NURSING PAPERS
PERSPECTIVES EN NURSING

A Nursing Research Committee within an Acute Care Setting: Its Inception and Development

Développement d'une mesure de rétablissement postopératoire

Duration Experience: A Useful Theoretical Construct for Nursing Theory and Research

Interdisciplinary Education: Idealism and Realism

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      4. Can the findings be justified by the data presented?
      5. Are the implications based on the findings?

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Are the ideas developed logically? Are they expressed clearly? Is the length appropriate to the subject? Does the number of references or tables exceed what is needed?

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La revue *Nursing Papers/Perspectives en Nursing* est à la recherche d'articles ayant trait aux sciences infirmières, notamment d'articles qui évaluent des problèmes, qui posent des questions ou qui décrivent des idées et des plans d'action dans le domaine de la recherche, de l'éducation, de l'administration et de la pratique. Veuillez adresser vos manuscrits au rédacteur en chef, *Nursing Papers/Perspectives en Nursing*, Ecole des sciences infirmères, Université McGill, 3506 rue University, Montréal, P.Q., H3A 2A7.

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La longueur acceptable d'un article doit osciller entre 10 et 15 pages. Des articles plus longs peuvent être acceptés si leur contenu le justifie. Les articles peuvent être rédigés soit en anglais, soit en français et ils doivent être accompagnés d'un résumé de 100 à 200 mots (si possible, dans l'autre langue). Veuillez remettre l'original des schémas qui doivent être publiés avec l'article, dessinés à l'encre de Chine et prêts à être photographiés. Les auteurs sont tenus de suivre les consignes énoncées dans le manuel de l'American Psychological Association (2^{e} édition, Washington, D.C., A.P.A. 1974) en ce qui concerne le style et le contenu de leurs articles.

NOTES ET BIBLIOGRAPHIES:

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Les manuscrits présentés à la revue *Nursing Papers/Perspectives en Nursing* sont évalués par un Comité, qui formule des suggestions et recommande l'acceptation, le refus ou le remaniement de l'article avant sa publication.

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A. Validité interne —

1. Le problème dont traite l'article est-il clairement défini?
2. La forme des recherches ou la structure de l'essai sont-elles appropriées à la question soulevée?
3. Les méthodes statistiques, logiques et les modalités de recherche sont-elles appropriées?
4. Les conclusions peuvent-elles être justifiées à l'aide des données présentées?
5. Les implications de l'article sont-elles fondées sur les conclusions?

B. Validité externe —

1. Le problème soulevé présente-t-il un intérêt véritable?
2. Ce problème est-il d'actualité?
3. Existe-t-il des problèmes de divulgation ou de déontologie?
4. Les conclusions de la recherche ou de l'article sont-elles importantes?
5. Ces conclusions ou résultats peuvent-ils s'appliquer à d'autres situations?
6. Est-ce que l'article contribue à l'avancement du savoir dans le domaine des sciences infirmières? De quelle façon?

II. Evaluation de la présentation

L'auteur développe-t-il ses idées de manière logique? Les exprime-t-il clairement? La longueur de son article est-elle appropriée au sujet abordé? Est-ce que le nombre de notes ou de tableaux dépasse le strict nécessaire?

Les articles rédigés par des gens qui n'appartiennent pas à la profession d'infirmière ou qui ne sont pas citoyens canadiens ne sont retenus que dans la mesure où ils ont trait à la scène des sciences infirmières au Canada.

Les manuscrits sont examinés de façon anonyme; l'examinateur n'a pas connaissance du nom de l'auteur ou du nom des autres examinateurs. Lorsqu'un manuscrit est renvoyé à son auteur pour qu'il le remanie, trois exemplaires dudit manuscrit remanié (daté et portant l'inscription "revu et corrigé") doivent être renvoyés au rédacteur en chef dans les quatre semaines.

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Chaque auteur est avisé de la date de publication de son article à l'avance et deux exemplaires de la revue lui sont adressés à titre gracieux en même temps que la revue est expédiée à ses abonnés.

EDITORIAL

There is both an individual and professional need for a scientific publication in Canada. Production of and support for such a scientific publication can be viewed as a collective responsibility and the University of Alberta may be seen as assuming part of its collective duty by undertaking to work with McGill University on this year's edition of *Nursing Papers*. In line with this principle, it is scientific need which should determine the selection of articles for publication. The tradition of a refereed journal serves to meet this goal.

While the University of Alberta will be open to receive any scholarly articles, there is a need for reports on research in progress, particularly research related to nursing practice and manuscripts in this area will be particularly encouraged. We would like to see the base of contributors widened beyond the confines of the universities so that all nurse scholars and researchers, regardless of their place of employment, would see *Nursing Papers* as a vehicle for sharing their ideas and their research.

Comments or suggestions from readers on measures to increase the visibility of *Nursing Papers* will be welcomed as continued funding in Alberta is dependent on increasing circulation. Expanded sales and an increase in contributors is the collective responsibility of all Canadian University Schools of Nursing.

Peggy-Anne Field
Professor
University of Alberta

ÉDITORIAL

La nécessité d'une publication scientifique au Canada se fait sentir tant sur le plan individuel que professionnel. La production d'une telle publication et l'appui qu'on lui accorde constituent un travail collectif et l'université de l'Alberta assumerait sa part de responsabilités collectives en collaborant avec l'université McGill à l'édition de cette année des *Perspectives en nursing*. En application de ce principe, ce sont les impératifs scientifiques qui dicteront le choix des articles destinés à la publication. La tradition d'un journal doté d'un comité de révision sert précisément à atteindre cet objectif.

Bien que l'université de l'Alberta accueille tous genres d'articles scientifiques, le besoin de rapports de recherche sur des travaux en cours, tout particulièrement ceux qui visent l'exercice des soins infirmiers, nous incitera à favoriser davantage ce type de manuscrits. Nous aimerions que la gamme des participants à *Perspectives en nursing* s'étende au-delà du milieu universitaire, afin que tous les scientifiques et les chercheurs dans le domaine des soins infirmiers, quel que soit leur lieu de travail, voient en cette publication un moyen de diffuser leurs idées et le fruit de leurs recherches.

Tous commentaires et suggestions des lecteurs visant à accroître la diffusion de la revue *Perspectives en nursing* seront accueillis avec plaisir puisqu'en Alberta, le maintien des subventions dépend de l'augmentation du tirage. Il revient donc à tous les membres des écoles de sciences infirmières du Canada de prendre des mesures pour augmenter le nombre d'abonnements et celui des collaborateurs.

Peggy-Anne Field
Professeur
Université de l'Alberta

NURSING PAPERS
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A NURSING RESEARCH COMMITTEE WITHIN AN ACUTE CARE SETTING: ITS INCEPTION AND DEVELOPMENT

C. CÉLESTE JOHNSTON
Nursing Coordinator

JUDITH COLLINGE
Nursing Consultant

Montreal Children's Hospital
McGill University

RATIONALE FOR NURSING RESEARCH COMMITTEE

The Nursing Department of the Montreal Children's Hospital formed a Nursing Research Committee in the spring of 1979. There were five major reasons for this development.

First, there was felt to be a need for nursing research in acute care settings which has direct relevance for nursing practice. This did not discount the value of nursing research in other settings, or research by other disciplines, but rather recognized a specific vacuum. Nurses whose practice takes place in acute care settings may have unique problems for nursing research that arise from their daily experience, rather than from the literature, where their university-based colleagues may first identify an area for research. Johnson (1974), among others, has emphasized the distinctiveness of nursing research which has as its focus, living and coping with circumstances and environments to promote healthy adaptation, rather than the causative-curative medical model usually associated with research in acute care settings.

Second, nursing research in an acute care setting not only affects nursing practice but also enhances nursing's image as a profession among other professions. Professional activities by definition include systematic inquiry into practice (Schlotfeldt, 1977).

Third, more nurses were being hired who were educated at universities. A forum such as a nursing research committee was needed to foster their professional development through discussions of research for nursing issues.

Fourth, students in post-basic nursing programs in two universities were using our hospital for research without on-site personnel to coordinate and facilitate their studies.

Fifth, and perhaps most important, all levels of our nursing staff needed education about research and its implication for our profession. This included the need to evaluate our practice critically, to ask questions about our practice, and to test ideas in a systematic manner.

RELATIONSHIP TO RESEARCH INSTITUTE

The McGill University-Montreal Children's Hospital Research Institute began operation in 1974. Its main responsibility was the scientific review of all research proposals to take place in the hospital and/or involving its patient population. Approval from this institute had to be obtained before proposals could be submitted for mandatory ethical review by the Hospital Ethics Committee. There was no nurse representative on the Research Institute Scientific Review Board, but the Director of Nursing was a member of the Hospital Ethics Committee. The few nursing proposals that had been developed within the hospital were not submitted to the Research Institute. Projects undertaken by university nursing students were neither reviewed nor coordinated in any systematic fashion within the hospital. These students would contact a hospital staff member, not necessarily in the Nursing Department, who would act as liaison between the student and the hospital. This practice frequently led to problems, such as overuse of certain patient populations and facilities, and a lack of support from other hospital staff. It was clear, then, that the Nursing Department required a mechanism to provide professional scientific review for nursing research proposals and to interface with the Research Institute and the Hospital Ethics Committee for persons desiring to undertake research.

Certain developments in nursing at the Montreal Children's Hospital occurred three years after development of the Research Institute. The two authors had both been hired with research mandates: one as a nursing coordinator responsible for research within the nursing department, and the other as a research nurse in the department of Neonatology. With these mandates for research sanctioned by the hospital and encouraged by the Director of Nursing, the two nurses were able to respond to the situation by forming a Nursing Research Committee. Five persons volunteered for membership initially and monthly meetings began in the spring of 1979. The mandate was to review all nursing proposals to be carried out at the Montreal Children's Hospital before their mandatory submission to the Research Institute. Initial activities of the Committee centered on: 1) development of guidelines and formats for submitting nursing research proposals to the Committee; 2) development of closer contracts with institutions desirous of performing nursing research at the

Montreal Children's; 3) initiation of discussion with the Research Institute regarding the role of the Nursing Research Committee in reviewing and monitoring nursing research within the hospital; and 4) development of specific criteria for reviewing proposals.

In the first year, seven proposals were reviewed and approved by the Nursing Research Committee. Proposals that had non-experimental designs and did not involve patients (eg. a descriptive study of a nursing administration issue) were not submitted to the Research Institute; however, all others were submitted and received approval. The mechanism requiring approval by the Nursing Research Committee, the Research Institute, and the Ethics Committee remained a problem. The time between the initial submission and final approval could be as long as four months. As well, there was no nursing involvement in the Research Institute review process. Discussion with the Institute over the two years of committee operation has resulted in a more efficient and acceptable mechanism. In future, all nursing research proposals will be reviewed for scientific merit jointly by the Nursing Research Committee and a non-nursing member of the Scientific Review Committee of the Research Institute. Following approval by this group, proposals will be sent for ethical review. This change is considered a breakthrough in decreasing by more than half the time required for scientific and ethical approval. More significantly, this change indicates a degree of recognition by the Research Institute of the capability and appropriateness of the Nursing Research Committee to perform the scientific review of nursing research proposals. Discussion with the Research Institute has also led to consultation with the Nursing Department, concerning research-related duties of nurses working in areas where a non-nursing research project is proposed.

DEVELOPMENT OF COMMITTEE

At the end of the first year, the Nursing Research Committee had grown from five to ten members, and the mandate had been expanded to include the following functions:

1) Approve all proposals for nursing research to take place within the hospital or its agencies.
2) Act as resource persons for nurses wishing to conduct research.
3) Stimulate development of nursing research projects.
4) Encourage utilization of results of nursing research in the clinical area.

Priority for the second year of operation was placed on the stimulation of development of nursing research projects within the hospital, and on involvement of all levels of nursing staff in nursing research. Membership in the committee continued to increase and reached sixteen persons representing staff nurses from both in-patient areas, head nurses, clinical instructors, and coordinators. The committee began to meet weekly, owing to the interest of the members and increased activity of the committee. Because approximately half the committee members had no formal education in research, they requested a program of didactic teaching on basic research methodology and statistics. This program was presented in the latter part of the year by the authors of this article.

The Nursing Research Committee has presented itself and its work to the hospital nursing staff at Nursing Grand Rounds three times in two years. These presentations have accomplished three important objectives:

1) Acquainted the nurses with the membership and objectives of the Nursing Research Committee;
2) Increased the nurses' awareness of nursing research in progress in the hospital;
3) Demystified nursing research by presenting one project serially and thus enabling them to see a study develop from start to finish.

HIGH PARTICIPATION STUDY: IV THERAPY

During Nursing Grand Rounds, and in discussion with nurses in the different clinical areas, the Nursing Research Committee had been looking for a nursing question considered to be a problem by the nursing staff and having relevance to clinical nursing practice in various areas of the hospital. Frequent concerns regarding intravenous therapy were raised, especially in relation to the length of time intravenous needles remained in situ. The frequency with which IV's needed to be restarted was a major nursing problem, due to 1) the essential aspects of hydration and medication; 2) the lack of reserves in children to cope with periods when the IV was not functioning; and 3) the pain and stress associated with initiating IV therapy in children. Our staff nurses wished to know, therefore:

1) how long IV's actually remained in situ;
2) what factors influenced how long they stayed in (e.g. type and size of needle, age of child, type of solution);
3) why they come out (eg. interstitial, phlebitis, pulled out).

Because the problem has such immediate relevance to their cares and concerns, many nursing staff have been enthusiastic about participating in a study to find answers to their questions. As such, the development of research in this area has become one of the prime mechanisms by which the Nursing Research Committee has stimulated interest in research throughout the department. The levels of staff involved and their participation is presented below.

Number of Nurses	Group	Functions
16	Nursing Research Committee	— initiate questions — encourage discussion — formulate questions and methodology — analyse data — act as resource persons
2	Committee members (primary investigators	— develop data gathering tools — coordinate data gathering on units
5*	Unit project coordinator	— collect data from charts on units — feedback to staff re data
	All staff nurses on units	— chart information needed on IV's

* These nurses were not all Committee members and could have been staff nurse, team leader, clinical instructor, or head nurse.

The above questions were operationalized and specific factors selected and coded to form the pilot proposal by the membership as a whole. The two primary investigators collected preliminary information in a pilot study designed to gather data that was currently available from the charts. As predicted, some relevant information was missing (eg. the gauge of the needle or who started the IV). A "re-educative" presentation at Nursing Grand Rounds was given and an in-service session given on each of the participating units. A brief follow-up study showed that relevant data were then being charted. Data collection began in June, 1981. The preliminary analyses indicate some interesting associations that are currently being developed as

further proposals. There are indications for changes based on the results, such as how long an IV should remain in place before the risk of phlebitis increases greatly. These results are going before the Infection Control nursing group to be considered as a basis for policy on IV's.

This project seems to be the first in a possible series of studies of IV therapy. It has served to make the research process relevant to the bedside nurse and its findings may be utilized. Thus, an opportunity was afforded to follow a project from some initial questions to probable answers and utilization of these answers. The fact that these probable answers will continue to be evaluated through the research process further demonstrates the place of that process in an acute care setting.

FUTURE DIRECTIONS

The original needs which led to the formation of a Nursing Research Committee have been met:

1) Nursing research which was conducted by in-hospital nurses with direct implications for improving patient care was begun.
2) A forum for exchange of ideas for nursing research was developed.
3) Coordination of the research proposals of affiliating students was facilitated.
4) Education in the form of didactic sessions and Nursing Grand Rounds was instituted.

While we hope to continue in these same directions, the focus will be more on developing research within our own department. The IV study has encouraged small working groups to develop projects to such a state that funding can be sought. One group is forming to study the measurement of pain in children, and another to study maternal behaviour with handicapped infants.

Collaboration with other groups is another goal for the future. We have met with nurses outside our institution regarding replication or collaboration, but, as yet, no definitive project has evolved. Utilization of findings both from our own setting as well as from others, will also be important for the future.

Becoming known to other nursing groups and disciplines through sharing ideas is crucial to the nurturing of excellence in research. We have presented some of our work at national and international nursing meetings (Collinge, Johnston) and have published two articles (Johnston, 1980; Collinge, 1981). We hope to increase this momentum

which has begun in a setting where that precedent has not been set for nursing.

Looking back, we feel that a great deal has been accomplished in just over two years. Although much effort is required to break new ground, we have demonstrated that it is possible in this setting. There are rewards: post-basic students are asking to come to our agency for fieldwork, and to our meetings; staff nurses have inquired about the results of some of the studies; others are suggesting areas where research might be productive.

We hope to continue to build on this foundation until nursing research in some form is undertaken at all levels of nursing in our hospital. We would encourage any nursing staff considering the possibility of a venture into research to step bravely into this rewarding aspect of nursing.

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RÉSUMÉ

Un comité de recherches en soins infirmiers dans un milieu pour soins des maladies aiguës: sa formation et son progrès

Voici un aperçu de la formation d'un comité de recherches en soins infirmiers dans un milieu pour soins des maladies aiguës. Ce comité fut mis sur pied au printemps 1979 pour: 1) répondre aux besoins des infirmières oeuvrant dans un tel milieu quant à la recherche qui pourrait avoir un lien direct avec l'exercice de leur profession dans ce même milieu, 2) rehausser le statut professionel des soins infirmiers dans ce milieu, 3) répondre aux besoins faisant suite à l'accroissement du personnel infirmier détenant un diplôme universitaire, 4) coordonner le travail des chercheurs en soins infirmiers oeuvrant hors du milieu, et 5) promouvoir la pertinence de la recherche en soins infirmiers auprès du personnel infirmier.

On donne ensuite un compte rendu des progrès du comité au cours des deux dernières années. On y décrit en détail un projet découlant des préoccupations des infirmières cliniques quant à la durée des procédés par voie intraveineuse. Tout le personnel infirmier a participé à ce projet et les résultats serviront probablement de base à des modifications dans les traitements par voie intraveineuse.

RESPONSES

JUDITH A. RITCHIE
Associate Professor
School of Nursing, Dalhousie University

Johnston and Collinge have described graphically their "success story" of the establishment of a nursing research committee in an acute care setting. The nursing research activities they describe are burgeoning and gaining momentum in nursing settings all across this nation. It is my belief that such activities are essential to the development of a firm research base in nursing. The article reinforces my view that nurses are ready for involvement in research and that those with research preparation have a responsibility to collaborate with staff nurses in developing projects that seek to answer problems faced in the everyday world of practice.

The ability to accomplish the goals described within a short time frame is a clear indicator that the nursing administrators of the Montreal Children's Hospital contributed far more than "lip-service" to the development of these research activities. Research, in that institution, must be regarded as having high priority and as being worthy of reward. The success of the committee, while dependent on the skills of the two researchers, also demonstrates the enthusiasm of other members of the nursing staff for research involvement. Such enthusiasm has been experienced by several of my colleagues in their involvement with research committees or departments in acute care settings.

My own involvement with an institutional research committee has been within the School of Nursing. The contrast between the degree of enthusiasm and the productivity displayed by the members of our committee and that described by Johnston and Collinge is marked. It may be that the Terms of Reference for the School of Nursing Committee and the fact that there is already considerable ongoing research in the school contribute to the very different dynamics of the committee.

It is my experience that staff nurses are intensely interested in the research process even in institutions where there is no formal responsibility for nursing research. As my colleagues and I conducted an observational study of young hospitalized children over a 14 month period, we encountered, for the most part, tremendous cooperation from nursing staff in selecting patients and times for play interviews.

The nurses frequently asked for progress reports and repeatedly expressed interest in having the results of the study presented to them. As a result of observing the children's responses to the play interviews, the staff on one unit have asked for an orientation on using such a technique with their own patients.

The advantages of having a formalized structure for nursing research seem multiple. In the situation with which I am most familiar, nursing proposals have been reviewed by a research committee composed of medical staff. Such proposals have low priority and the time for review can be very long. Further, I believe the lack of a nursing research committee or department within a service institution, communicates that research is not a viable legitimate nursing activity. It is viewed as the territory of university nursing faculty. Although frequently expressing interest in findings of individual projects and grumbling about finding better ways to do things, the staff have no in-house forum for debate of research questions and issues.

I have some questions as to whether our aim should be to have nursing research committees in acute care settings. The danger of the committee structure is that all nursing proposals will be reviewed by that committee. It might be preferable to have a multi-disciplinary research committee which reviews all research to be conducted in the setting. A nursing research department, on the other hand, could be relieved of the review process and devote itself to the development of forums, inter-agency research interest groups, educational activities, and clinical projects.

JEANNETTE PICK
Director of Nursing
NORMA THURSTON
Research Coordinator
Foothills Hospital

There are few nurses employed in practice settings primarily for research purposes. Collaboration and the exchange of ideas among them has been limited. It is therefore reassuring to discover that the observations and experiences of others are similar to one's own. Presently in Western Canada many departments of nursing in acute care settings have expanded their interests in research. Concomitantly

they are asking questions about the appropriate mechanisms to accommodate their interests. Our hospital's research concerns and the development of a Nursing Research Committee parallel those outlined by Johnston and Collinge: our nursing practice has become more research based, the number of requests to use our facilities for research has increased. As well, in light of ever increasing costs, we are investigating alternative ways of delivering health care in cooperation with other agencies. But perhaps most importantly, our research focus is growing because of questions originating with staff nurses and relating to their delivery of patient care. This questioning has been encouraged at the level of nursing administration and support for research has been demonstrated by the recent appointment of a nursing research coordinator.

Initially it has been necessary to formalize the unwritten protocol for submission of research projects affecting nursing, as well as to determine the research scope and role of nursing in cooperation with other departments. With the acceptance of one nursing proposal and initial discussions underway concerning three others related to clinical practice, nursing research has become more visible within the hospital. It is anticipated that the formation of a Nursing Research Committee will provide the formal structure for participation in and expression and development of research interests for nurses at all levels.

Terms of reference for the Committee will encompass three components: a research focus for scientific review, formulation and participation in research projects; an educational focus to promote understanding, communication and application of research findings; and an advisory/liaison component for recommendations, coordination and facilitation of projects. A main objective for the committee will be the continued stimulation and development of proposals within the nursing department.

Nursing research committees in practice settings are new and have arisen because of a need. As other similar committees come into existence their members will have a responsibility and a mandate to communicate findings and share experiences so that the practice of the nursing profession is grounded in scholarly inquiry.

DÉVELOPPEMENT D'UNE MESURE DE RÉTABLISSEMENT POSTOPÉRATOIRE

RAYMOND GRENIER
Professeur adjoint
LOUISE LÉVESQUE
Professeur agrégé
Faculté des sciences infirmières
Université de Montréal

En sciences infirmières, le nombre restreint d'instruments de mesure valides et fidèles constitue une difficulté pour les chercheurs et les praticiens. Cette difficulté s'accentue lorsqu'en plus ces instruments doivent être de langue française. Le domaine des soins infirmiers aux clients de chirurgie n'échappe pas à ce manque d'instruments. Ainsi, un instrument de mesure du rétablissement postopératoire fut développé, lors d'une étude pilote (Grenier, 1977), en vue d'une recherche évaluative d'un programme d'enseignement préopératoire. Dans cette recherche évaluative (Lévesque, Grenier et Kérouac, 1980)*, plusieurs effets étaient mesurés dont, entre autres, le rétablissement postopératoire. Le but de cet article consiste à présenter la méthodologie utilisée dans le développement et la validation de cet instrument de mesure. L'article comprend quatre volets principaux: la présentation de l'instrument, la description de l'échantillon et du processus de validation ainsi que la conclusion et les recommandations.

PRÉSENTATION DE L'INSTRUMENT

Le contenu

L'instrument dénommé "inventaire du rétablissement postopératoire" (IRPO) mesure le rétablissement postchirurgical qui se définit comme la reprise graduelle, jusqu'à un niveau optimum, du fonctionnement physique et émotionnel de clients opérés. Le rétablissement comprend trois composantes: l'état de bien-être, les sensations de douleurs ressenties par les opérés et l'habileté physique

• Subvention de Santé et Bien-être social Canada, Projet 6605-1438-43.

fonctionnelle. Vu l'importance de ces termes, en voici une brève définition:

— état de bien-être: condition physique et émotionnelle caractérisée par un minimum:
  - de difficultés ou de malaises dans l'exécution de certaines activités telles que se tourner dans le lit, se lever du lit, marcher dans la chambre et dans le couloir, tousser et cracher.
  - d'inquiétudes concernant la douleur incisionnelle, la plaie opératoire, la vue des tubes et les nausées possibles.
  - de malaises provoqués par la condition de l'estomac et des intestins ou par le manque de force physique.

— sensations de douleurs: expérience pénible aussi bien à caractère sensoriel qu'émotionnel. L'aspect sensoriel est physique et varie en fonction du type et de l'intensité des malaises éprouvés par l'opéré. Quant à l'aspect émotionnel, il est tributaire de l'émotivité et fait référence au degré d'angoisse qui accompagne généralement les malaises physiques.

— habileté physique fonctionnelle: niveau de capacité physique fonctionnelle de l'opéré dans l'exécution de certaines activités postopératoires. Ceci s'applique principalement à la mobilité au lit, au lever précoce et à la marche. En regard de ces indicateurs, l'intérêt porte sur la fréquence de ces activités de même que sur l'indépendance du client opéré dans leur exécution.

La forme

Il s'agit d'un instrument d'auto-évaluation complété par l'opéré lui-même. Il choisit parmi les réponses suggérées et selon l'évaluation qu'il fait de sa situation personnelle d'opéré.

L'IRPO est constitué de 11 questions dont certaines comprennent des sous-questions; il forme un ensemble de 25 items répartis comme suit selon les composantes:

— 14 items pour le bien-être dont quatre portent sur l'aspect émotionnel
— trois items se réfèrent aux sensations de douleur dont un d'ordre émotionnel
— l'habileté physique fonctionnelle comprend huit items.

Selon le choix du résident, un nombre de points est alloué; les plus élevés désignent toujours le meilleur rétablissement. Ainsi, un opéré peut obtenir un maximum de 57 points à la composante bien-être et de

15 à celle sur les sensations de douleurs; enfin, la composante habileté physique fonctionnelle se voit attribuer un maximum de 29 points. Le score total maximum de l'IRPO totalise donc 101 points (tableau 1). Toute proportion gardée, ce score total est exprimé en pourcentage, ce qui est d'utilisation plus commode.

Notons aussi que pour les deux premières questions, lorsque le sujet répond "ne s'applique pas", l'item est annulé. Toutefois, dans cette éventualité, le score maximum de la question demeure 20 points pour l'ensemble des items de la première question et 16 points pour la deuxième question. Ainsi, si le client annule un ou plusieurs items, il y a réajustement proportionnel de ses points pour ces questions, de sorte que le score total de la composante bien-être demeure 57 points.

DESCRIPTION DE L'ECHANTILLON

Les données relatives à l'IRPO ont été recueillies auprès de 89 clients de chirurgie élective (cholécystectomisés) hospitalisés dans un centre hospitalier universitaire de Montréal desservant une population majoritairement francophone.

Nous avons sélectionné les sujets de l'échantillon à partir de la liste des clients de chirurgie élective établie par les commis du bureau d'admission du centre hospitalier. Les clients devaient être âgés de 18 à 65 ans; être capables de lire et de comprendre le français; ne pas appartenir à la profession médicale ou infirmière et n'avoir pour conjoint ou proche parent ni médecin ni infirmier/infirmière; être exempts de pathologie impliquant une impotence fonctionnelle des membres inférieurs et supérieurs; ne pas avoir subi une intervention chirurgicale majeure depuis au moins deux ans; subir une anesthésie générale lors de la cholécystectomie; leur diagnostic devait être exempt de doute concernant la possibilité de néoplasie quelconque. L'échantillon comprenait 22 hommes et 67 femmes; la moyenne d'âge était de 40,6 années.

A l'exception de cinq clients, tous les sujets de l'échantillon ont été hospitalisés dans une seule unité de soins chirurgicaux. Ainsi, un certain nombre de variables situationnelles ont été contrôlées: même équipe médicale et paramédicale; même milieu physique; même philosophie des soins.

Les sujets ont été répartis en trois groupes selon une méthode par convenance: un groupe témoin, deux groupes expérimentaux, soit un qui recevait un enseignement préopératoire la veille de la chirurgie et un autre qui le recevait à la préadmission. Des études d'homogénéité de la variance et de l'égalité des moyennes ont été effectuées pour les variables suivantes: l'âge des sujets, le niveau d'anxiété de personnalité

Tableau 1

Répartition des points pour chaque item de l'IRPO

Question	nombre de points	maximum de points
	composante bien-être	
1a	1 à 4 points	
1b	1 à 4 points	
1c	1 à 4 points	20 points
1d	1 à 4 points	
1e	1 à 4 points	
2a	1 à 4 points	
2b	1 à 4 points	
2c	1 à 4 points	16 points
2d	1 à 4 points	
3	1 à 5 points	5 points
4a	1 à 4 points	
4b	1 à 4 points	
4c	1 à 4 points	16 points
4d	1 à 4 points	
	Score global:	57 points
	composante sensations de douleur	
5	1 à 5 points	5 points
6	1 à 5 points	5 points
7	1 à 5 points	5 points
	Score global:	15 points
	composante habileté physique fonctionnelle	
8	1 à 4 points	4 points
9a	1 ou 3 points	
9b	1 ou 3 points	
9c	1 ou 3 points	15 points
9d	1 ou 3 points	
9e	1 ou 3 points	
10	1 à 5 points	5 points
11	1 à 5 points	5 points
	Score global:	29 points
	Score total:	101 points

et d'anxiété situationnelle préopératoire. Pour chaque variable, le test de Bartlett-Box a servi à la vérification de l'homogénéité de la variance et le test F a servi à la vérification de l'égalité des moyennes. Les résultats démontrent que pour chaque variable ci-haut mentionnée, la variance est homogène et il y a égalité des moyennes pour chaque groupe de sujets.

Les données relatives à l'IRPO étaient invariablement recueillies les premier et deuxième jours postopératoires entre seize et dix-neuf heures, par une même personne, un évaluateur chargé d'administrer les questionnaires.

Après s'être assuré que chaque répondant était confortablement installé en position assise au lit ou au fauteuil, l'IRPO était placé devant lui afin d'être rempli. Dans le cas ou un répondant se sentait moins disposé à répondre aux questions écrites de façon autonome, l'évaluateur lisait lentement et sur un ton le plus neutre possible, chaque question et chaque choix de réponse; selon la réponse du client, ce choix était indiqué sur le questionnaire sous le regard du client.

Avant de recueillir le questionnaire, celui-ci était examiné par l'évaluateur et par le client afin d'être assuré que chaque question avait reçu une réponse du client et une seule.

PROCESSUS DE VALIDATION DE L'INSTRUMENT

Validité du contenu

Pour assurer cette validité et en délimiter les aspects, les différents items de l'IRPO furent élaborés à partir d'observations cliniques, de la recension des écrits et des instruments utilisés par d'autres chercheurs. En scrutant les écrits et les instruments, nous avons constaté l'existence de plusieurs indicateurs du rétablissement postopératoire selon les situations cliniques et les préoccupations des chercheurs. De plus, les données relatives à ces différents indicateurs étaient recueillies de différentes façons, soit directement auprès des opérés ou encore indirectement à partir du dossier médical, d'observations rapportées par le personnel médical, infirmier ou les membres de la famille de l'opéré. Quoi qu'il en soit, il nous a semblé que les indicateurs de rétablissement d'un certain nombre de chercheurs pouvaient être classifiés selon trois catégories: l'état de bien-être physique et émotionnel, le degré de douleur et enfin, l'habilité physique fonctionnelle.

Une revue extensive des écrits apparaît dans le rapport de recherche Lévesque, Grenier et Kérouac (1980). Qu'il suffise de mentionner ici les principaux auteurs qui ont servi d'appuis pour l'élaboration de

l'IRPO. Pour la composante bien-être, il y a eu les travaux de Wolfer et Davis (1970) qui ont identifié des indicateurs de rétablissement postopératoire tant au point de vue physique qu'émotionnel. Dans leurs recherches impliquant 234 patients de chirurgie abdominale, gynécologique et cardio-vasculaire, ils ont développé le "Recovery Inventory" qui comprend des items portant entre autres sur la qualité du sommeil et de l'appétit, la condition de l'estomac et des intestins, la fonction urinaire et les intérêts des opérés dans ce qui se passe autour d'eux. Wolfer et Davis ont aussi élaboré le "Moods and Feelings Inventory", instrument composé de 20 adjectifs à caractère affectif. Les écrits de Johnson et Rice (1974) ont surtout servi d'appuis théoriques pour la composante douleur. Selon ces auteurs, la douleur est constituée de deux facettes: l'une d'ordre sensoriel et l'autre d'ordre émotionnel. A partir de ces considérations, ils ont élaboré un instrument de mesure des sensations de douleur. Quant à l'habileté physique fonctionnelle, la littérature révèle des définitions bien variées. Wolfer et Davis (1970) ont mesuré la capacité de l'opéré à s'aider, son habileté à circuler de même que le pourcentage de temps passé hors du lit. D'autres chercheurs ont mis l'accent sur les difficultés éprouvées lors de certains exercices, le moment et la durée de certaines activités, l'autonomie dans l'exécution de certains mouvements, la distance parcourue (Gersten et coll., 1970; Dumas et Johnson, 1972; Fortin et Kérouac, 1974). Parmi tous les instruments que nous avons révisés, aucun chercheur, à notre connaissance, n'a tenté de continuer la validation d'un instrument de rétablissement ou encore d'en étudier la validité prédictive. De telles démarches auraient grandement contribué à établir la validité de contenu de l'IRPO.

Validité nominale

Une fois l'instrument élaboré, il convenait de s'assurer que le rapport de l'instrument de mesure avec ce que l'on tente de mesurer soit évident par définition même (Bélanger, Selltiz et al., 1977). En premier lieu, le questionnaire initial fut présenté à 12 juges ayant pour mission d'étudier l'IRPO, item par item. Ce jury était constitué d'infirmières universitaires possédant diverses expériences en soins infirmiers chirurgicaux ainsi que des connaissances sur l'art de construire un questionnaire.

Pour chaque item, ils devaient répondre aux trois questions suivantes: (1) l'item répond-il à l'objectif qui est de mesurer un aspect du rétablissement postopératoire? (2) à quelle composante l'item appartient-il? (3) le language utilisé est-il adéquat compte tenu de la clientèle à qui s'adresse l'IRPO? Seuls les items recevant l'accord d'au moins huit juges sur douze ont été gardés intacts; les autres items ont été modifiés selon les commentaires des juges.

En deuxième lieu, l'IRPO fut prétesté en clinique auprès d'une douzaine d'opérés pour chirurgie abdominale majeure. Ces clients ont été rencontrés à différents moments après l'intervention chirurgicale, soit entre le premier et le quatrième jours postopératoires. Après avoir répondu à l'IRPO, les opérés étaient invités à faire connaître leurs commentaires sur chacun des items du questionnaire. Ces entrevues permirent de conclure à la clarté du language, à la compréhension des questions et à la pertinence de passer les tests les premier et deuxième jours postopératoires.

Qualités métrologiques

Pour connaître les qualités métrologiques de l'IRPO, nous avons procédé à des analyses de corrélation (Winer, 1971) au niveau de chacune des composantes et au niveau de l'ensemble de l'istrument. La liste de ces différentes analyses est présentée au tableau 2.

Analyses au niveau des composantes

A l'intérieur d'une composante, il est souhaitable d'obtenir de faibles coefficients de corrélation de Pearson entre les items, voire non-significatifs. Un tel état de faits indiquerait que chaque item mesure un aspect différent d'une composante et témoignerait d'une exclusivité. Par ailleurs, sont prévus des coefficients de corrélation élevés entre un item et le score global de la composante à laquelle cet item est rattaché; des résultats de cette nature signifiraient que l'item appartient à la composante, contribuant ainsi à la constance intrinsèque de la composante. Nous allons présenter les résultats obtenus à ces analyses pour chacune des composantes.

Le bien-être

Le tableau 3 présente les résultats à ces différentes analyses pour cette composante.

Selon ce tableau, il existe plusieurs coefficients de corrélation inter-items non significatifs, mais ce n'est pas la majorité des cas. Examinons la situation où les coefficients ont une valeur significative à $p \leq 0,05$.

Pour le premier jour, les coefficients de corrélation inter-items varient entre 0,56 et 0,17, sauf pour deux exceptions où les coefficients sont de 0,85 et 0,68. Au deuxième jour, ces coefficients se situent entre 0,44 et 0,17. Il y a des exceptions à ces résultats; pour trois coefficients, les valeurs se situent à 0,85, 0,72 et 0,66. L'examen de ces exceptions montre que l'amplitude de la relation est plutôt forte entre les

Tableau 2

Hypothèses et analyses de corrélation au niveau de chaque composante et au niveau de l'ensemble de l'instrument pour les premier et deuxième jours postopératoires*

Hypothèses vérifiées	Tests statistiques	Résultats anticipés
Pour chaque composante		
— Exclusivité des items à l'intérieur d'une même composante	— Corrélation (r de Pearson) inter-item	— Coefficients faibles ou non-significatifs ($p>0,05$)
— Constance intrinsèque de chaque composante	— Corrélation (r de Pearson) item-score global de la composante à laquelle l'item est rattaché	— Coefficients élevés et significatifs ($p\leq0,05$)
Pour l'ensemble de l'instrument		
— Exclusivité des items par rapport aux composantes auxquelles les items ne sont pas rattachés	— Corrélation (r de Pearson) item-score global des composantes auxquelles l'item n'est pas rattaché	— Coefficients de corrélation item-score global de la composante de l'item plus élevés que les coefficients de corrélation item-score global des composantes auxquelles l'item n'appartient pas
— Exclusivité des composantes	— Corrélation (r de Pearson) entre les scores globaux des trois composantes	— Coefficients de corrélation faibles ou non significatifs ($p>0,05$)
— Chaque composante est un indicateur de rétablissement postopératoire	— Corrélation (r de Pearson) entre le score global de chacune des composantes et le score total de l'IRPO	— Coefficients élevés et significatifs ($p\leq0,05$)
— Constance intrinsèque de l'ensemble de l'instrument	— a) Corrélation (r de Pearson) item-score total de l'IRPO b) Coefficient d'équivalence Spearman-Brown (fidélité moitié-moitié corrigée)	— a) Coefficients élevés et significatifs ($p\leq0,05$) b) Coefficient élevé et significatif entre les deux moitiés de l'instrument ($p\leq0,05$)

* L'item 2d a été retiré pour le calcul des coefficients de corrélation de Pearson à cause du petit nombre de répondants à cette question, soit 15 sujets sur un total de 89.

Tableau 3

Matrice des coefficients de corrélation de Pearson
pour les items de la composante bien-être (B-E)
le premier jour postopératoire (J_1)
et
le deuxième jour postopératoire (J_2)

item	1a		1b		1c		1d		1e		2a		2b		2c		3		4a		4b		4c		4d		B-E	
	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2
1a	1,00	1,00																										
1b	0,68	0,72	1,00	1,00																								
1c	0,29	0,44	0,52	0,47	1,00	1,00																						
1d	0,28	0,28	0,44	0,44	0,85	0,85	1,00	1,00																				
1e	0,22	0,31	0,22	0,36	0,24	0,44	0,30	0,40	1,00	1,00																		
2a	0,22	0,46	0,28	0,41	0,39	0,30	0,41	0,24	*	*	1,00	1,00																
2b	*	0,26	0,19	0,22	0,30	0,19	0,29	0,22	*	*	0,20	0,37	1,00	1,00														
2c	0,39	0,40	0,40	0,43	0,43	0,31	0,54	0,32	0,35	0,22	0,40	0,66	0,26	0,32	1,00	1,00												
3	0,56	0,32	0,51	0,43	0,38	0,34	0,38	0,36	0,24	0,38	0,31	0,31	*	*	0,25	0,41	1,00	1,00										
4a	0,30	0,25	0,17	0,24	0,21	0,23	0,31	0,19	*	0,25	*	*	*	0,23	*	*	0,31	0,22	1,00	1,00								
4b	0,37	0,28	0,44	0,32	0,40	0,39	0,54	0,41	0,20	0,27	0,39	0,29	0,37	0,27	0,36	0,20	0,50	0,26	0,30	0,34	1,00	1,00						
4c	0,29	*	0,20	*	0,39	0,21	0,47	0,22	*	0,25	0,26	0,21	0,39	0,32	0,35	0,27	0,38	0,34	0,30	0,44	0,49	0,32	1,00	1,00				
4d	0,24	0,17	0,28	*	0,42	0,21	0,38	0,28	0,25	0,30	*	*	0,31	*	0,34	0,21	0,31	*	0,22	0,25	0,38	0,31	0,42	0,21	1,00	1,00		
B-E	0,65	0,68	0,62	0,69	0,75	0,71	0,77	0,71	0,50	0,58	0,49	0,62	0,46	0,44	0,62	0,64	0,66	0,61	0,44	0,47	0,67	0,56	0,59	0,50	0,54	0,44	1,00	1,00

* relation non significative ($p>0,05$)

items 1c et 1d de même qu'entre 1a et 1b. Ceci laisse supposer que les items 1c et 1d mesurent sensiblement le même aspect; il en est ainsi pour les items 1a et 1b. Effectivement, le contenu de ces items se ressemble, dans le sens que les activités qui y sont énoncées peuvent comporter les mêmes difficultés d'exécution. L'item 1c porte sur la marche dans la chambre et 1d, sur la marche dans le couloir. L'item 1a concerne les difficultés à se tourner dans le lit et 1b, les difficultés à se lever du lit. De plus, les items 1c et 1d sont reliés de façon similaire au score global de la composante. On peut observer le même phénomène pour les items 1a et 1b.

Attardons-nous maintenant aux résultats obtenus aux corrélations item-score global de la composante. Selon le tableau 3, les coefficients de corrélation item-score global sont plus élevés que ceux entre les items. Les coefficients item-score global varient entre 0,77 et 0,44 pour le premier jour et entre 0,70 et 0,44, au deuxième jour. Ces résultats indiquent une certaine constance intrinsèque pour cette composante.

Ce sont les items 2b et 4a qui sont les plus faiblement reliés au score global. La moyenne de la valeur de leurs coefficients se situe autour de 0,45. Ces deux items se ressemblent tant qu'à leur contenu; l'un porte sur les nausées et l'autre sur l'appétit. Cet aspect, bien qu'important pour le client, semble être moins rattaché au bien-être. Toutefois, puisque les valeurs de ces coefficients item-score global ne sont ni très élevées ni très faibles, il semble préférable, pour le moment, de les garder dans l'IRPO.

La douleur

Le tableau 4 présente les résultats pour cette composante. L'amplitude des relations inter-items est plutôt faible, à juger par les valeurs des coefficients de corrélation dont l'une est non-significative; ces valeurs se situent, pour les deux jours postopératoires, entre 0,61 et 0,20.

Au deuxième jour, il est étonnant de constater que l'amplitude de la relation ($r = 0,23$) entre le niveau d'angoisse (item 6) et l'intensité de la plus forte douleur (item 5) est moins grande que celle qui existe entre l'item 6 et l'intensité de la plus faible douleur (item 7): $r = 0,61$. L'on peut inférer que la plus forte douleur est reliée au site incisionnel et que l'opéré s'attend à la ressentir; ainsi, son degré d'angoisse ne varie pas nécessairement en fonction du degré de cette douleur. Par ailleurs, les douleurs de faible intensité sont possiblement reliées à la reprise de la fonction intestinale, aux courbatures, etc., et l'opéré s'y en attend moins. Ces douleurs, quoique de faible intensité, sont peut-être plus susceptibles de provoquer de l'angoisse, ce qui explique que la relation entre les items 6 et 7 est plus élevée qu'entre les items 6 et 5. De plus, à

Tableau 4

Matrice des coefficients de corrélation de Pearson
pour les items de la composante douleur (DOUL)
le premier jour postopératoire (J_1)
et
le deuxième jour postopératoire (J_2)

item	5		6		7		DOUL	
	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2
5	1,00	1,00						
6	0,41	0,23	1,00	1,00				
7	0,20	*	0,30	0,61	1,00	1,00		
DOUL	0,69	0,59	0,86	0,85	0,62	0,72	1,00	1,00

* relation non significative ($p>0,05$)

cette période postopératoire, les analgésiques intra-musculaires sont enlevés et remplacés par des analgésiques per os; ces derniers soulagent peut-être davantage les douleurs incisionnelles que les douleurs diffuses.

Pour ce qui est des coefficients de corrélation item-score global, ils varient entre 0,85 et 0,59, quelle que soit la journée postopératoire. Comme souhaité, ces résultats indiquent que l'amplitude des relations est plus élevée entre les items et le score global qu'entre les items. De plus, ces résultats témoignent d'une certaine constance intrinsèque au niveau de cette composante.

L'habilité physique fonctionnelle (HPF)

Selon le tableau 5, les coefficients de corrélation inter-items varient entre 0,53 et 0,19 au premier jour, et entre 0,81 et 0,19 au deuxième jour. Il y a aussi des coefficients de corrélation dont les valeurs sont non-significatives. Ces valeurs se retrouvent principalement aux items 9a, 9e et 10.

Deux résultats méritent d'être relevés en examinant les corrélations item-score global; l'un de ces résultats concerne l'item 9a et l'autre, l'item 9e. Au deuxième jour, d'une part, le coefficient de corrélation entre l'item 9a et le score global a une valeur non-significative et d'autre part, les coefficients de corrélation entre cet item et les autres ont aussi, dans la grande majorité des cas, une valeur non-significative. Selon ces résultats, l'item 9a ne semble pas appartenir à cette composante, du moins au deuxième jour après la chirurgie. En effet, cet item n'a pas le même comportement au premier jour postopératoire; il se révèle alors exclusif par rapport aux autres items et appartenant à la composante (item-score global, $r = 0,62$). L'item 9a porte sur l'aide requise pour se tourner dans le lit; il se peut alors que cet item soit un meilleur indicateur d'habileté physique fonctionnelle au premier jour; il semble moins pertinent le deuxième jour.

Pour ce qui est de l'item 9e, au premier jour, le coefficient de corrélation entre cet item et le score global ($r = 0,21$) demeure le moins élevé, quoique significatif. La faible contribution de cet item au score global de l'habileté physique fonctionnelle peut s'expliquer par le fait que le personnel infirmier, par routine, fait peu participer l'opéré à ses soins d'hygiène le lendemain de l'opération. Notons que si le r point biséral (r_{pb}) avait été utilisé au lieu du r de Pearson, il est possible que les coefficients de corrélation entre les items et le score global auraient été plus élevés. En utilisant ce coefficient, on introduit un facteur de correction qui tient ainsi compte de la nature dichotomique de l'échelle de mesure utilisée pour ces variables (Bhushan, 1978).

Tableau 5

Matrice des coefficients de corrélation de Pearson
pour les items de la composante habileté physique fonctionnelle (HPF)
le premier jour postopératoire (J_1)
et
le deuxième jour postopératoire (J_2)

item	8		9a		9b		9c		9d		9e		10		11		HPF	
	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2	J_1	J_2
8	1,00	1,00																
9a	0,35	0,19	1,00	1,00														
9b	0,27	0,34	0,35	0,29	1,00	1,00												
9c	0,21	0,20	0,27	*	0,21	0,43	1,00	1,00										
9d	0,19	0,27	0,50	*	0,28	0,49	0,40	0,57	1,00	1,00								
9e	*	0,19	*	*	*	0,62	*	0,70	*	0,81	1,00	1,00						
10	*	*	0,20	*	0,34	*	0,24	*	*	*	*	*	1,00	1,00				
11	0,23	0,40	0,35	*	0,32	0,48	0,53	0,24	0,36	0,58	*	0,54	0,44	*	1,00	1,00		
HPF	0,55	0,62	0,62	*	0,60	0,67	0,64	0,40	0,59	0,67	0,21	0,62	0,53	0,57	0,77	0,72	1,00	1,00

* relation non significative ($p>0,05$)

Au deuxième jour, ce même item (9e) est plus relié à la composante (item-score global, r = 0,62) mais, les coefficients de corrélation sont élevés entre cet item et les items 9b, 9c et 9d indiquant un manque d'exclusivité entre ces items. L'explication de ces résultats réside possiblement dans le fait que les items de la question 9 sont dichotomiques, offrant ainsi moins de nuances au niveau des choix des réponses et par conséquent, ils deviennent des indicateurs moins sensibles. De plus, il aurait peut-être été souhaitable dans cette situation de dichotomie, que le coefficient Phi (r Ø) soit utilisé à titre de facteur correctif plutôt que le coefficient de Pearson (Bhushan, 1978).

Comme pour les autre composantes, les coefficients de corrélation item-score global sont plus élevés qu'entre les items. Ces coefficients item-score global se situent entre 0,77 et 0,21 et entre 0,72 et 0,40 respectivement pour le premier et deuxième jours après la chirurgie. La constance intrinsèque de cette composante est plus faible que dans le cas du bien-être et de la douleur.

Des trois tableaux (3, 4, 5), il se dégage que: 1) la majorité des items des différentes composantes mesurent des aspects différents et par conséquent, témoignent d'une certaine exclusivité; 2) la composante douleur offre une constance intrinsèque plus élevée que les deux autres.

Analyses au niveau de l'ensemble de l'instrument

Au niveau des analyses pour l'ensemble de l'instrument: 1) on s'attend à ce que les coefficients de corrélation item-score global de la composante de l'item soient plus élevés que ceux entre l'item et le score global des composantes auxquelles l'item n'appartient pas; 2) il est anticipé que les coefficients entre les scores globaux soient faibles, indiquant une exclusivité des composantes entre elles; 3) on s'attend à ce que les coefficients de corrélation entre le score global de la composante et le score total de l'IRPO soient élevés, indiquant ainsi que chaque composante est un indicateur de rétablissement et qu'elle contribue à l'inventaire du rétablissement. Finalement, la constance intrinsèque de l'ensemble de l'instrument a été étudiée de deux façons, soit en analysant la relation item-score total de l'IRPO, soit en analysant l'inventaire à l'aide du coefficient moitié-moitié de Spearman Brown (tableau 2). Nous allons voir en détail les résultats de ces analyses.

Comme indiqué au tableau 6, les coefficients de corrélation entre les items et leurs composantes respectives sont plus élevés qu'entre les items et les composantes auxquelles ils n'appartiennent pas. Notons particulièrement que les items de l'habileté physique fonctionnelle demeurent les plus exclusifs puisqu'ils sont faiblement reliés au score

global de la composante bien-être et qu'ils présentent plusieurs relations non significatives avec la composante douleur.

Tableau 6

Matrice des coefficients de corrélation de Pearson entre chaque item et le score des trois composantes et celui de l'inventaire; entre le score global des composantes et entre les composantes et l'inventaire

		Score global des composantes						Score total	
	item	B-E		DOUL		HPF		IRPO	
		J1	J2	J1	J2	J1	J2	J1	J2
Bien-être	1a	0,65	0,68	0,44	0,44	0,35	0,25	0,61	0,63
	1b	0,62	0,69	0,38	0,42	0,49	0,43	0,68	0,69
	1c	0,75	0,71	0,46	0,44	0,54	0,36	0,75	0,69
	1d	0,77	0,71	0,43	0,38	0,58	0,39	0,78	0,69
	1e	0,50	0,58	0,35	0,26	0,19	*	0,45	0,52
	2a	0,49	0,62	0,48	0,46	0,46	0,31	0,56	0,59
	2b	0,46	0,44	0,24	*	*	0,29	0,40	0,44
	2c	0,62	0,64	0,36	0,53	0,46	0,44	0,64	0,67
	3	0,66	0,61	0,40	0,40	0,29	0,27	0,60	0,58
	4a	0,44	0,47	0,33	0,21	*	*	0,37	0,41
	4b	0,67	0,56	0,49	0,34	0,36	0,30	0,66	0,55
	4c	0,59	0,50	0,35	0,30	0,34	0,31	0,57	0,50
	4d	0,54	0,44	0,35	0,31	0,25	0,18	0,50	0,43
Douleur	5	0,31	0,25	0,69	0,59	*	*	0,36	0,32
	6	0,47	0,54	0,86	0,85	0,25	0,24	0,56	0,60
	7	0,61	0,47	0,62	0,72	0,31	0,32	0,62	0,56
Habileté physique	8	0,56	0,45	0,39	0,41	0,55	0,62	0,61	0,56
	9a	0,35	0,28	0,26	0,22	0,62	*	0,51	0,29
	9b	0,36	0,25	0,25	*	0,60	0,67	0,50	0,36
	9c	0,44	*	*	*	0,64	0,40	0,51	*
	9d	*	0,28	*	*	0,59	0,67	0,34	0,38
	9e	0,25	0,19	*	*	0,21	0,62	0,27	0,30
	10	0,19	0,23	*	*	0,53	0,57	0,32	0,34
	11	0,30	0,34	*	0,22	0,77	0,72	0,49	0,45
Score global des composantes	B-E	1,00	1,00						
	DOUL	0,62	0,60	1,00	1,00				
	HPF	0.57	0,48	0,29	0,31	1,00	1,00		
	IRPO	0,93	0,95	0,69	0,69	0,76	0,65	1,00	1,00

* relation non significative (p>0,05)

Il convient aussi de remarquer que l'item 7 de la composante douleur est fortement relié au score global de la composante bien-être, surtout le premier jour postopératoire. Il se peut donc que les opérés présentent une certaine difficulté à discriminer entre le concept de douleur et celui de bien-être. Il va de soi que cette difficulté soit plus marquée le premier jour après la chirurgie alors que les effets de l'anesthésie ne sont pas complètement éliminés.

Maintenant, si l'on examine les coefficients de corrélation entre les scores globaux des composantes, nous constatons que les deux composantes les plus faiblement reliées sont la douleur et l'habilité physique fonctionnelle, ce qui constitue un indicateur de leur exclusivité mutuelle. Par ailleurs, la relation entre les composantes douleur et bien-être est plus élevée, appuyant ainsi l'argument énoncé plus haut pour expliquer la valeur élevée du coefficient de corrélation entre l'item 7 de la composante douleur et le score global de la composante bien-être. Toutefois, en considérant ces résultats, nous reconnaissons que les coefficients de corrélation entre les composantes pourraient être moins élevés.

La dernière ligne du tableau 6 montre que les coefficients de corrélation entre chacune des composantes et le score total de l'IRPO varient entre 0,95 et 0,65. La composante qui contribue le plus à la mesure du rétablissement est celle du bien-être et la composante qui y contribue le moins est celle de la douleur. Même si les composantes ne sont pas reliées au score total de l'IRPO avec la même amplitude, il demeure que chacune des composantes bien que distincte, est reliée à l'IRPO.

Au niveau de l'ensemble de l'instrument, les coefficients de corrélation item-score total de l'IRPO sont modérément élevés, sauf quelques exceptions. En effet, pour le premier jour postopératoire, les coefficients sont faibles ($r = 0,35$) dans le cas des items 9d, 9e et 10 de la composante habileté physique fonctionnelle. Au deuxième jour, les items 5 de la composante douleur, 9a, 9c, 9e et 10 de la composante habileté physique fonctionnelle s'ajoutent à cette liste; dans le cas de 9c, le coefficient de corrélation est non-significatif. Précédemment, nous avions noté que l'item 9a semblait être un meilleur indicateur d'habileté physique fonctionnelle au premier jour plutôt qu'au deuxième. Le coefficient de corrélation, peu élevé au deuxième jour entre cet item et l'IRPO, corrobore cette constatation.

Toujours au niveau de l'ensemble de l'IRPO, nous avons obtenu une appréciation de la constance intrinsèque en utilisant la technique connue sous le vocable de fidélité moitié-moitié corrigée (split-half), au moyen de la formule statistique Spearman-Brown (Winer, 1971). Une

moitié contenait les items de nombre pair tandis que l'autre comprenait les items de nombre impair.

La valeur de ce coefficient d'équivalence entre les deux moitiés est de 0,90 pour le premier jour postopératoire et de 0,91 pour le deuxième. Ces valeurs élevées indiquent une constance intrinsèque de l'instrument considéré dans son ensemble; la position du répondant n'est pas influencée par l'échantillonnage particulier des items de l'une ou l'autre moitié du test.

Avant de passer à la conclusion et aux recommandations, nous parlerons de l'utilisation de l'IRPO. Comme indiqué antérieurement dans la description de l'échantillon, l'IRPO fut complété par trois groupes de cholécystomisés: un groupe exposé à un programme d'enseignement préopératoire la veille de l'opération, l'autre groupe, quinze jours avant l'admission au centre hospitalier; le troisième groupe ne recevait aucun programme structuré d'enseignement. Sans exposer les résultats détaillés, disons que l'IRPO a permis de discriminer entre les sujets qui avaient reçu un enseignement et ceux qui n'y avaient pas été exposés. Les tests de F révélaient une différence significative de moyennes en faveur des groupes ayant reçu le programme, aux premier et deuxième jours postopératoires (Grenier, 1977). Par ailleurs, lors de la recherche évaluative sur l'enseignement préopératoire qui a suivi l'étude pilote (Lévesque, Grenier et Kérouac, 1980), les sujets exposés à un enseignement n'ont pas obtenu un niveau de rétablissement significativement différent des opérés non exposés à un tel enseignement. Cependant, selon les auteurs de cette recherche (Lévesque, Grenier et Kérouac, 1980), cette absence de différence peut être attribuée à plusieurs facteurs autres que la capacité qu'a l'instrument de discriminer. Il demeure donc que jusqu'à présent, la capacité de l'IRPO de distinguer entre les opérés ayant ou non bénéficié d'un programme d'enseignement s'est révélée lors d'une seule étude.

CONCLUSION ET RECOMMANDATIONS

Cette étude métrologique d'un inventaire du rétablissement postopératoire a permis de mettre en évidence certains aspects de la validité nominale et de la validité de contenu.

Comme présenté au tableau 2, nous avons procédé à plusieurs analyses pour évaluer l'homogénéité de l'instrument. Selon l'ordre de ce tableau, nous arrivons aux conclusions suivantes:

— Au niveau de l'exclusivité des items d'une composante

Les coefficients de corrélation inter-items sont peu élevés ou non-significatifs et témoignent d'une exclusivité des items d'une même composante. Cependant, ce critère d'exclusivité des items nous amène à recommander d'enlever les items 1c (jour1 et jour2) et 9e (jour2) de l'inventaire; le premier, à cause de l'amplitude élevée de la relation avec l'item 1d et l'autre, à cause de l'amplitude élevée de la relation avec les items 9b, 9c et 9d.

— Au niveau de la constance intrinsèque des composantes

Généralement, les items d'une même composante sont fortement reliés au score global de la composante à laquelle ils appartiennent, ce qui indique une constance intrinsèque de la composante. Parmi les trois composantes, celle de la douleur offre le niveau de constance le plus élevé.

— Au niveau de l'exclusivité des items par rapport aux composantes auxquelles ils n'appartiennent pas

Dans plusieurs cas, les coefficients de corrélation sont faibles ou non-significatifs entre les items et le score global des composantes auxquelles ils ne sont pas rattachés. Ces résultats indiquent que les items appartiennent à leur composante propre et exclusivement à celle-là.

— Au niveau de l'exclusivité des composantes

Il serait souhaitable que les coefficients de corrélation entre les composantes soient moins élevés. Toutefois, les résultats indiquent une certaine exclusivité entre les composantes surtout entre l'habileté physique fonctionnelle et la douleur.

— Au niveau des composantes comme indicateur de rétablissement postopératoire

Les trois composantes, bien que distinctes entre elles, sont reliées à l'IRPO selon une amplitude variant entre 0,95 et 0,65. Les items de la composante bien-être sont les plus fortement reliés au score total de l'IRPO. En d'autres termes, les items de cette composante reflètent plus que les autres, une image du rétablissement postopératoire. Toutefois, l'amplitude des liens entre chaque composante et le score total de l'IRPO justifie la conservation des trois dimensions.

— Au niveau de la constance intrinsèque de l'ensemble de l'instrument

Certains items contribuent peu à la constance intrinsèque de l'IRPO à cause du faible coefficient de corrélation entre eux et le score total de l'inventaire. Nous recommandons d'enlever l'item 9c, le deuxième jour postopératoire. Nous croyons que pour les items 9 de l'habileté physique fonctionnelle, un choix de cinq réponses rendrait l'instrument plus sensible et permettrait une meilleure discrimination au niveau de

l'indépendance dans les activités physiques quotidiennes. Le coefficient d'équivalence moitié-moitié indique une constance intrinsèque élevée de l'instrument considéré dans son ensemble.

En terminant, mentionnons qu'aucune analyse de stabilité telle le test-retest ne fut effectuée puisque cet instrument sert à mesurer un état émotionnel et physique en évolution plus ou moins rapide d'une journée à l'autre après l'intervention chirurgicale. Les 24 heures qui séparent les deux passations de l'inventaire revêtent une grande importance puisque d'une part, au deuxième jour postopératoire, les patients sont davantage stimulés par le personnel infirmier sur le plan de la marche et des exercices respiratoires; d'autre part, à ce moment du rétablissement, les effets de l'anesthésie sur l'organisme décroissent.

D'ailleurs, les analyses de la variance à mesures répétées entre les premier et deuxième jours postopératoires révèlent une augmentation significative du rétablissement d'une journée à l'autre. Au niveau de chacune des composantes, cette analyse ne révèle aucun changement significatif dans l'état de bien-être du premier au deuxième jour postchirurgical; par ailleurs, les analyses révèlent une diminution significative des sensations de douleur et une augmentation significative de l'habileté physique fonctionnelle entre ces deux périodes de passation du test. Ces résultats obtenus auprès de 89 clients cholécystectomisés indiquent donc une sensibilité de l'échelle à discriminer entre les deux premiers jours postopératoires.

Il va de soi qu'un instrument de cette facture auto-évaluative présente certaines limites qu'il convient de souligner ici. Les réponses à un tel instrument demandent une certaine introspection de la part des clients qui sont déjà soumis à une situation particulière. L'effet de l'anesthésie générale sur l'organisme des clients a des répercussions certaines sur cette introspection. D'autres facteurs peuvent aussi affecter les réponses, entre autres, la fatigue, l'humeur, l'anxiété et la douleur.

A ces facteurs transitoires s'ajoute l'influence de la désirabilité sociale ou la tendance qu'ont les gens à présenter une image favorable. Cette tendance, selon Eisler et ses collaborateurs (1972), est encore plus marquée lorsqu'il s'agit de s'auto-évaluer par rapport à son rétablissement physique.

De plus, dû au fait que l'IRPO ne comporte que des questions fermées, les répondants peuvent utiliser, consciemment ou non, des mécanismes de dérobade et de négation. De plus, comme l'affirme French (1975), ce type de questionnaire peut réduire les biais d'une part et d'autre part, en créer un autre par inadvertance. En effet, les

sujets qui répondent aux questions prennent conscience qu'ils participent à une étude et cette prise de conscience peut les amener à choisir des réponses qui ne s'appliquent pas à leur situation mais qui sont perçues comme des réponses attendues de la part d'un "bon patient".

Tenant compte des résultats obtenus, nous croyons que l'étude des qualités métrologiques de cet instrument devrait se continuer; il serait particulièrement pertinent d'étudier la validité de concomitance et la validité prédictive de l'IRPO en étudiant la relation entre l'inventaire et d'autres mesures similaires à celles développées dans les composantes et aussi avec d'autres indicateurs de rétablissement.

Bien que plusieurs praticiens préfèrent le jugement clinique à la simplification numérique, nous croyons qu'un tel instrument peut permettre de collecter des informations pertinentes et utiles pour jauger le rétablissement des opérés.

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ANNEXE

INVENTAIRE DU RÉTABLISSEMENT POSTOPÉRATOIRE (IRPO)

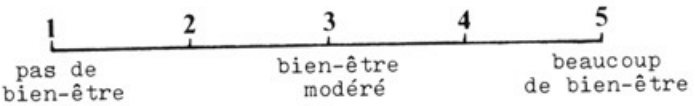
1. Aujourd'hui, éprouvez-vous de la difficulté à exécuter les activités suivantes:

	Beaucoup	Modérément	Peu	Pas du tout	n.a.
a) Vous tourner dans le lit	1	2	3	4	
b) Vous lever de votre lit					
c) Marcher dans votre chambre					
d) Marcher une certaine distance dans le couloir					
e) Tousser et cracher					

2. Avez-vous des inquiétudes concernant:

a) la douleur	1	2	3	4	
b) les nausées (mal de coeur)					
c) votre plaie opératoire					
d) la vue des tubes					

3. Indiquez le degré de bien-être physique (confort) que vous ressentez. Encerclez le chiffre approprié



4. Nous aimerions connaître votre état par rapport aux points suivants:

	Mauvais	Passablement bon	Bon	Très bon
a) votre appétit	1	2	3	4
b) vos forces et votre énergie				
c) la condition de votre estomac (nausées, vomissements, ...)				
d) la condition de vos intestins (gaz, balonnement, etc)				

5. Vous avez probablement eu des douleurs, aujourd'hui, et nous aimerions connaître l'intensité de la plus forte douleur ressentie depuis ce matin. Encerclez le chiffre approprié à cette douleur:

1	2	3	4	5
Très grande intensité		intensité modérée		intensité très faible ou nulle

6. Indiquez à quel degré cette douleur la plus forte vous a angoissé:

1	2	3	4	5
Beaucoup d'angoisse		modérée		aucune angoisse

7. Encerclez le chiffre qui correspond à la plus faible douleur que vous avez ressenti depuis votre réveil ce matin:

1	2	3	4	5
Une douleur très intense persiste continuellement		Une douleur modérée persiste toujours		intensité faible ou nulle

8. Craignez-vous de vous lever et de sortir du lit?

1	2	3	4
beaucoup	modérément	un peu	pas du tout

9.

		avec aide	seul(e)
a)	Pour vous tourner dans votre lit, le faites-vous	1	3
b)	Pour vous lever et sortir de votre lit, le faites-vous		
c)	Pour marcher quelques pas, le faites-vous		
d)	Pour vous asseoir dans votre fauteuil ou sur la toilette, le faites-vous		
e)	faites-vous votre toilette		

10. Combien de temps avez-vous passé hors du lit aujourd'hui?

1	2	3	4	5
moins de 1 heure	1 à 2 heures	2 à 3 heures	3 à 4 heures	plus de 4 heures

11. Quelle distance avez-vous parcourue SEUL(E) aujourd'hui à l'occasion d'une marche?

2	3	4	5
20 à 50 pieds	50 à 100 pieds	100 à 200 pieds	plus de 200 pieds

1 aucune

ABSTRACT

Development of a Scale for Measuring Post-Operative Recovery

This article analyzes the metrological qualities of an inventory for post-operative recovery (IPOR). This inventory consists of 11 questions, constituting 25 items divided into three components: state of well being, feelings of pain, and functional physical ability of patients who have undergone surgery. The data were collected from 89 elective surgery (cholecystectomy) patients hospitalized in a francophone university teaching in Montreal.

In terms of the validity of the contents, the inventory for recovery is derived from tools used by various researchers working with surgery patients. As for the nominal validity of the instrument, it was determined first by a jury of 12 university nurses and second by 12 surgery patients encountered at various periods after their surgical intervention.

The study of the metrological qualities of the inventory of post-operative recovery was done at two levels: (1) at the level of each of the three components and (2) at the level of the whole. At the level of the components, the goal of statistical analysis was the verification of the exclusivity of the items as well as the intrinsic constancy of each component. At the level of the whole, the goal of the analysis was the verification of the exclusivity of items in regard to components to which they were not attached; verification of the exclusivity of components; verifiction of each of the components as an indicator of recovery; finally; verification of the intrinsic constancy of the whole of the recovery inventory.

Results of these analyses demonstrate that the inventory of postoperative recovery is constituted of relatively exclusive items within each of the three components: each of the components shows an intrinsic constancy. Moreover, the items are exclusive in regard to the components to which they are not attached; the components are exclusive and they are good indicators of postoperative recovery. Finally, intrinsic constancy of the entire instrument is shown.

DURATION EXPERIENCE: A USEFUL THEORETICAL CONSTRUCT FOR NURSING THEORY AND RESEARCH

GARY MOORE
Assistant Professor, School of Nursing
Oakland University

INTRODUCTION

Time, as both an external measure developed by man and an internal experience of man, has been of intellectual interest since ancient times. The Egyptians and Greeks both developed elaborate systems of time keeping and wrote extensively about time (Fraser, 1966). The notion that all events take place in time led to the eventual postulation that time was a homogeneous a-priori notion that served as the stage for the action of events (Kant, 1934). This position further developed into an interest in the nature of temporal experience and its relationship to other human activities.

Conceptual structures have been proposed that attempt to explain phenomena with reference to rhythmic patterning (Rogers, 1970). The experience of duration within the context of Rogers' conceptual model for nursing has great promise, and an attempt will be made here to show the relationship between the experience of duration and the Rogerian conceptual framework. To bring these apparently disparate areas together, it is first necessary to discuss some of the ideas proposed by Rogers (1970).

THE ROGERIAN FRAMEWORK

The conceptual framework developed by Rogers (1970) clearly directs that the study of unitary man is the basis for nursing science. Certain basis constructs and relational postulates are presented that serve as a broad context for the development of testable theoretical structures. Among the concepts explored in this model are open systems, man-environment, synergy, unidirectionality, and pattern and organization. The postulates derived from these concepts are Helicy, Resonancy and Complementarity.

The Rogerian system conceptualizes man as an energy field coextensive with the universe. Any attempt to examine man without reference to the environmental field is therefore insufficient and incompatible with this formulation. The pattern of relations within the man-environment system is the means by which nursing studies man. The total configuration of the man-environment field at a given point in time is the logical method of analysis from this perspective. However,

man and his environment are not static entities reacting to one another, but are changing over time through a process of mutual and simultaneous interaction (Rogers, 1970). Thus man is an open system in constant interaction with the environmental field.

In addition to the open systems view of the man-environment field, a developmental process is also identified. The principles mentioned above are the primary vehicle for the exposition of this developmental process. The principle of Helicy states that "the nature of human and environmental change is continuously innovative, probabilistic, and characterized by increasing diversity of human field pattern and organization emerging out of the continuous, mutual, simultaneous interaction between the human and environmental fields and manifesting non-repeating rhythmicities" (Rogers, 1980). Not only is a unidirectional developmental process identified, but a rhythmic component also emerges. Unlike more traditional rhythm frameworks that postulate regularly recurring cycles identical in wave, period, and frequency, this position allows similarities in pattern across time to be identified that are closely associated with unidirectional developmental processes. Such a conceptualization requires the examination of system states over extended periods of time to allow an analysis of these similarities.

The principle of Resonancy states, "The human field and the environmental field are identified by wave pattern and organization manifesting continuous change from lower frequency, longer waves to higher frequency, shorter waves" (Rogers, 1980). This principle brings the rhythmic qualities associated with the developmental process into the middle of the conceptual system by identifying the nature of the developmental process in terms of the evolving rhythmic patterns. Such a postulation reinforces the necessity for measurement of system states over time to examine the various evolutionary patterns of the system's rhythmic structure.

The last principle, Complementarity, describes the developmental process as "the continuous, mutual, simultaneous interaction process between human and environmental fields" (Rogers, 1980). The open systems component of the conceptualization is described here along with a warning against using the static, reductionistic methods of modern science to understand the complex, nonlinear nature of unitary man.

The Rogerian framework identifies parameters of interest for study. System characteristics that exhibit rhythmic qualities are more appropriate for identifying developmental processes than are the more traditional intrapersonal measures that view man as a mechanistic construction reacting to the environment. In order to identify the rela-

tionships between duration experience and the Rogerian framework, it is necessary to discuss some of the work that has been done in relation to time perception.

TIME PERCEPTION

Interest in the study of human time perception has grown steadily since the beginning of the nineteenth century. Early theorists attempted to examine human time experience as a physical entity divorced from contact with reality and environmental events (Woodrow, 1951). As time progressed it became evident that time experience was indeed related to environmental events, but a more mechanistic view of time perception as the differential decay of brain traces proved equally unsatisfactory conceptually (Woodrow, 1951). However, the notion of time perception being likened to physiological processes has never been completely abandoned. Hoagland (1966), performed a series of experiments relating body temperature to time perception and concluded that there was indeed a positive relationship between the two variables that he ascribed to the rate of cellular metabolism. Subsequent attempts to relate time perception to physiologic parameters have failed to demonstrate any consistent relationship, and to date no organ of time perception has been located.

The investigation of time as a mental construction has proved more rewarding than the physiologic view. Ornstein (1975) proposed that time is a mental construction, abstracted from experience, using currently available memory stores as a basis for the construction of the total time experience. This view accounts for many of the divergent findings from the physiological studies as well as serving as a useful theoretical model for further testing. Most of the empirical work done from the Ornstein perspective supports this conceptualization (Polzella, DaPolito & Hinsman, 1977; Schiffman, Bobko & Thompson, 1977; Smith, 1979).

Smith (1979), in a series of studies, has demonstrated the effects of codability and complexity of stimuli on time perception in bed-confined individuals. Her results indicate that the more ambiguous the environmental context, the longer the experience of duration. Although the measure of time used in these experiments relies heavily on the use of clock time, the results essentially agree with a theoretical formulation based on cognitive processing. A further finding in these studies that relates favorably with a rhythm theory perspective, is that patterns of individual judgements could be discerned over time. This suggests that any interpretation solely on the basis of cognitive processing might not be examining the qualitative changes present over several hours time. Although these patterns were not systematically

examined as part of the research design, further analysis might yield fruitful hypotheses about the rhythmic nature of time perception for further study.

Before proceeding with the argument linking time perception with the Rogerian conceptual model, it is necessary to differentiate time perception as a broad construct from duration experience as a more limited, but for present purposes more useful, construct. Traditionally, time has been measured according to some external, culturally defined, standard. While this kind of mechanistic, relative time is useful both for routine daily activities and judgements, it is less useful for examining the individual's experience of time. If time is indeed a mental construction, then it is independent of external units, such as seconds and minutes, and must be studied without relating it to such a mechanistic standard. Duration experience serves as a descriptive construct to denote the study of the individual's personal experience of time passing in contrast to the more mechanistic standards previously discussed. Specifically, then, the task becomes demonstrating how duration experience might serve as an index of unitary man as described by Rogers (1970).

AN INDEX OF UNITARY MAN

Man is in continuous interaction with a constantly changing environmental field. Both man and environment are constantly changing, each influencing the other, to bring about new pattern and organization. Man perceives his environment and interacts with it directly and consciously through his sensory apparatus. Thus, each person constructs an image of reality from both intra and extra individual sources that are interpreted within the central nervous system. One aspect of this construction is time. Most temporal research indicates that changes in both the environmental and human fields interact to allow the individual to place himself in a temporal context (Fraisse, 1963).

In a sense, then, duration serves as an index of man-environment patterning, and indicates the manner in which the rhythmic patterns evolve. Because subjective duration takes into account both intraorganismic and environmental variables, it directly reflects the nature of man-environment patterning. The rhythmic patterns found in the Smith (1979) data, may reflect this relationship between the complexity of the environmental field in interaction with the organismic field over time. Fitzpatrick (1980), using the more global construct of temporal perspective (i.e., past, present and future orientation), also supports the notion of time as an index of the rhythmic nature of unitary man.

In order to be consistent with a Rogerian approach, however, it is necessary to demonstrate the increasing complexity of durational perception over longer developmental periods. From this perspective the interactional nature of duration, as reflective of man-environment interaction, must of necessity become more complex throughout the developmental process. Indeed, such a notion has been proposed by Newman (1979). She postulates that duration is an index of human consciousness. If consciousness is conceptualized as the human construction of man-environment patterning, then subjective duration, as described above, is an index of this patterning. Duration experience in this context can serve as an index of the rhythmic oscillation of man-environment pattern and organization and also provide a useful measure of the system state of the man-environment field at any given point in time. While no study has examined the pattern of relationships of duration over long time periods, some tangential evidence does exist to lend support to the above formulation. Piaget (1946) cites a series of studies that indicate increasing complexity in the interpretation of environmental stimuli relating to time with increasing age. The framework of these studies assumes a similar developmental process for cognitive complexity that parallels this temporal development. While this work is basically from a mechanistic, closed system perspective, it does lend some support to the notion that duration is connected to patterns of man-environment interaction.

Duration experience might also serve as a useful measure of the individual's mental construction of reality over shorter periods of time. The Smith (1979) studies cited earlier provide an excellent example of duration as this type of indicator. It might be postulated that duration estimates taken over short periods of time would show differential patterns of interaction, but have similar variability and less complex patterning than duration estimates taken at points further separated in the developmental process. Furthermore, patterns elicited in conjunction with similar environmental fields would show less variability, especially over short periods, than patterns evoked by markedly different environmental fields.

The above formulation is especially consistent with the Rogerian conceptualization of non-repeating rhythmicities. It is well known that temporal judgements differ over even very short periods of time within the same individual (Fraisse, 1963). No attempt has been made to exlore similarities in patterns of duration estimates over a long series of trials for many individuals. This parameter might serve as an index of developmental patterns across individuals useful in a cross-sectional approach to the study of duration.

The above formulation makes a series of connections between subjective duration and a rhythmic open-system perspective. Two points are especially important for consideration in the operationalization of this position. First, patterns of similarity over time are more appropriate as a measurement approach than the more traditional cross-sectional methods employed in many existing disciplines. Rather than asking questions about group differences on one or several measures, questions about the similarity in the configuration of stimuli are more appropriate for examining the behavior of entire systems. Secondly, subjective time must be conceptualized as a universal human experience. The mechanistic, clock-oriented time of highly industrialized societies reflects a learned response to temporal experience that is not necessarily reflective of subjective experience. The more traditional measures of temporal experience, that rely heavily upon familiarity with clock time, are not adequate indicators of the subjective experience of time. These points are important to consider in the development of instruments for measuring the rhythms of duration experience.

NURSING PRACTICE AND RESEARCH

The preceding formulation, while proposing a theoretical system for the consideration of duration experience in a rhythms framework, does not address any of the more practical implications of such a position for nursing practice. Some consideration will now be given to the potential use of this framework in this area. If duration experience reflects the nature of man-environment interaction, then assessment of the patterns of individuals might serve as a useful reflection of the overall functioning of the total man-environment system. This assessment would include data related to the usual patterns of reaction to time for the individual. Does time pass slowly or quickly during a usual day? Has the time since the last meal (or any other situation) seemed long or short? When feeling pressured does time seem to pass more slowly or more quickly? Questions such as these may prove useful in designing interventions, such as altering the environment to control the amount and kind of incoming stimuli, to facilitate a repatterning of the individual. The same questions could then be used as indices for the evaluation of the effectiveness of the intervention. A more concrete example of this linkage might serve to illustrate the usefulness of this strategy. Clients who have undergone surgery may, in some instances, exhibit an altered pattern of duration perception. Interventions aimed at altering environmental or intraindividual variables, such as the number of interruptions by the staff or the

number of visitors permitted at any one time, to facilitate a re-patterning of duration experience might lead to a more harmonious state of man-environment interaction and facilitate recovery processes. Similarly, alteration of the sensory environment of an individual in a threatening situation (e.g., Intensive Care Unit) by measures such as reducing noise or excessive glare from lights might facilitate mobilization of energy for recovery through altered man-environment patterning.

The directions for the development of research in the area of duration experience, while clear conceptually, present many methodological difficulties. No reliable and valid measure has yet been developed for duration experience. The mathematical structural models for determining similarities in patterns and identifying distinctive features of patterns over long time periods have great potential for use in this regard. Very few explorations have used the currently existing statistical techniques to answer questions posed in the same way as the current formulation. Methods for examining the qualitative characteristics of open-system behavior have not been developed beyond the infancy stage. Decisions about the degree of pattern similarity that can be regarded as falling within the range of acceptable variation have not yet been addressed. These are only a few of the many problems faced by the researcher wanting to ask relevant questions in this area. It is hoped that nursing will contribute substantially to these methodological gaps, and develop valid and reliable measures for answering these questions.

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RÉSUMÉ

L'expérience de la durée: une notion théorique utile à la recherche et à la théorie dans le domaine des sciences infirmières

On a présenté un argument théorique pour utiliser la durée subjective comme indice du modelage homme-milieu dans le système conceptuel Rogérien (1970, 1980). Une courte présentation du système Rogérien a été suivie d'un examen de la litérature sur l'expérience de la durée. Plusieurs arguments, basés sur des recherches pertinentes, ont été présentés à l'appui de l'utilité de la perception de la durée comme indice du système homme-milieu. L'article se termine par une discussion de la pertinence de ce type de formulation pour les sciences infirmières et de plusieurs problèmes d'ordre méthodologique nécessitant certaines explications avant que l'on puisse poursuivre les recherches dans le domaine de la perception de la durée.

INTERDISCIPLINARY EDUCATION: IDEALISM AND REALISM

MIRIAM STEWART
SHIRLEY WONG
Assistant Professors, School of Nursing
Dalhousie University

INTRODUCTION

Interdisciplinary practice takes place when two or more practitioners in two or more interdependent fields of learning work together to achieve a particular goal (Falck, 1977). There are many advantages to this type of practice for both client and practitioner: increased range of knowledge and skills, holistic care, simplified access to services, shared guilt, enhanced communication, common performance standards, and integrated, comprehensive services (Leininger, 1971; Nagi, 1975; Elliott, 1977; Falck, 1977; Valletutti, and Christoplos, 1979; Wessel, 1981).

However, this type of practice must be learned as mutual adaptation to differences in roles, knowledge, goals, and techniques are involved (Beckhard, 1972; Falck, 1977; Attwood, 1978). Often, collaboration is expected from professionals who have not been taught the art of interdisciplinary team membership in their own schools (Leininger, 1971).

Interdisciplinary education is considered a sound approach to professional teamwork (Leininger, 1971; Elliott, 1977; Falck, 1977). However, many individuals may regard this primarily as an ideal. In reality, there are numerous barriers to such education, which must be acknowledged in order to be overcome. These include: absence of linking mechanisms between disciplines, skepticism of faculty members, absence of a common frame of reference, strong role conflicts, low commitment levels and little interaction between members from different faculties (Quartaro & Hutchinson, 1976; Attwood, 1978; Harris, 1978). Often faculty have to be convinced of the merits of interdisciplinary work (Ross & Schour, 1954).

The meritorious features of this type of education, cited in the literature, include: instillment of positive attitudes toward teamwork, creation of mutual understanding of other health disciplines, discovery of common areas of knowledge and competence, discovery of competencies unique to each discipline, improved ability to cooperate, and development of effective communication and problem-solving skills (MacDonald, 1974; Carlton, 1977; Fairweather & Law,

1978; Harris, 1978; Valletutti & Christoplos, 1979; McFarlane et al., 1980).

Students should have the opportunity to work with faculty and students from other disciplines early in their professional education to deter stereotyping of peer images (McCally et al., 1977; Venters & Ten Bensel, 1977). This interdisciplinary socialization process helps to prevent the friction, insecurity and hostility which can occur prior to identification with team members. These problems are often caused by fear of loss of professional identity and status, as well as value conflicts (Leininger, 1971; Jacobson, 1974; McCally et al., 1977; Venters & Ten Bensel, 1977).

We found that problems exist among faculty which must be overcome if an interdisciplinary approach is to be effectively implemented. This article describes the early phases of planning for interdisciplinary teaching within the Faculty of Health Professions at a Canadian university, and identifies faculty reactions to this proposed change.

BACKGROUND

The Faculty of Health Professions at this university consists of five schools: the School of Nursing, the College of Pharmacy, the School of Physiotherapy, the School of Physical Education, and the School of Human Communication Disorders.

In 1978, the Dean of Health Professions requested faculty to look at more effective means of using teaching resources so that increased time would be available for research and career development. One suggestion was the establishment of interdisciplinary education.

PLANNING PHASE

A task force was immediately set up to survey the interdisciplinary teaching expertise available, the limitations and the perceived needs of the faculty in all the schools. Its mandate also included determining the feasibility of "shared" courses. Three subject areas were identified by faculty as possible foci of interdisciplinary core courses: nutrition, research, and growth and development. Growth and development did not receive the same priority rating as the others, possibly due to the fact that only two schools included it within their curricula.

An advisory committee evolved from the task force in 1979. This committee enlarged the long-term objective of saving of faculty time to include integration of students at the undergraduate level and integration of faculty representing the different disciplines.

The committee prepared tentative interdisciplinary core course outlines for two of the three suggested subject areas — nutrition and research. This task involved several steps. Initially, current course outlines for these subjects were obtained from each school to identify theoretical content common to all five schools. Specific information was requested from the faculty members teaching these courses at that time. They were asked to give the recommended hours per topic, subject prerequisites, expected outcomes, and evaluation processes. The interdisciplinary outlines which were then developed were submitted to the individual content specialists (faculty members teaching the specialized subject) for feedback, before presentation to full faculty.

IMPLEMENTATION PHASE

In 1980, the committee focused on the logistics of implementing interdisciplinary teaching, placing particular emphasis on the research course. Two factors influenced this decision. More faculty members were involved in teaching research methodology than nutrition, and the major content specialist for nutrition was on sabbatical leave.

A. The Questionnaire

To determine the practical implications of implementation of interdisciplinary teaching per se, the committee developed a questionnaire (Table 1). This asked for faculty reactions to the committee's long-term objectives, and for personal concepts of interdisciplinary education, numbers of students, percentages of students per discipline, teaching methods, and required changes.

The questionnaire was circulated to 18 faculty members in the Faculty of Health Professions who were identified by the task force as having experience in interdisciplinary teaching. It was also distributed to five deans of faculties outside the Faculty of Health Professions.

The questionnaire was then sent to the Deans of Health Professions of four other Canadian universities. These universities had been identified as having interdisciplinary courses or programs by the initial sample of 18 faculty members. The deans were requested to have faculty members who were directly involved in interdisciplinary teaching complete the questionnaire. It was hoped that feedback from experienced interdisciplinary teachers could facilitate the committee's planning.

Table 1

Questionnaire

DATE:_____

I. General

Please fill in the following:

1.1 The University in which you taught/teach interdisciplinary course(s).

1.2 The subject area/course title.

1.3 Was the course specifically designed to attract students from other disciplines?

1.4 How many other faculty members were involved? What disciplines did they represent?

1.5 Do you know of any universities other than the one(s) identified in 1.1 which offer interdisciplinary courses?

II. Concept of Interdisciplinary Teaching

2.1 Based on your experience, please describe briefly your interpretation of the concept of interdisciplinary teaching.

III. Objectives

According to your interpretation of the concept of interdisciplinary teaching, does it:

a) reduce teaching time? Yes__ No__

Please explain.

b) promote integration of students at the undergraduate/graduate level? Yes__ No__

Please explain.

c) promote integration of faculty representing different health disciplines? Yes__ No__

Please explain.

d) promote interaction of students with faculty? Yes__ No__

Please explain.

IV. Students

4.1 How many students did you have in your interdisciplinary course?

4.2 Identify the percentage split of students representing each discipline.

_____

_____

_____

4.3 What number of students would you recommend as suitable for an interdisciplinary course?

V. Teaching Methodology

5.1 What teaching method(s)/tools did you use in your interdisciplinary course?

5.2 What teaching method do you think will facilitate interdisciplinary teaching/learning?

5.3 Did you find additional/unique methods essential to teaching a multidisciplinary as compared to a single discipline course?

VI. Evaluation

6.1 Please briefly outline the advantages of interdisciplinary teaching as you have experienced them.

6.2 Can you suggest changes necessary within the Faculty of Health Professions in order to make interdisciplinary teaching effective

VII. Other Comments

_____

(SIGNATURE)

B. Findings

Almost all of the questionnaires were returned. Responses were divided into groups: those from within the Faculty of Health Professions (92% response), and those from outside the Faculty of Health Professions (100% response from other universities; 70% response from other faculties within this university).

The respondents had a wide range of experience. They had taught in Canadian, American, British and Australian universities. The courses taught also varied, though most were health-related.

Table 2 gives a representative sample of responses to the questionnaire. For the purposes of this article, responses from all universities were combined. Ninety-five percent of the respondents stated that, although integration of students and sharing of faculty expertise were decided benefits of interdisciplinary education, faculty time was not always saved. While class teaching time and student contact hours might be decreased in the initial planning phase, faculty time requirements might be increased. Furthermore, the co-ordination and administration essential to this phase usually continued to demand considerable time investment from faculty throughout implementation.

The consensus was that the advantages of interdisciplinary education outweighted the disadvantages (Table 3), — that the concept had merit and that the Faculty of Health Professions could benefit from such an approach. It was generally acknowledged that enthusiastic commitment by both administration and faculty was essential. Faculty members believed that the co-ordinator of such a program had to facilitate collaboration and communication to create confidence that all disciplines had been fairly represented.

Table 2

REPRESENTATIVE SAMPLE RESPONSES TO QUESTIONNAIRE*

Personal Concept of Interdisciplinary Teaching

- teaching of core fundamental material to a heterogeneous group.
- teachers representing different disciplines contribute personal expertise to a common subject area for students representing either a single discipline or two or more disciplines.
- moving from a discipline to a task approach.

Teaching Time

- faculty time commitment can increase due to the collaboration necessary to facilitate planning, preparation, communication and adjustment.
- reduction of actual lecture time only.

Student Interaction

- learning the approach of other disciplines creates increased understanding of shared and unique roles.
- interdisciplinary teaching can function as a catalyst to interaction if there is a desire to be integrated.

Faculty Interaction

- promotes attitudes of respect and cooperation if communication lines remain open.
- receptive team work and consideration of different stances requires commitment.

Student-Faculty Interaction

- personal faculty style, presence of group structure, and size of classes are significant factors.
- course should be designed to promote interaction.

Student Numbers and "Mix"

- more students can be accommodated in lectures than in clinical practice/laboratory/problem solving group components.
- equal percentages from each discipline involved may decrease resistance and scapegoating.

Teaching Methodology

- teaching methods and tasks are fundamentally no different from those of traditional courses.
- unique feature is level of conceptualization and extraction of coherence required.
- opportunity must be provided for interdisciplinary group discussion and for each discipline to develop its own perspective.

* This material is taken from responses to the questionnaire.

Table 3

ADVANTAGES AND DISADVANTAGES OF INTERDISCIPLINARY EDUCATION*

Advantages

- — variety of professors can offer different areas of strength, thus providing a "better" course.
- — provides higher levels of expertise, fresh insights, valid but different perspectives.
- — reduces teaching load if duplication is present.
- — students learn about each other before stereotyping takes place.
- — reduces interprofessional conflicts.
- — provides awareness of baseline information available to all groups.

Disadvantages

- — tremendous time investment. Research output may suffer.
- — lack of full autonomy may lead to a reduction of each participant's commitment.
- — unless faculty are committed, the course will not be successful.

* This material is taken from responses to the questionnaire.

AMBIVALENT REACTIONS OF FACULTY TO THE PROPOSED PROGRAM

Content Specialists

Committee members met with the content specialists for research from each school to discuss the feasibility and logistics of implementing an interdisciplinary undergraduate course in this particular subject. The content specialists had submitted an outline of the courses they taught in 1979 to the committee and had expressed strong approval of interdisciplinary education. At that time, committee members had agreed that while there were many differences in these courses the basic principles of scientific inquiry were common to all. There was a consensus that the major focus at the undergraduate level should be the ability to critique research and the interdisciplinary course outline was designed to reflect this. Content specialists had had the opportunity to review the proposed research methodology course

outline and no major concern was identified. Content specialists expressed the belief that students would benefit from the contact with other students in health professions schools, as well as from the availability of expertise from the other disciplines. Furthermore, there would be a breakdown of barriers among faculty as well as students from the various health disciplines which would augment their knowledge about each other's strengths and weaknesses. The interaction and socialization benefit for students were not questioned.

Later at the time of the organizational meeting, it became evident that there were diverse reactions to the concept of teaching a core course in Research Methodology within the Faculty of Health Professions. Each content specialist identified a number of obstacles. For instance, the School of Nursing had spent several years establishing and developing an integrated curriculum. The content of the proposed core course had been 'leveled' throughout the four year program. The curriculum would have to be extensively reorganized if an interdisciplinary core course was to be offered in the final year. Another major barrier was the growing numbers of students. It was anticipated that within three years, there would be about one hundred students in fourth year, all of whom would be required to take the course. These content specialists further maintained that this course should be 'geared' toward clinical application. One solution was proposed for these problems — small interdisciplinary seminar groups and adjunct labs for each profession; however, this was considered too costly in terms of faculty time.

Additional obstacles were noted by content specialists from the other disciplines. One stated that the research course in her school was quite different from other schools and that the course should not be taught as an interdisciplinary subject at the undergraduate level. Another maintained that his students would not be interested in an interdisciplinary approach. He proposed an option to establish an undergraduate course in statistics or a graduate research course. Yet another said that there was no advantage in pursuing other interdisciplinary possibilities within the research methodology context. He believed that students should be encouraged to take electives from other schools in topics of common but not universal interest (e.g. occupational health).

The major problems cited centered on the presentation of discipline-specific examples, which would lose impact when dealing with a heterogeneous group.

Committee Members

The members of the advisory committee expressed commitment not only to the committee's goals but to their own school's reaction to the suggested program. Their enthusiasm changed as problems arose and were either overcome or accepted. They began to recognize that the reality was indeed different from the ideal and that compromises were necessary.

Reactions of various schools indicated that there would be no advantage in implementing a research methodology course with an interdisciplinary approach at the undergraduate level. The different schools within the Faculty of Health Professions seemed to have their own specific needs and interests. They maintained that it would be difficult to provide the benefits of interdisciplinary teaching without losing the objectives of specific professional groups.

A few committee members suggested that an area of content not previously offered within the Faculty of Health Professions on a large scale, such as Health Care Administration, Helping Relationship, and Gerontology, could form the basis of a unique and acceptable interdisciplinary course.

C. Discussion

It soon became apparent that the task of implementation would be far more difficult than that of planning. The problems that might be encountered in implementing interdisciplinary education in one of the suggested courses, research, outweighed the benefits. This indicated to the committee that in order to implement an acceptable interdisciplinary education program, it would be best initially to select an area of content not then offered in the Faculty of Health Professions.

We believe that four factors influenced the reactions of faculty to the proposed program:

Territorialism

A power struggle to protect individual rights, courses and job appeared to come into play when these were perceived to be threatened.

Elliott (1977) concluded that health professionals tend to maintain strong psychic ties with external reference specialty groups that inhibit the development of team loyalty and create role conflict. Even when the concept of interdisciplinary teaching is philosophically accepted, it is difficult for faculty to overcome their own professional identity 'hang-ups' concerning roles and responsibilities (Harris, 1978; Quartaro, 1976). Faculty at this university appeared to be experiencing exactly those problems — problems which interdisciplinary teaching is designed to prevent. Professional 'turf-guarding' existed.

Survey respondents from this university and other ones contacted indicated that commitment to interdisciplinary teaching must involve philosophical appreciation of the values of other scholarly endeavors and ability to trust and use the expertise of various disciplines. Lack of full autonomy of individual professors was identified as a potential problem.

While the attitudes expressed concerning the research course could probably be applied to any interdisciplinary offering, the specific threat inherent in teaching a research course might have been a relevant factor. Research may be perceived as something so fundamental to the profession that it should not be shared with other disciplines. Schlotfeldt (1981) claims that only highly qualified professionals have the requisite competence to direct their discipline's research.

Resistance to Change

The universal tendency to accept and protect the status quo was undoubtedly a factor in faculty resistance. Resistance to proposed change increases to the degree to which it is perceived as a threat to livelihood or position and as a result of direct external pressure. Continued communication is essential for any innovation to succeed (Klein, 1976; Meleis & Burton, 1981). Confusion may have arisen from the fact that the terms, "core curriculum" and "interdisciplinary education", have been used interchangeably (National Commission on Allied Health Education, 1980). Research was seen to be core material and therefore amenable to an interdisciplinary teaching approach by the committee members, but not by the content specialists. Perhaps perceived lack of preparation and information on interdisciplinary education may have also influenced faculty attitudes. The change which had previously been considered ideal, now entailed additional work and collaboration with others.

The time commitment to other courses and activities can militate against participation in a formalized team activity (Harris, 1978). All respondents in the survey agreed that the tremendous amount of time involved in receptive teamwork, and in professionally reviewing new issues and developments in other professions might be incompatible with the demands for scholarly career development.

Traditional scholarly endeavors may suffer temporarily during the planning phases. The threat of research and "publish or perish" phenomena associated with tenure and promotion should not be ignored. The teaching of new and innovative courses which demands investment of time may not be viewed by the faculty involved as

realistic priorities. Faculty from all universities contacted agreed that the additional workload an interdisciplinary course would create must be recognized in the evaluation of performance and that a mechanism should exist whereby credit is attached to this work. Furthermore, administrative support, resource provision, practical encouragement and permission to work outside the individual department boundaries were considered vital structural components of any successful interdisciplinary endeavor. Incentives must be linked to implementation efforts within a discipline oriented academic unit (Klein, 1976).

Reality "Shock"

The negative reactions, particularly of those directly affected, increased as implementation became imminent. This term "reality shock" is used in a different context than that used by Kramer (1974) when she described the difference between value system expectations and reality. However, she identified "protective isolationism" or a dependency on people who hold the same values; this phenomenon was evident in our university. According to Kramer (1974), self-confidence in ability is one of the major prerequisites for making a smooth transition from school to work settings. This self-confidence appeared to be lacking in this experience. Certainly some role "ignorance" and conflict were present. Fear of erosion of role boundaries was undoubtedly also a factor (Milne, 1980).

Distancing

Faculty deferred responsibility for the program by recommending that courses be selected for an interdisciplinary approach other than the ones in which they were directly involved. Thus interdisciplinary teaching was thought to be ideal for someone else. The contrast between questionnaire responses and content specialist reactions clearly illustrated this paradox. The reluctance to participate in collaborative efforts is perhaps related to the finding that most interdisciplinary activity has been carried out on a departmental project basis with outside funds. Therefore, programs have been developed by project staff rather than faculty and rarely become an integral part of curricula (National Commission on Allied Health Education, 1980).

CONCLUSION

Although interdisciplinary teaching is a popular concept, faculty commitment is essential to its success. The goals of interdisciplinary education will only be obtained if each discipline of the Health Professions is convinced that the benefits are at least equivalent to the costs. Any gains, however, depend on the collaborative efforts of all the schools involved.

A period of time and opportunities should be provided to the faculty involved to explore and define their territories, to develop understanding and communication. By doing so, the built-in prejudice of faculty members could be overcome to the point that they could function as team members. Furthermore, they could be convinced that the value of interdisciplinary education revolves primarily around learning rather than teaching. Further study of interdisciplinary education is needed to evaluate its effectiveness and to analyse the factors which influence faculty reactions.

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RÉSUMÉ

L'enseignement pluridisciplinaire: idéalisme et réalisme

Le présent article traite des premières phases de la planification de l'enseignement pluridisciplinaire à la faculté des professions de la santé d'une université canadienne et il énumère les réactions du corps enseignant aux changements proposés. Afin de connaître les conséquences pratiques de la mise en oeuvre d'un programme d'enseignement pluridisciplinaire, on a conçu un questionnaire pour déterminer les réactions du corps enseignant aux objectifs triples d'un tel programme (intégration des étudiants et du corps enseignant représentant différentes disciplines et économies de temps pour le corps enseignant), les concepts individuels de ce type d'enseignement, le nombre d'étudiants, le pourcentage d'étudiants et de professeurs par discipline et les méthodes d'enseignement. Ce questionnaire a été remis à 18 professeurs possédant les connaissances voulues, aux doyens de cinq facultés en dehors de la faculté des professions de la santé, et aux doyens des professions de la santé de quatre autres universités canadiennes connues pour dispenser des programmes d'enseignement pluridisciplinaire. Quatre-vingt-quinze pour cent des répondants ont indiqué que si l'intégration des étudiants et la répartition judicieuse des professeurs constituaient des avantages manifestes, le temps d'enseignement des professeurs n'en était pas pour autant réduit. Malgré l'appui généralisé accordé à ce type d'enseignement, on a noté des réactions mitigées de la part des spécialistes du contenu de ce genre d'enseignement. Ceux-ci ont incriminé quatre facteurs, à savoir le territorialisme, la résistance au changement, le choc de la "réalité" et la distanciation. La participation des professeurs est manifestement obligatoire. C'est pourquoi, afin de briser cette résistance, on a recommandé des centres d'intérêt précis, une période d'orientation et la désignation d'un coordonnateur dynamique.

A DEVELOPMENTAL PERSPECTIVE ON THE NURSING DIAGNOSIS OF FEAR AND ANXIETY

SHARON OGDEN BURKE
Associate Professor, School of Nursing
Queen's University

*A Response to "Nursing Diagnosis: Differentiating Fear and Anxiety", by Dorothea Fox Jakob and Phyllis Jones**

Jakob and Jones are to be applauded for the clinical base in which their research is couched for it is here that the ultimate answers to the question they pose lie. Having been faced with a parallel conundrum in trying to define and differentiate between stress and strain (Burke, 1978), may I suggest that the nursing usages of fear and anxiety will probably be somewhat unique and thus not completely consistent with conceptualizations found in the various theoretical camps of other disciplines. Having learned what we can from our colleagues in other fields we must move to make our own definitions as Jakob and Jones are doing.

This response to "Nursing Diagnosis: Differentiating Fear and Anxiety", will be limited to what developmental theorists, researchers and experts on the nursing of children can offer in the clarification of the relationships between fear and anxiety. This exploration has generated an additional hypothesis, expanded the range of nursing interventions and provides some possible strategies for clinicians.

SEQUENTIAL DIFFERENTIATION IN THE DEVELOPMENT OF EMOTIONAL RESPONSES

From the work of theorists who subscribe to the theory of sequential differentiation in the development of emotional responses, an additional tantalizing hypothesis on the relationship between anxiety and fear can be generated. These theorists believe that all emotions are elaborations of the only two (or perhaps four) emotional systems which are present at birth (Dunn, 1977). Thus, it is possible to deduce that anxiety appears earlier than fear and as such is a more primitive

* *Nursing Papers*, 1981, *13* (4), 20.

ty was to review all the materials, particularly print materials, for logic, sequencing, coherence and unity. The editor also formed a key link between the author's final manuscript and the physical production of the materials. The developmental process of the course was a large-scale operation and took up to six months to complete, not including physical production. Much of the time was taken up in preparing instructionally sound material that was sufficiently structured in nature to allow it to be learned in a setting much less structured than a classroom with its live instructor.

Besides being a stimulating interdisciplinary exercise for faculty from the two universities, the students benefitted from the best of a number of worlds. Disagreement inevitably arose during the course development and, if consensus and compromise could not be reached, the decision was usually deferred to the subject-matter consultant. However, given both institutions' dedication to effective teaching and a client-centred perspective, disagreements were infrequent and usually handled easily. The faculties of both institutions seemed to realize that high quality content was a necessary but not sufficient condition for effective learning.

IMPLICATIONS

What has this collaboration meant to both institutions and what does it mean for the future? On a general level, the commitment to explore each other's fields, experience the problems and probe for solutions, has resulted in numerous useful insights for both institutions. Overspecialization often results in irrelevance, stagnation and inflexibility at a time in our educational history when adaptability and diversity are more important than ever (Glenny, 1980). More specifically, we have come to recognize how important it is for cooperation, that both institutions are committed to a socially-relevant, action-based philosophy of higher education which is reflected in a dedication to effective teaching. At the moment we are attempting to complete the rest of the non-clinical courses for the nursing program. The next large test of collaboration may take place when we consider clinical teaching out in the field, possibly with some sort of decentralized internship.

There are a number of other approaches to be taken now and in the future to increase accessibility to professional education for the adult learner. We are told that we shall soon have a computer in every home (Toffler, 1981) and computer-based instruction courses are presently being developed by many faculties. Satellite transmission is being used by an increasing number of educational institutions. Telidon is an information-retrieval service presently being explored, which promises to answer a telephone request for information from data banks by displaying it on your television.

The advantages in using such non-traditional methods are many. The most obvious one is the facilitation of post-diploma education of nurses, thereby increasing the numbers of B.Sc.N. prepared nurses in the field. In addition, because limited institutional and faculty resources are real problems in expanding existing programs to accommodate these students, we can take encouragement from the knowledge that on-campus education is not the only way to go.

Experience with post-diploma students has shown us that they are an incredibly competitive group of students, mark-conscious and, consequently, quite anxious. We believe that individual, self-directed course work will eliminate exposure to rampant infectious anxiety thus encouraging more "personal best" work. Another potential advantage is that the courses presented through Athabasca University and through other alternative routes will be standardized, thus eliminating the problem of differences between sections of the same course.

There are some disadvantages to be considered. We are well aware of the need for the nurse student to be socialized over time into baccalaureate thinking, socialization which, of course, will not occur quite as thoroughly with reduced group work in courses and reduced exposure to nursing faculty. On campus, we encounter students who have difficulty integrating content from course to course, seeing associations and relationships, and discovering patterns.

It is our contention that the education of the adult learner in professional faculties needs to be approached in a creative, innovative manner, a manner which takes into consideration the unique characteristics of adult learners and their unique social, professional and personal situations. Distance learning such as that which is offered by Athabasca University is one such approach.

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RÉSUMÉ

Collaboration des universités à la formation universitaire des infirmiers

Il est de plus en plus admis que des études supérieures au niveau du baccalauréat sont souhaitables pour un nombre croissant d'infirmiers. Toutefois, l'adulte qui cherche à parfaire sa formation professionnelle possède des caractéristiques uniques dont doit tenir compte l'établissement qui offre ce genre de programme. Le système actuel qui exige que les infirmiers suivent des cours à l'université ne convient pas à ces derniers en raison des nombreuses contraintes auxquelles ils sont soumis. Il convient d'étudier des méthodes pédagogiques novatrices afin que l'adulte puisse obtenir son baccalauréat tout en s'acquittant de ses multiples responsabilités d'ordre professionnel, familial et personnel. La faculté des sciences infirmières de l'université d'Alberta a mis au point, en collaboration avec l'université d'Athabasca, des cours de nursing non clinique. L'université d'Athabasca à Edmonton est un établissement de cours par correspondance unique en son genre. Les étudiants n'ont pas besoin d'assister aux cours et ils travaillent à la maison avec l'aide d'un professeur particulier de l'université d'Athabasca. La faculté des sciences infirmières de l'université d'Alberta a fourni un expert-conseil pour ce qui est du contenu des cours tandis que l'université d'Athabasca a fourni les autres membres de l'équipe: un directeur de programme, un concepteur pédagogique, un concepteur visuel et un éditeur. Le fruit de cette collaboration est que, désormais, les étudiants peuvent suivre la majeure partie de leurs cours hors campus, ce qui facilite la tâche à un nombre croissant d'infirmiers et infirmières de métier.

changes and the like) with the pleasant associations with mother, peers or a trusted nurse. Simultaneously the child is socially rewarded for inhibiting the fear response. The cognitive element of this approach removes the element of the unknown and thus reduces in scope or number the objects or situations to be feared. Through adult and peer modelling, these strategies teach more mature responses to confrontations with the objects and situations feared.

Purer applications of extinction procedures are well documented to be effective by research. Mussen, Conger and Kagan reviewed successful extinction procedures with fears of white rats and the dark (1969, p.351).

Peer modelling from social learning theory has also had research demonstrations as reviewed by Roedell, Slaby and Robinson (1977). "Children may overcome long-standing fears by observing other children behaving courageously" (p.60). Initially fearful children become more willing to play with dogs, cheerfully undergo dental examinations or increase rates of social interaction through the use of peer modelling techniques.

Murphy's classic social interactionist studies in *The Widening World of Childhood* (1962) suggest an even more complex path toward dealing with fears in toddlers and preschoolers as a "combination of external rewards, self-esteem, status in the eyes of both adults and children, combined flexible support of her mother, contributing to the development of control which used stoical inhibition and temporary denial along with active solicitation of reinforcement through telling of her achievement" (p.181).

Although not based in research findings, it would be remiss if holistic approaches were not mentioned in this potpourri of nursing interventions. Burnside, Ebersole and Monea report on Jampolsky's unpublished work with children who had life threatening illness. The central notion was that eliminating fear would bring "inner peace". A loving, sensitive, non-judgemental, accepting environment was created where the children talked about fears of dying, imagined what it would be like to die and used mental imagery to come to terms with death (1977, p.162). With further documentation and research holistic approaches may yield some additional elements to the management of fear.

THE SPECIAL CASES OF SEPARATION AND STRANGER ANXIETY

It is beyond the scope of this response to the Jakob and Jones's paper to re-examine stranger and separation anxieties which are so pervasive

in the study of children. However, some caution is warranted in their use as anxiety in the sense of a nursing diagnosis. First, the concepts come to nursing from another discipline and, secondly, they were coined some years ago (Robertson, 1953 and Bowlby, 1961). As such, the fit with emerging uses of fear and anxiety by nurses may not be good. Furthermore, it is increasingly recognized that these responses are not universal, nor are the ages of onset and disappearance of the phenomenon as fixed as initially thought (Dunn, 1977).

CONCLUSION

It is clear that considerable progress has been made in sorting out the intricacies of the relationships between fear and anxiety. If definitive answers are slow in emerging, we are not alone as our colleagues in other behavioural disciplines are experiencing the same difficulties.

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