill teaching hospitals and selected community agencies
- Entrance — collegial diploma (D.E.C. Sciences) or the equivalent OR collegial diploma (D.E.C. Nursing) or equivalent along with work record; chemistry, mathematics; and a licence to practice nursing. (Detailed admission requirements available from the Admissions Office of McGill University).

MASTER OF NURSING

Teachers of Nursing in the rapidly expanding college system for Nursing Education.

- One calendar year for nurses graduated from basic baccalaureate programs (4-5 year integrated program).

MASTER OF SCIENCE (APPLIED)

Options:

- (1) Specialist in Nursing in all clinical fields (Nurse Clinician), including the expanded function of Nursing in Family Health and Community Health Centres.
- (2) Research in Nursing and Health, including evaluation of health care and delivery systems
 - Two academic years for nurses with a B.N. or B.Sc.N.
 - Persons holding a degree comparable to the B.Sc. or B.A. degrees at McGill may be admitted following successful completion of a Qualifying Year in Nursing.

For further particulars, write to
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McGill University
3506 University Street
Montreal, P.Q. H3A 2A7